Women's 400m Split Times - by time

LAST UPDATE: 10-Oct-25

Koch, Marita (GDR) (1957)
FINAL - 1985 IAAF World Cup (Canberra, AUS)
Saunders (2015) - 400m performance- time as percentages splits

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Oct-85	time	11.30		22.90		34.60		47.60	47.60	2 / 1							
reaction time		interval			11.60		11.70		13.00	WR	# of strides	11.30	11.60	11.70	13.00	22.90	24.70	1.80
		velocity	8.85		8.62		8.55		7.69	8.40	196.0	8.85	8.62	8.55	7.69	8.73	8.10	

McLaughlin-Levrone, Sydney (USA) (
FINAL - 2025 World Athletics Championships (Tokyo, JPN)
Seiko Timing (2025) - 2025 World Championships race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Sep-25	time	11.71		22.95		34.87		47.78	47.78	5 / 1							
reaction time	0.171	interval			11.24		11.92		12.91	AR PB	# of strides	11.71	11.24	11.92	12.91	22.95	24.83	1.88
		velocity	8.54		8.90		8.39		7.75	8.37	181.0	8.54	8.90	8.39	7.75	8.71	8.05	

Paulino, Marileidy (DOM) (1996)
FINAL - 2025 World Athletics Championships (Tokyo, JPN)
Seiko Timing (2025) - 2025 World Championships race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Sep-25	time	11.92		23.09		34.97		47.98	47.98	9 / 2							
reaction time	0.183	interval			11.17		11.88		13.01	NR PB	# of strides	11.92	11.17	11.88	13.01	23.09	24.89	1.80
		velocity	8.39		8.95		8.42		7.69	8.34	169.0	8.39	8.95	8.42	7.69	8.66	8.04	

Kratochvílová, Jarmila (TCH) (1951)
FINAL - 1983 IAAF World Championships (Helsinki, FIN)
Butler (2013) - IAAF world championships statistics handbook- moscow 2013

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-83	time			23.1				48.0	47.99	3 / 1							
reaction time		interval							24.9	WR / CR	# of strides					23.10	24.90	1.80
		velocity			8.66				8.03	8.34						8.66	8.03	

Naser, Salwa Eid (BRN) (1998)
FINAL - 2019 IAAF World Championships (Doha, QAT)
Yamanaka (2019) - race analysis of men and women 400m competition

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Oct-19	time	6.71	12.09	17.57	23.20	29.03	35.10	41.43	48.14	48.14	5 / 1							
reaction time	0.186	interval		5.38	5.48	5.63	5.83	6.07	6.33	6.71	NR PB	# of strides	12.09	11.11	11.90	13.04	23.20	24.94	1.74
		velocity	7.45	9.29	9.12	8.88	8.58	8.24	7.90	7.45	8.31	181.2	8.27	9.00	8.40	7.67	8.62	8.02	

Koch, Marita (GDR) (1957)
FINAL - 1982 European Championships (Athens, GRE)
Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-82	time		11.82		22.80		34.75		48.16	48.16	3 / 1							
reaction time		interval				10.98		11.95		13.41	WR	# of strides	11.82	10.98	11.95	13.41	22.80	25.36	2.56
		velocity		8.46		9.11		8.37		7.46	8.31	196.0	8.46	9.11	8.37	7.46	8.77	7.89	

Koch, Marita (GDR) (1957)
FINAL - 1984 Women's Friendship Games (Praha, TCH)
Bondarchuk (2007) - transfer of training in sports

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-84	time		11.79		22.62		34.67		48.19	48.16	/ 1							
reaction time		interval				10.83		12.05		13.52		# of strides	11.79	10.83	12.05	13.52	22.62	25.57	2.95
		velocity		8.48		9.23		8.30		7.40	8.31		8.48	9.23	8.30	7.40	8.84	7.82	

Paulino, Marileidy (DOM) (1996)
FINAL - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Aug-24	time	6.56	11.87	17.22	22.81	28.67	34.78	41.15	48.17	48.17	6 / 1							
reaction time	0.187	interval		5.31	5.35	5.59	5.86	6.11	6.37	7.02	AR OR	# of strides	11.87	10.94	11.97	13.39	22.81	25.36	2.55
		velocity	7.62	9.42	9.35	8.94	8.53	8.18	7.85	7.12	8.30	172.2	8.42	9.14	8.35	7.47	8.77	7.89	

Naser, Salwa Eid (BRN) (1998)
FINAL - 2025 World Athletics Championships (Tokyo, JPN)
Seiko Timing (2025) - 2025 World Championships race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Sep-25	time		11.84		23.13		35.00		48.19	48.19	7 / 3							
reaction time	0.189	interval				11.29		11.87		13.19		# of strides	11.84	11.29	11.87	13.19	23.13	25.06	1.93
		velocity		8.45		8.86		8.42		7.58	8.30	180.0	8.45	8.86	8.42	7.58	8.65	7.98	

Koch, Marita (GDR) (1957)
FINAL - 1986 European Championships (Stuttgart, FRG)
Bondarchuk (2007) - transfer of training in sports

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Aug-86	time		11.79		22.63		34.22		48.22	48.22	3 / 1							
reaction time		interval				10.84		11.59		14.00		# of strides	11.79	10.84	11.59	14.00	22.63	25.59	2.96
		velocity		8.48		9.23		8.63		7.14	8.30	197.5	8.48	9.23	8.63	7.14	8.84	7.82	

Pérec, Marie-José (FRA) (1968)
FINAL - 1996 Olympic Games (Atlanta, GA)
Vazel (2011) - speed reserve in the 400m

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-96	time		12.05		23.28		35.10		48.25	48.25	3 / 1							
reaction time	0.209	interval				11.23		11.82		13.15	OR / NR	# of strides	12.05	11.23	11.82	13.15	23.28	24.97	1.69
		velocity		8.30		8.90		8.46		7.60	8.29	170.5	8.30	8.90	8.46	7.60	8.59	8.01	

Koch, Marita (GDR) (1957)
FINAL - 1984 East German Spitzenklasse (Dresden, GDR)
Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Jul-84	time		11.64		22.88		34.99		48.26	48.26	/ 1							
reaction time		interval				11.24		12.11		13.27		# of strides	11.64	11.24	12.11	13.27	22.88	25.38	2.50
		velocity		8.59		8.90		8.26		7.54	8.29		8.59	8.90	8.26	7.54	8.74	7.88	

McLaughlin-Levrone, Sydney (USA) (
Semi-Final 3 - 2025 World Athletics Championships (Tokyo, JPN)
Seiko Timing (2025) - 2025 World Championships race analysis

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-25	time		11.98		23.43		35.31		48.29	48.29	8 / 1							
reaction time	0.212	interval				11.45		11.88		12.98	NR PB	# of strides	11.98	11.45	11.88	12.98	23.43	24.86	1.43
		velocity		8.35		8.73		8.42		7.70	8.28	180.0	8.35	8.73	8.42	7.70	8.54	8.05	

Miller-Uibo, Shaunae (BAH) (1994)
FINAL - 2020 Olympic Games (Tokyo, JPN)
Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-21	time	6.67	12.11	17.65	23.40	29.28	35.36	41.63	48.37	48.36	7 / 1							
reaction time	0.162	interval		5.44	5.54	5.75	5.88	6.08	6.27	6.74	AR	# of strides	12.11	11.29	11.96	13.01	23.40	24.97	1.57
		velocity	7.50	9.19	9.03	8.70	8.50	8.22	7.97	7.42	8.27	175.5	8.26	8.86	8.36	7.69	8.55	8.01	

WR = World Rec. AR = Area Rec. OR = Olympic Rec. CR = Championship Rec. NR = National Rec. PB = Personal Best DQ = Disqualified DV = Drug Violation

Miller-Uibo, Shaunae (BAH) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 IAAF World Championships (Doha, QAT)																	
date 03-Oct-19 time	6.58	12.06	17.72	23.61	29.63	35.67	41.81	48.37	48.37	7 / 2							
reaction time 0.145 interval		5.48	5.66	5.89	6.02	6.04	6.14	6.56	NR PB	# of strides	12.06	11.55	12.06	12.70	23.61	24.76	1.15
velocity	7.60	9.12	8.83	8.49	8.31	8.28	8.14	7.62	8.27	173.0	8.29	8.66	8.29	7.87	8.47	8.08	

Yamanaka (2019) - race analysis of men and women 400m competition

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Olympic Games (Paris, FRA)																	
date 09-Aug-24 time	6.45	11.73	17.28	23.12	29.10	35.23	41.60	48.53	48.53	8 / 2							
reaction time 0.165 interval		5.28	5.55	5.84	5.98	6.13	6.37	6.93		# of strides	11.73	11.39	12.11	13.30	23.12	25.41	2.29
velocity	7.75	9.47	9.01	8.56	8.36	8.16	7.85	7.22	8.24	184.0	8.53	8.78	8.26	7.52	8.65	7.87	

Paris 2024 Olympic Games - Results Book (2024)

Mboma, Christine (NAM) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Irena Szewinska Memorial (Bydgoszcz, POL)																	
date 30-Jun-21 time		11.9		23.0		35.2		48.54	48.54	4 / 1							
reaction time 0.342 interval				11.10		12.20		13.34	WJR	# of strides	11.90	11.10	12.20	13.34	23.00	25.54	2.54
velocity		8.40		9.01		8.20		7.50	8.24	191.0	8.40	9.01	8.20	7.50	8.70	7.83	

Vazel (2021) - https://twitter.com/pjvazel/status/1410310278391140362?s=21

Pryce, Nickisha (JAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 London Athletics Meet (London, GBR)																	
date 20-Jul-24 time	6.61	11.99	17.46	23.17	29.17	35.29	41.67	48.57	48.57	6 / 1							
reaction time 0.159 interval		5.38	5.47	5.71	6.00	6.12	6.38	6.90	NR PB	# of strides	11.99	11.18	12.12	13.28	23.17	25.40	2.23
velocity	7.56	9.29	9.14	8.76	8.33	8.17	7.84	7.25	8.24	183.0	8.34	8.94	8.25	7.53	8.63	7.87	

Omega Timing (2024) - diamond league race analysis

Kocembová, Tatána (TCH) (1962)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1983 IAAF World Championships (Helsinki, FIN)																	
date 10-Aug-83 time		12.40		23.50		35.24		48.59	48.59	1 / 2							
reaction time interval				11.10		11.74		13.35	PB	# of strides	12.40	11.10	11.74	13.35	23.50	25.09	1.59
velocity		8.06		9.01		8.52		7.49	8.23		8.06	9.01	8.52	7.49	8.51	7.97	

Veney - split times from PJ

Koch, Marita (GDR) (1957)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1979 European Cup Final (Torino, ITA)																	
date 04-Aug-79 time				23.5		35.0		48.60	48.60	/ 1							
reaction time interval						11.50		13.60	WR	# of strides			11.50	13.60	23.50	25.10	1.60
velocity				8.51		8.70		7.35	8.23				8.70	7.35	8.51	7.97	

Hymans (2015) - progression of IAAF world records - 2015 edition

Kratochvílová, Jarmila (TCH) (1951)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1981 IAAF World Cup (Rome, ITA)																	
date 06-Sep-81 time		11.95		23.53		35.82		48.61	48.61	/ 1							
reaction time interval				11.58		12.29		12.79	PB	# of strides	11.95	11.58	12.29	12.79	23.53	25.08	1.55
velocity		8.37		8.64		8.14		7.82	8.23		8.37	8.64	8.14	7.82	8.50	7.97	

Quercetani (2005) - a world history of the one-lap race: 1850-2004

Freeman, Cathy (AUS) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Olympic Games (Atlanta, GA)																	
date 29-Jul-96 time		12.2		23.47		35.1		48.6	48.63	4 / 2							
reaction time 0.320 interval				11.27		11.63		13.50	AR	# of strides	12.20	11.27	11.63	13.50	23.47	25.13	1.66
velocity		8.20		8.87		8.60		7.41	8.23	184.0	8.20	8.87	8.60	7.41	8.52	7.96	

Vazel (2011) - speed reserve in the 400m

Bryzgina, Olga (URS) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Olympic Games (Seoul,KOR)																	
date 26-Sep-88 time		11.94		23.41		35.47		48.65	48.65	3 / 1							
reaction time 0.215 interval				11.47		12.06		13.18	OR	# of strides	11.94	11.47	12.06	13.18	23.41	25.24	1.83
velocity		8.38		8.72		8.29		7.59	8.22	189.7	8.38	8.72	8.29	7.59	8.54	7.92	

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Kamila Skolimowska Memorial (Chorzów, POL)																	
date 25-Aug-24 time	6.56	11.96	17.59	23.43	29.61	35.69	42.01	48.66	48.66	6 / 1							
reaction time 0.177 interval		5.40	5.63	5.84	6.18	6.08	6.32	6.65		# of strides	11.96	11.47	12.26	12.97	23.43	25.23	1.80
velocity	7.62	9.26	8.88	8.56	8.09	8.22	7.91	7.52	8.22	170.0	8.36	8.72	8.16	7.71	8.54	7.93	

Omega Timing (2024) - diamond league race analysis

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Kingston (Kingston, JAM)																	
date 05-Apr-25 time		12.06		23.38		35.52		48.67	48.67	3 / 1							
reaction time 0.220 interval				11.32		12.14		13.15		# of strides	12.06	11.32	12.14	13.15	23.38	25.29	1.91
velocity		8.29		8.83		8.24		7.60	8.22	187.0	8.29	8.83	8.24	7.60	8.55	7.91	

Grand Slam Track (2025) - results and splits by race

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 IAAF World Cup (Athens, GRE) *(TV Analysis)*																	
date 16-Sep-06 time		11.93		23.82		35.83		48.70	48.70	7 / 1							
reaction time 0.175 interval				11.89		12.01		12.87	AR	# of strides	11.93	11.89	12.01	12.87	23.82	24.88	1.06
velocity		8.38		8.41		8.33		7.77	8.21	187.2	8.38	8.41	8.33	7.77	8.40	8.04	

Graubner (2008) - http://www.fgs.uni-halle.de

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Weltklasse (Zürich, SUI)																	
date 28-Aug-25 time	6.60	11.96	17.62	23.49	29.54	35.76	42.14	48.70	48.70	6 / 1							
reaction time 0.159 interval		5.36	5.66	5.87	6.05	6.22	6.38	6.56		# of strides	11.96	11.53	12.27	12.94	23.49	25.21	1.72
velocity	7.58	9.33	8.83	8.52	8.26	8.04	7.84	7.62	8.21	185.7	8.36	8.67	8.15	7.73	8.51	7.93	

Omega Timing (2025) - diamond league race analysis

McLaughlin-Levrone, Sydney (USA) (

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)																	
date 08-Jul-23 time		11.89		23.24		35.38		48.74	48.74	5 / 1							
reaction time 0.238 interval				11.35		12.14		13.36	PB	# of strides	11.89	11.35	12.14	13.36	23.24	25.50	2.26
velocity		8.41		8.81		8.24		7.49	8.21	182.0	8.41	8.81	8.24	7.49	8.61	7.84	

Track Newsletter (2023) - USATF championships/WCT women

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)																	

Seiko Timing (2023) - world championship race analysis

date	23-Aug-23	time	12.28		23.36		35.34		48.76	48.76	7 / 1							
reaction time	0.200	interval			11.08		11.98		13.42	NR PB	# of strides	12.28	11.08	11.98	13.42	23.36	25.40	2.04
		velocity	8.14		9.03		8.35		7.45	8.20	172.0	8.14	9.03	8.35	7.45	8.56	7.87	

Koch, Marita (GDR) (1957)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1982 GDR vs. USA (Karl-Marx-Stadt, GDR)										*Schäfer (1989) - zu strukturmerkmalen der wettkamfleistung un den entsprechenden trainingshalten*							
date 09-Jul-82	time	11.70		22.76		34.97		48.77	48.77	/ 1							
reaction time	interval			11.06		12.21		13.80		# of strides	11.70	11.06	12.21	13.80	22.76	26.01	3.25
	velocity	8.55		9.04		8.19		7.25	8.20		8.55	9.04	8.19	7.25	8.79	7.69	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Meeting de Paris (Paris, FRA)										*Omega Timing (2025) - diamond league race analysis*							
date 20-Jun-25	time	6.68	12.35	18.04	23.88	29.85	36.00	42.25	48.81	48.81	5 / 1							
reaction time 0.174	interval		5.67	5.69	5.84	5.97	6.15	6.25	6.56		# of strides	12.35	11.53	12.12	12.81	23.88	24.93	1.05
	velocity	7.49	8.82	8.79	8.56	8.38	8.13	8.00	7.62	8.20	170.0	8.10	8.67	8.25	7.81	8.38	8.02	

Brisco-Hooks, Valerie (USA) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)										*Adams (1984) - 1984 olympic games - 200m & 400m*							
date 06-Aug-84	time			23.5				48.83	48.83	5 / 1							
reaction time 0.182	interval							25.33	OR / NR	# of strides					23.50	25.33	1.83
	velocity			8.51				7.90	8.19	192.5					8.51	7.90	

Pérec, Marie-José (FRA) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 05-Aug-92	time			23.8		35.5		48.9	48.83	5 / 1							
reaction time	interval					11.70		13.40		# of strides			11.70	13.40	23.80	25.10	1.30
	velocity			8.40		8.55		7.46	8.19	172.0			8.55	7.46	8.40	7.97	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Memorial Van Damme (Brussels, BEL)										*Vazel (2011) - speed reserve in the 400m*							
date 04-Sep-09	time		12.0		23.9		36.0		48.8	48.83	/ 1							
reaction time 0.201	interval				11.9		12.1		12.8		# of strides	12.00	11.90	12.10	12.80	23.90	24.90	1.00
	velocity		8.33		8.40		8.26		7.81	8.19		8.33	8.40	8.26	7.81	8.37	8.03	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Meeting de Paris (Paris, FRA)										*Omega Timing (2025) - diamond league race analysis*							
date 20-Jun-25	time	6.58	12.12	17.89	23.85	29.76	35.86	42.21	48.85	48.85	6 / 2							
reaction time 0.156	interval		5.54	5.77	5.96	5.91	6.10	6.35	6.64		# of strides	12.12	11.73	12.01	12.99	23.85	25.00	1.15
	velocity	7.60	9.03	8.67	8.39	8.46	8.20	7.87	7.53	8.19	186.0	8.25	8.53	8.33	7.70	8.39	8.00	

Kratochvílová, Jarmila (TCH) (1951)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1982 Weltklasse (Zürich, SUI)										*Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84*							
date 18-Aug-82	time		11.64		22.64		34.94		48.86	48.86	/ 1							
reaction time	interval				11.00		12.30		13.92		# of strides	11.64	11.00	12.30	13.92	22.64	26.22	3.58
	velocity		8.59		9.09		8.13		7.18	8.19		8.59	9.09	8.13	7.18	8.83	7.63	

Koch, Marita (GDR) (1957)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 Olympic Games (Moscow, URS)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 28-Jul-80	time					35.3		48.88	48.88	4 / 1							
reaction time	interval							13.58	OR	# of strides				13.58			
	velocity					8.50		7.36	8.18					7.36			

Koch, Marita (GDR) (1957)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1979 East German Athletics Sportfest (Potsdam, GDR)										Khomenkov (1982) - a textbook for a track and field coach							
date 29-Jul-79	time		11.83		22.84		34.76		48.89	48.89	/ 1							
reaction time	interval				11.01		11.92		14.13	WR	# of strides	11.83	11.01	11.92	14.13	22.84	26.05	3.21
	velocity		8.45		9.08		8.39		7.08	8.18		8.45	9.08	8.39	7.08	8.76	7.68	

Guevara, Ana (MEX) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)										*Smith (2005) - high performance sprinting*							
date 27-Aug-03	time		12.00		23.20		35.70		48.89	48.89	3 / 1							
reaction time 0.242	interval				11.20		12.50		13.19	AR	# of strides	12.00	11.20	12.50	13.19	23.20	25.69	2.49
	velocity		8.33		8.93		8.00		7.58	8.18		8.33	8.93	8.00	7.58	8.62	7.79	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 London Athletics Meet (London, GBR)										*Omega Timing (2024) - diamond league race analysis*							
date 20-Jul-24	time	6.70	12.21	17.63	23.31	29.28	35.51	41.93	48.90	48.90	5 / 2							
reaction time 0.169	interval		5.51	5.42	5.68	5.97	6.23	6.42	6.97	NR PB	# of strides	12.21	11.10	12.20	13.39	23.31	25.59	2.28
	velocity	7.46	9.07	9.23	8.80	8.38	8.03	7.79	7.17	8.18	191.5	8.19	9.01	8.20	7.47	8.58	7.82	

McLaughlin-Levrone, Sydney (USA) (

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 USATF Championships (Eugene, OR)										*USATF and Karmarush (2025) - USATF championships results and race analysis*							
date 02-Aug-25	time		11.76		23.33		35.48		48.90	48.90	5 / 1							
reaction time	interval				11.57		12.15		13.42		# of strides	11.76	11.57	12.15	13.42	23.33	25.57	2.24
	velocity		8.50		8.64		8.23		7.45	8.18	184.2	8.50	8.64	8.23	7.45	8.57	7.82	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Weltklasse (Zurich, SUI)										*ferrari (2009) - Split 100 metri uomini e donne (www.noivelocisti.net/forum?func=view&catid=9&id=1813)*							
date 19-Aug-05	time		11.9		23.7		35.6		48.92	48.92	3 / 1							
reaction time 0.269	interval				11.8		11.9		13.32	PB	# of strides	11.90	11.80	11.90	13.32	23.70	25.22	1.52
	velocity		8.40		8.47		8.40		7.51	8.18	189.0	8.40	8.47	8.40	7.51	8.44	7.93	

Koch, Marita (GDR) (1957)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1978 European Championships (Prague, TCH)										*Lamare (1978) - championnats d'Europa 1978*							
date 31-Aug-78	time		11.70		23.06		35.08		48.94	48.94	5 / 1							
reaction time	interval				11.36		12.02		13.86	WR	# of strides	11.70	11.36	12.02	13.86	23.06	25.88	2.82

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.55		8.80		8.32		7.22	8.17	199.2	8.55	8.80	8.32	7.22	8.67	7.73	

Richards, Sanya (USA) (1985)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Weltklasse (Zurich, SUI)																			*Vazel (2011) - speed reserve in the 400m*
date	28-Aug-09	time		12.0		24.0		36.0		48.9	48.94	/ 1							
reaction time	0.214	interval				12.0		12.0		12.9		# of strides	12.00	12.00	12.00	12.90	24.00	24.90	0.90
		velocity		8.33		8.33		8.33		7.75	8.17		8.33	8.33	8.33	7.75	8.33	8.03	

Miller-Uibo, Shaunae (BAH) (1994)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Herculis Meeting International d'Athlétisme (Monaco, MON)																			*Vazel (2018.08.03) - https://twitter.com/pjvazel*
date	20-Jul-18	time				23.5		36.1		48.97	48.97	6 / 1							
reaction time		interval						12.60		12.87	NR	# of strides			12.60	12.87	23.50	25.47	1.97
		velocity				8.51		7.94		7.77	8.17	177.0			7.94	7.77	8.51	7.85	

Kaczmarek, Natalia (POL) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	10-Jun-24	time		12.22		23.59		35.84		48.98	48.98	7 / 1							
reaction time	0.188	interval				11.37		12.25		13.14	NR PB	# of strides	12.22	11.37	12.25	13.14	23.59	25.39	1.80
		velocity		8.18		8.80		8.16		7.61	8.17	192.0	8.18	8.80	8.16	7.61	8.48	7.88	

Kaczmarek, Natalia (POL) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	09-Aug-24	time	6.64	12.09	17.50	23.22	29.32	35.66	42.06	48.98	48.98	7 / 3							
reaction time	0.176	interval		5.45	5.41	5.72	6.10	6.34	6.40	6.92		# of strides	12.09	11.13	12.44	13.32	23.22	25.76	2.54
		velocity	7.53	9.17	9.24	8.74	8.20	7.89	7.81	7.23	8.17	191.0	8.27	8.98	8.04	7.51	8.61	7.76	

Paulino, Marileidy (DOM) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Weltklasse (Zürich, SUI)																			*Omega Timing (2022) - diamond league race analysis*
date	08-Sep-22	time	6.81	12.33	17.96	23.67	29.50	35.60	42.04	48.99	48.99	6 / 1							
reaction time	0.172	interval		5.52	5.63	5.71	5.83	6.10	6.44	6.95	NR PB	# of strides	12.33	11.34	11.93	13.39	23.67	25.32	1.65
		velocity	7.34	9.06	8.88	8.76	8.58	8.20	7.76	7.19	8.16	170.5	8.11	8.82	8.38	7.47	8.45	7.90	

Richards, Sanya (USA) (1985)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 IAAF World Championships (Berlin, GER)																			Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics
date	18-Aug-09	time	6.34	11.81	17.51	23.50	29.49	35.62	41.99	49.00	49.00	3 / 1							
reaction time	0.164	interval		5.47	5.70	5.99	5.99	6.13	6.37	7.01		# of strides	11.81	11.69	12.12	13.38	23.50	25.50	2.00
		velocity	7.89	9.14	8.77	8.35	8.35	8.16	7.85	7.13	8.16	187.7	8.47	8.55	8.25	7.47	8.51	7.84	

Kratochvílová, Jarmila (TCH) (1951)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1981 Weltklasse (Köln, FRG)																			*Nelson (1981) - Kratochvilova closer to Koch*
date	23-Aug-81	time				22.1		35.1		49.0	49.01	/ 1							
reaction time		interval						13.0		13.9	PB	# of strides			13.00	13.90	22.10	26.90	4.80
		velocity				9.05		7.69		7.19	8.16				7.69	7.19	9.05	7.43	

Cheeseborough, Chandra (USA) (195

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)																			*Adams (1984) - 1984 olympic games - 200m & 400m*
date	06-Aug-84	time				24.2				49.05	49.05	7 / 2							
reaction time	0.212	interval								24.85	PB	# of strides					24.20	24.85	0.65
		velocity				8.26				8.05	8.15	192.0					8.26	8.05	

Bryzgina, Olga (URS) (1963)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	05-Aug-92	time				23.7		35.4		49.1	49.05	3 / 2							
reaction time		interval						11.70		13.70		# of strides			11.70	13.70	23.70	25.40	1.70
		velocity				8.44		8.55		7.30	8.15	190.0			8.55	7.30	8.44	7.87	

Paulino, Marileidy (DOM) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Herculis Meeting International d'Athlétisme (Monaco, MON)																			*Omega Timing (2025) - diamond league race analysis*
date	11-Jul-25	time	6.76	12.43	18.10	23.96	30.01	36.11	42.39	49.06	49.06	5 / 1							
reaction time	0.173	interval		5.67	5.67	5.86	6.05	6.10	6.28	6.67		# of strides	12.43	11.53	12.15	12.95	23.96	25.10	1.14
		velocity	7.40	8.82	8.82	8.53	8.26	8.20	7.96	7.50	8.15	171.5	8.05	8.67	8.23	7.72	8.35	7.97	

Adeleke, Rhasidat (IRL) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	10-Jun-24	time		12.29		23.69		35.82		49.07	49.07	6 / 2							
reaction time	0.104	interval				11.40		12.13		13.25	NR PB	# of strides	12.29	11.40	12.13	13.25	23.69	25.38	1.69
		velocity		8.14		8.77		8.24		7.55	8.15		8.14	8.77	8.24	7.55	8.44	7.88	

Naser, Salwa Eid (BRN) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Herculis Meeting International d'Athlétisme (Monaco, MON)																			*Vazel (2018.08.03) - https://twitter.com/pjvazel*
date	20-Jul-18	time				23.7		36.2		49.08	49.08	5 / 2							
reaction time		interval						12.50		12.88	NR	# of strides			12.50	12.88	23.70	25.38	1.68
		velocity				8.44		8.00		7.76	8.15	184.0			8.00	7.76	8.44	7.88	

Naser, Salwa Eid (BRN) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	07-Aug-24	time	6.49	11.81	17.27	23.00	28.96	35.21	41.86	49.08	49.08	7 / 1							
reaction time	0.167	interval		5.32	5.46	5.73	5.96	6.25	6.65	7.22		# of strides	11.81	11.19	12.21	13.87	23.00	26.08	3.08
		velocity	7.70	9.40	9.16	8.73	8.39	8.00	7.52	6.93	8.15	187.0	8.47	8.94	8.19	7.21	8.70	7.67	

Butler, Aaliyah (USA) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Herculis Meeting International d'Athlétisme (Monaco, MON)																			*Omega Timing (2025) - diamond league race analysis*
date	11-Jul-25	time	6.57	12.06	17.73	23.62	29.78	35.99	42.30	49.09	49.09	4 / 2							
reaction time	0.200	interval		5.49	5.67	5.89	6.16	6.21	6.31	6.79	PB	# of strides	12.06	11.56	12.37	13.10	23.62	25.47	1.85
		velocity	7.61	9.11	8.82	8.49	8.12	8.05	7.92	7.36	8.15	189.0	8.29	8.65	8.08	7.63	8.47	7.85	

Ogunkoya, Falilat (NGR) (1968)
FINAL - 1996 Olympic Games (Atlanta, GA)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016							
date	29-Jul-96	time				23.54		35.5		49.10	49.10	5 / 3							
reaction time	0.288	interval						11.96		13.60	AR PB	# of strides			11.96	13.60	23.54	25.56	2.02
		velocity				8.50		8.36		7.35	8.15				8.36	7.35	8.50	7.82	

Nazarova, Olga (URS) (1965)
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988							
date	25-Sep-88	time		12.28		23.73		35.79		49.11	49.11	5 / 1							
reaction time		interval				11.45		12.06		13.32	NR	# of strides	12.28	11.45	12.06	13.32	23.73	25.38	1.65
		velocity		8.14		8.73		8.29		7.51	8.14		8.14	8.73	8.29	7.51	8.43	7.88	

Freeman, Cathy (AUS) (1973)
FINAL - 2000 Olympic Games (Sydney, AUS)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016							
date	25-Sep-00	time		12.30		24.08		36.14		49.11	49.11	6 / 1							
reaction time	0.227	interval				11.78		12.06		12.97		# of strides	12.30	11.78	12.06	12.97	24.08	25.03	0.95
		velocity		8.13		8.49		8.29		7.71	8.14	179.2	8.13	8.49	8.29	7.71	8.31	7.99	

Miller-Uibo, Shaunae (BAH) (1994)
FINAL - 2022 World Athletics Championships (Eugene, OR)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Timing by Seiko (2022) - world athletics championships race analysis							
date	22-Jul-22	time		11.76		23.24		35.61		49.11	49.11	3 / 1							
reaction time	0.123	interval				11.48		12.37		13.50		# of strides	11.76	11.48	12.37	13.50	23.24	25.87	2.63
		velocity		8.50		8.71		8.08		7.41	8.14	173.5	8.50	8.71	8.08	7.41	8.61	7.73	

McLaughlin-Levrone, Sydney (USA) (
Invitational - 2024 Memorial van damme (Brussels, BEL)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Omega Timing (2024) - diamond league race analysis							
date	13-Sep-24	time	6.52	11.89	17.47	23.37	29.42	35.61	42.10	49.11	49.11	4 / 1							
reaction time	0.161	interval		5.37	5.58	5.90	6.05	6.19	6.49	7.01		# of strides	11.89	11.48	12.24	13.50	23.37	25.74	2.37
		velocity	7.67	9.31	8.96	8.47	8.26	8.08	7.70	7.13	8.14	184.0	8.41	8.71	8.17	7.41	8.56	7.77	

Paulino, Marileidy (DOM) (1996)
FINAL - 2023 Meeting de Paris (Paris, FRA)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Omega Timing (2023) - diamond league race analysis							
date	09-Jun-23	time	6.62	12.13	17.69	23.43	29.30	35.40	41.85	49.12	49.12	5 / 1							
reaction time	0.189	interval		5.51	5.56	5.74	5.87	6.10	6.45	7.27		# of strides	12.13	11.30	11.97	13.72	23.43	25.69	2.26
		velocity	7.55	9.07	8.99	8.71	8.52	8.20	7.75	6.88	8.14	171.0	8.24	8.85	8.35	7.29	8.54	7.79	

Paulino, Marileidy (DOM) (1996)
Long Sprints - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Grand Slam Track (2025) - results and splits by race							
date	31-May-25	time		12.38		24.11		36.24		49.12	49.12	7 / 1							
reaction time	0.330	interval				11.73		12.13		12.88		# of strides	12.38	11.73	12.13	12.88	24.11	25.01	0.90
		velocity		8.08		8.53		8.24		7.76	8.14		8.08	8.53	8.24	7.76	8.30	8.00	

Pérec, Marie-José (FRA) (1968)
FINAL - 1991 IAAF World Championships (Tokyo, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Butler (2013) - IAAF world championships statistics handbook- moscow 2013							
date	27-Aug-91	time				22.82		35.12		49.13	49.13	4 / 1							
reaction time		interval						12.30		14.01	NR	# of strides			12.30	14.01	22.82	26.31	3.49
		velocity				8.76		8.13		7.14	8.14	170.7			8.13	7.14	8.76	7.60	

Naser, Salwa Eid (BRN) (1998)
Heat 5 - 2025 World Athletics Championships (Tokyo, JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Seiko Timing (2025) - 2025 World Championships race analysis							
date	14-Sep-25	time		11.98		23.36		35.61		49.13	49.13	5 / 1							
reaction time	0.190	interval				11.38		12.25		13.52		# of strides	11.98	11.38	12.25	13.52	23.36	25.77	2.41
		velocity		8.35		8.79		8.16		7.40	8.14	185.0	8.35	8.79	8.16	7.40	8.56	7.76	

Thomas, Gabrielle (USA) (1996)
Long Sprints - 2025 Grand Slam Track Kingston (Kingston, JAM)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Grand Slam Track (2025) - results and splits by race							
date	05-Apr-25	time		12.34		23.90		36.17		49.14	49.14	4 / 2							
reaction time	0.260	interval				11.56		12.27		12.97	PB	# of strides	12.34	11.56	12.27	12.97	23.90	25.24	1.34
		velocity		8.10		8.65		8.15		7.71	8.14	177.0	8.10	8.65	8.15	7.71	8.37	7.92	

Naser, Salwa Eid (BRN) (1998)
FINAL - 2019 Athletissima (Lausanne, SUI)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Omega Timing (2019) - diamond league race analysis							
date	05-Jul-19	time		12.3		23.9		36.1		49.17	49.17	5 / 1							
reaction time	0.168	interval				11.6		12.2		13.1		# of strides	12.30	11.60	12.20	13.07	23.90	25.27	1.37
		velocity		8.13		8.62		8.20		7.65	8.14	184.2	8.13	8.62	8.20	7.65	8.37	7.91	

Adeleke, Rhasidat (IRL) (2002)
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Omega Timing (2024) - diamond league race analysis							
date	12-Jul-24	time	6.69	12.09	17.54	23.25	29.22	35.38	41.93	49.17	49.17	5 / 1							
reaction time	0.161	interval		5.40	5.45	5.71	5.97	6.16	6.55	7.24		# of strides	12.09	11.16	12.13	13.79	23.25	25.92	2.67
		velocity	7.47	9.26	9.17	8.76	8.38	8.12	7.63	6.91	8.14	184.0	8.27	8.96	8.24	7.25	8.60	7.72	

Pérec, Marie-José (FRA) (1968)
FINAL - 1996 Herculis (Monaco, MON)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Vazel (2018.07.20) - https://twitter.com/pjvazel							
date	10-Aug-96	time		12.0		23.3		35.7		49.2	49.18	/ 1							
reaction time		interval				11.30		12.40		13.48		# of strides	12.00	11.30	12.40	13.48	23.30	25.88	2.58
		velocity		8.33		8.85		8.06		7.42	8.13		8.33	8.85	8.06	7.42	8.58	7.73	

Paulino, Marileidy (DOM) (1996)
FINAL - 2025 Kamila Skolimowska Memorial (Chorzów, POL)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Omega Timing (2025) - diamond league race analysis							
date	16-Aug-25	time	6.84	12.53	18.36	24.39	30.37	36.53	42.74	49.18	49.18	6 / 1							
reaction time	0.181	interval		5.69	5.83	6.03	5.98	6.16	6.21	6.44		# of strides	12.53	11.86	12.14	12.65	24.39	24.79	0.40
		velocity	7.31	8.79	8.58	8.29	8.36	8.12	8.05	7.76	8.13	170.0	7.98	8.43	8.24	7.91	8.20	8.07	

Kulchunova-Pinigina, Mariya (URS) (
FINAL - 1983 IAAF World Championships Helsinki, FIN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
												Butler (2013) - IAAF world championships statistics handbook- moscow 2013							

date	10-Aug-83	time				23.2				49.2	49.19	4 / 3							
reaction time		interval								26.0		# of strides					23.20	26.00	2.80
		velocity				8.62				7.69	8.13						8.62	7.69	

Pérec, Marie-José (FRA) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1996 Olympic Games (Atlanta, GA)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 28-Jul-96	time			23.7				49.2	49.19	/ 1							
reaction time	interval							25.50		# of strides					23.70	25.50	1.80
	velocity			8.44				7.84	8.13						8.44	7.84	

Seyni, Aminatou (NIG) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Athletissima (Lausanne, SUI)										*Omega Timing (2019) - diamond league race analysis*							
date 05-Jul-19	time	12.6		24.4		36.6		49.19	49.19	4 / 2							
reaction time 0.223	interval			11.8		12.2		12.6	NR	# of strides	12.60	11.80	12.20	12.59	24.40	24.79	0.39
	velocity	7.94		8.47		8.20		7.94	8.13		7.94	8.47	8.20	7.94	8.20	8.07	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Olympic Games (Tokyo, JPN)										*Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final*							
date 06-Aug-21	time	6.76	12.24	17.83	23.64	29.67	35.92	42.33	49.21	49.20	5 / 2							
reaction time 0.176	interval		5.48	5.59	5.81	6.03	6.25	6.41	6.88	NR PB	# of strides	12.24	11.40	12.28	13.29	23.64	25.57	1.93
	velocity	7.40	9.12	8.94	8.61	8.29	8.00	7.80	7.27	8.13	174.0	8.17	8.77	8.14	7.52	8.46	7.82	

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 NCAA Championships (Austin, TX)										*Lindstrom (2023) - 400 - Adeleke with a meet record*							
date 10-Jun-23	time			24.1				49.40	49.20	7 / 1							
reaction time	interval							25.30	NR	# of strides					24.10	25.30	1.20
	velocity			8.30				7.91	8.13	183.0					8.30	7.91	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Meeting de Paris (Paris, FRA)										*Omega Timing (2024) - diamond league race analysis*							
date 07-Jul-24	time	6.70	12.24	17.91	23.75	29.77	35.96	42.38	49.20	49.20	5 / 1							
reaction time 0.188	interval		5.54	5.67	5.84	6.02	6.19	6.42	6.82		# of strides	12.24	11.51	12.21	13.24	23.75	25.45	1.70
	velocity	7.46	9.03	8.82	8.56	8.31	8.08	7.79	7.33	8.13	171.0	8.17	8.69	8.19	7.55	8.42	7.86	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 07-Aug-24	time	6.60	12.00	17.45	23.13	29.07	35.33	41.84	49.21	49.21	6 / 1							
reaction time 0.195	interval		5.40	5.45	5.68	5.94	6.26	6.51	7.37		# of strides	12.00	11.13	12.20	13.88	23.13	26.08	2.95
	velocity	7.58	9.26	9.17	8.80	8.42	7.99	7.68	6.78	8.13	173.0	8.33	8.98	8.20	7.20	8.65	7.67	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)										*Grand Slam Track (2025) - results and splits by race*							
date 02-May-25	time		12.22		23.96		36.27		49.21	49.21	6 / 1							
reaction time 0.560	interval				11.74		12.31		12.94		# of strides	12.22	11.74	12.31	12.94	23.96	25.25	1.29
	velocity		8.18		8.52		8.12		7.73	8.13	174.0	8.18	8.52	8.12	7.73	8.35	7.92	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Kamila Skolimowska Memorial (Chorzów, POL)										*Omega Timing (2024) - diamond league race analysis*							
date 25-Aug-24	time	6.52	11.80	17.33	23.23	29.34	35.77	42.36	49.23	49.23	4 / 2							
reaction time 0.169	interval		5.28	5.53	5.90	6.11	6.43	6.59	6.87		# of strides	11.80	11.43	12.54	13.46	23.23	26.00	2.77
	velocity	7.67	9.47	9.04	8.47	8.18	7.78	7.59	7.28	8.13	186.0	8.47	8.75	7.97	7.43	8.61	7.69	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Weltklasse (Zürich, SUI)										*Omega Timing (2025) - diamond league race analysis*							
date 28-Aug-25	time	6.67	12.25	17.95	23.78	29.82	36.00	42.37	49.23	49.23	5 / 2							
reaction time 0.159	interval		5.58	5.70	5.83	6.04	6.18	6.37	6.86		# of strides	12.25	11.53	12.22	13.23	23.78	25.45	1.67
	velocity	7.50	8.96	8.77	8.58	8.28	8.09	7.85	7.29	8.13		8.16	8.67	8.18	7.56	8.41	7.86	

Busch, Sabine (GDR) (1962)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 East German National Championshps (Erfurt, GDR)										*Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84*							
date 02-Jun-84	time		12.54		24.06		36.08		49.24	49.24	/ 2							
reaction time	interval				11.52		12.02		13.16	PB	# of strides	12.54	11.52	12.02	13.16	24.06	25.18	1.12
	velocity		7.97		8.68		8.32		7.60	8.12		7.97	8.68	8.32	7.60	8.31	7.94	

Mboma, Christine (NAM) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 International All Comers Meeting (Lusaka, ZAM)										*Vazel (2021) - https://twitter.com/pjvazel/status/1382341180789231617?s=21*							
date 11-Apr-21	time		13.0		24.3		36.5		49.24	49.24	1 / 1							
reaction time	interval				11.30		12.20		12.74	WJR	# of strides	13.00	11.30	12.20	12.74	24.30	24.94	0.64
	velocity		7.69		8.85		8.20		7.85	8.12	195.0	7.69	8.85	8.20	7.85	8.23	8.02	

Felix, Allyson (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 IAAF World Championships (Beijing, CHN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 27-Aug-15	time	6.29	11.46	17.15	23.34	29.46	35.67	42.24	49.26	49.26	6 / 1							
reaction time 0.164	interval		5.17	5.69	6.19	6.12	6.21	6.57	7.02	PB	# of strides	11.46	11.88	12.33	13.59	23.34	25.92	2.58
	velocity	7.95	9.67	8.79	8.08	8.17	8.05	7.61	7.12	8.12	179.5	8.73	8.42	8.11	7.36	8.57	7.72	

Butler, Aaliyah (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 NCAA Championships (Eugene, OR)										*Casacky (2025) - 400 - Butler all the way*							
date 14-Jun-25	time						35.90		49.26	49.26	6 / 1							
reaction time	interval								13.36	PB	# of strides				13.36			
	velocity						8.36		7.49	8.12					7.49			

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championship (Indianapolis, IN)										*USATF Women's Sprint Development (2006)*							
date 24-Jun-06	time	11.40	17.11	23.37	29.46	35.78	42.36	49.27	49.27	4 / 1							
reaction time	interval		5.71	6.26	6.09	6.32	6.58	6.91		# of strides	11.40	11.97	12.41	13.49	23.37	25.90	2.53

		velocity		8.77	8.76	7.99	8.21	7.91	7.60	7.24	8.12	190.0	8.77	8.35	8.06	7.41	8.56	7.72

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 ISTAF (Berlin, GER) *(TV Analysis)*																	*Graubner (2008) - http://www.fgs.uni-halle.de*
date 16-Sep-07	time		12.03		23.89		36.24		49.27	49.27	4 / 1						
reaction time 0.251	interval				11.86		12.35		13.03		# of strides	12.03	11.86	12.35	13.03	23.89	25.38	1.49
	velocity		8.31		8.43		8.10		7.67	8.12	188.5	8.31	8.43	8.10	7.67	8.37	7.88	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Sep-07	time		11.88		23.71		36.06		49.27	49.27	5 / 1						
reaction time 0.166	interval				11.83		12.35		13.21		# of strides	11.88	11.83	12.35	13.21	23.71	25.56	1.85
	velocity		8.42		8.45		8.10		7.57	8.12		8.42	8.45	8.10	7.57	8.44	7.82	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Kamila Skolimowska Memorial (Chorzów, POL)																	*Omega Timing (2025) - diamond league race analysis*
date 16-Aug-25	time	6.74	12.14	17.80	23.74	29.74	36.02	42.53	49.27	49.27	4 / 2							
reaction time 0.154	interval		5.40	5.66	5.94	6.00	6.28	6.51	6.74		# of strides	12.14	11.60	12.28	13.25	23.74	25.53	1.79
	velocity	7.42	9.26	8.83	8.42	8.33	7.96	7.68	7.42	8.12	188.0	8.24	8.62	8.14	7.55	8.42	7.83	

Bukowiecka, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 18-Sep-25	time		12.01		23.38		35.85		49.27	49.27	8 / 4						
reaction time 0.168	interval				11.37		12.47		13.42		# of strides	12.01	11.37	12.47	13.42	23.38	25.89	2.51
	velocity		8.33		8.80		8.02		7.45	8.12	192.0	8.33	8.80	8.02	7.45	8.55	7.72	

Cheeseborough, Chandra (USA) (195

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 USA Olympic Trials (Los Angeles, CA)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 19-Jun-84	time				23.8				49.3	49.28	5 / 1						
reaction time	interval								25.5	NR	# of strides					23.80	25.50	1.70
	velocity				8.40				7.84	8.12						8.40	7.84	

Pérec, Marie-José (FRA) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 IAAF World Championships (Gothenburg, SWE)																	*Track Newsletter (1995) - World Championships V*
date 08-Aug-95	time		11.9		23.5		35.7		49.3	49.28	6 / 1						
reaction time	interval				11.60		12.20		13.60		# of strides	11.90	11.60	12.20	13.60	23.50	25.80	2.30
	velocity		8.40		8.62		8.20		7.35	8.12	174.7	8.40	8.62	8.20	7.35	8.51	7.75	

Davis-Thompson, Pauline (BAH) (196

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Olympic Games (Atlanta, GA)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 29-Jul-96	time				23.23		35.4		49.28	49.28	2 / 4						
reaction time 0.222	interval						12.17		13.88	PB	# of strides			12.17	13.88	23.23	26.05	2.82
	velocity				8.61		8.22		7.20	8.12				8.22	7.20	8.61	7.68	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Championship (Carson, CA)																	*USATF Women's Sprint Development (2005)*
date 25-Jun-05	time		12.08	17.90	23.99	29.85	35.99	42.44	49.28	49.28	4 / 1						
reaction time	interval			5.82	6.09	5.86	6.14	6.45	6.84	PB	# of strides	12.08	11.91	12.00	13.29	23.99	25.29	1.30
	velocity		8.28	8.59	8.21	8.53	8.14	7.75	7.31	8.12		8.28	8.40	8.33	7.52	8.34	7.91	

Richards-Ross, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)																	*Hymans (2020) - history of the US olympic trials - track and field*
date 24-Jun-12	time				23.8		36.1		49.28	49.28	5 / 1						
reaction time 0.232	interval						12.30		13.18		# of strides			12.30	13.18	23.80	25.48	1.68
	velocity				8.40		8.13		7.59	8.12				8.13	7.59	8.40	7.85	

Miller-Uibo, Shaunae (BAH) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2022) - diamond league race analysis*
date 10-Aug-22	time	6.56	11.90	17.47	23.32	29.31	35.43	41.97	49.28	49.28	4 / 1							
reaction time 0.146	interval		5.34	5.57	5.85	5.99	6.12	6.54	7.31		# of strides	11.90	11.42	12.11	13.85	23.32	25.96	2.64
	velocity	7.62	9.36	8.98	8.55	8.35	8.17	7.65	6.84	8.12	173.5	8.40	8.76	8.26	7.22	8.58	7.70	

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 09-Aug-24	time	6.58	12.01	17.54	23.29	29.23	35.51	42.02	49.28	49.28	4 / 4							
reaction time 0.153	interval		5.43	5.53	5.75	5.94	6.28	6.51	7.26		# of strides	12.01	11.28	12.22	13.77	23.29	25.99	2.70
	velocity	7.60	9.21	9.04	8.70	8.42	7.96	7.68	6.89	8.12	186.2	8.33	8.87	8.18	7.26	8.59	7.70	

Szewinska, Irena (POL) (1946)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 Olympic Games (Montreal, CAN)																	*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*
date 29-Jul-76	time				23.12		35.58		49.29	49.29	4 / 1						
reaction time	interval						12.46		13.71	WR	# of strides			12.46	13.71	23.12	26.17	3.05
	velocity				8.65		8.03		7.29	8.12				8.03	7.29	8.65	7.64	

Anning, Amber (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 09-Aug-24	time	6.55	11.95	17.57	23.39	29.56	35.97	42.50	49.29	49.29	4 / 4							
reaction time 0.185	interval		5.40	5.62	5.82	6.17	6.41	6.53	6.79	NR PB	# of strides	11.95	11.44	12.58	13.32	23.39	25.90	2.51
	velocity	7.63	9.26	8.90	8.59	8.10	7.80	7.66	7.36	8.12	186.2	8.37	8.74	7.95	7.51	8.55	7.72	

Fenton, Lorraine (JAM) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 Herculis (Monaco, MON)																	*Veney - split times from PJ*
date 19-Jul-02	time		12.35		23.80		36.27		49.30	49.30	/ 2						
reaction time 0.218	interval				11.45		12.47		13.03	NR	# of strides	12.35	11.45	12.47	13.03	23.80	25.50	1.70
	velocity		8.10		8.73		8.02		7.67	8.11		8.10	8.73	8.02	7.67	8.40	7.84	

Williams-Darling, Tonique (BAH) (197 | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2005 Weltklasse (Zurich, SUI) — *ferrari (2009) - Split 100 metri uomini e donne (www.noivelocisti.net/forum?func=view&catid=9&id=1813)*

date	19-Aug-05	time		12.0		23.3		35.5		49.30	49.30	4 / 2						
reaction time	0.275	interval				11.3		12.2		13.80		# of strides	12.00	11.30	12.20	13.80	23.30	26.00	2.70
		velocity		8.33		8.85		8.20		7.25	8.11	193.0	8.33	8.85	8.20	7.25	8.58	7.69	

Paulino, Marileidy (DOM) (1996) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2024 Bislett Games (Oslo, NOR) — *Omega Timing (2024) - diamond league race analysis*

date	30-May-24	time	6.80	12.33	18.06	23.84	29.79	36.04	42.46	49.30	49.30	6 / 1						
reaction time	0.161	interval		5.53	5.73	5.78	5.95	6.25	6.42	6.84		# of strides	12.33	11.51	12.20	13.26	23.84	25.46	1.62
		velocity	7.35	9.04	8.73	8.65	8.40	8.00	7.79	7.31	8.11	171.5	8.11	8.69	8.20	7.54	8.39	7.86	

Pérec, Marie-José (FRA) (1968) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 1991 European Cup (Frankfurt, GER) — *Federle (2003) - http://www.fgs.uni-halle.de*

date	29-Jun-91	time		12.43		23.92		35.93		49.32	49.32	6 / 1						
reaction time	0.336	interval				11.49		12.01		13.39	PB	# of strides	12.43	11.49	12.01	13.39	23.92	25.40	1.48
		velocity		8.05		8.70		8.33		7.47	8.11		8.05	8.70	8.33	7.47	8.36	7.87	

Williams, Shericka (JAM) (1985) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics*

date	18-Aug-09	time	6.59	12.07	17.77	23.76	29.82	36.00	42.38	49.32	49.32	4 / 2						
reaction time	0.194	interval		5.48	5.70	5.99	6.06	6.18	6.38	6.94	PB	# of strides	12.07	11.69	12.24	13.32	23.76	25.56	1.80
		velocity	7.59	9.12	8.77	8.35	8.25	8.09	7.84	7.20	8.11	197.5	8.29	8.55	8.17	7.51	8.42	7.82	

Bryzgina, Olga (URS) (1963) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	25-Sep-88	time		12.19		23.82		36.38		49.33	49.33	8 / 1						
reaction time		interval				11.63		12.56		12.95		# of strides	12.19	11.63	12.56	12.95	23.82	25.51	1.69
		velocity		8.20		8.60		7.96		7.72	8.11		8.20	8.60	7.96	7.72	8.40	7.84	

Naser, Salwa Eid (BRN) (1998) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL) — *Grand Slam Track (2025) - results and splits by race*

date	02-May-25	time		12.05		23.66		36.06		49.33	49.33	7 / 2						
reaction time	0.690	interval				11.61		12.40		13.27		# of strides	12.05	11.61	12.40	13.27	23.66	25.67	2.01
		velocity		8.30		8.61		8.06		7.54	8.11	183.0	8.30	8.61	8.06	7.54	8.45	7.79	

Guevara, Ana (MEX) (1977) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2003 Prefontaine Classic (Eugene, OR) — *Track Newsletter (2003) - NCAA championships*

date	24-May-03	time				23.6				49.3	49.34	/ 1						
reaction time		interval								25.70		# of strides					23.60	25.70	2.10
		velocity				8.47				7.78	8.11						8.47	7.78	

Paulino, Marileidy (DOM) (1996) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

Long Sprints - 2025 Grand Slam Track Kingston (Kingston, JAM) — *Grand Slam Track (2025) - results and splits by race*

date	05-Apr-25	time		12.49		24.19		36.19		49.35	49.35	6 / 3						
reaction time	0.340	interval				11.70		12.00		13.16		# of strides	12.49	11.70	12.00	13.16	24.19	25.16	0.97
		velocity		8.01		8.55		8.33		7.60	8.11	171.0	8.01	8.55	8.33	7.60	8.27	7.95	

Paulino, Marileidy (DOM) (1996) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) — *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	6.70	12.40	18.20	24.20	30.20	36.40	42.70	49.36	49.36	5 / 1						
reaction time	0.160	interval		5.70	5.80	6.00	6.00	6.20	6.30	6.66		# of strides	12.40	11.80	12.20	12.96	24.20	25.16	0.96
		velocity	7.46	8.77	8.62	8.33	8.33	8.06	7.94	7.51	8.10	171.2	8.06	8.47	8.20	7.72	8.26	7.95	

Anning, Amber (GBR) (2000) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2025 World Athletics Championships (Tokyo, JPN) — *Seiko Timing (2025) - 2025 World Championships race analysis*

date	18-Sep-25	time		11.99		23.45		35.92		49.36	49.36	6 / 5						
reaction time	0.175	interval				11.46		12.47		13.44		# of strides	11.99	11.46	12.47	13.44	23.45	25.91	2.46
		velocity		8.34		8.73		8.02		7.44	8.10	181.0	8.34	8.73	8.02	7.44	8.53	7.72	

Bryzgina, Olga (URS) (1963) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 1987 IAAF World Championships (Rome, ITA) — *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*

date	31-Aug-87	time		12.34		23.82		36.15		49.38	49.38	2 / 1						
reaction time		interval				11.48		12.33		13.23		# of strides	12.34	11.48	12.33	13.23	23.82	25.56	1.74
		velocity		8.10		8.71		8.11		7.56	8.10	191.5	8.10	8.71	8.11	7.56	8.40	7.82	

Anning, Amber (GBR) (2000) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

Semi-Final 3 - 2025 World Athletics Championships (Tokyo, JPN) — *Seiko Timing (2025) - 2025 World Championships race analysis*

date	16-Sep-25	time		11.92		23.23		35.80		49.38	49.38	6 / 2						
reaction time	0.195	interval				11.31		12.57		13.58		# of strides	11.92	11.31	12.57	13.58	23.23	26.15	2.92
		velocity		8.39		8.84		7.96		7.36	8.10	179.2	8.39	8.84	7.96	7.36	8.61	7.65	

Miles, Jearl (USA) (1966) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 1997 USATF Championships (Indianapolis, IN) — *Track Newsletter (1997) - USATF National Championships*

date	14-Jun-97	time				24.0		36.1		49.4	49.40	/ 1						
reaction time		interval						12.10		13.30		# of strides			12.10	13.30	24.00	25.40	1.40
		velocity				8.33		8.26		7.52	8.10				8.26	7.52	8.33	7.87	

Williams-Darling, Tonique (BAH) (197 | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2004 Olympic Games (Athens, GRE) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	24-Aug-04	time		12.0		23.4		35.5		49.4	49.41	4 / 1						
reaction time	0.268	interval				11.4		12.1		13.9		# of strides	12.00	11.40	12.10	13.90	23.40	26.00	2.60
		velocity		8.33		8.77		8.26		7.19	8.10	192.5	8.33	8.77	8.26	7.19	8.55	7.69	

Ohuruogu, Christine (GBR) (1984) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2013 IAAF World Championships (Moscow, RUS) — *Track Newsletter (2013) - world championships women*

date	12-Aug-13	time		12.3		23.8		36.1		49.4	49.41	4 / 1						
reaction time	0.247	interval				11.5		12.3		13.3	NR	# of strides	12.30	11.50	12.30	13.30	23.80	25.60	1.80
		velocity		8.13		8.70		8.13		7.52	8.10		8.13	8.70	8.13	7.52	8.40	7.81	

Montsho, Amantle (BOT) (1983)

FINAL - 2013 IAAF World Championships (Moscow, RUS)

Track Newsletter (2013) - world championships women

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Aug-13	time		12.2		23.4		35.7		49.4	49.41	5 / 2							
reaction time	0.273	interval				11.2		12.3		13.7		# of strides	12.20	11.20	12.30	13.70	23.40	26.00	2.60
		velocity		8.20		8.93		8.13		7.30	8.10		8.20	8.93	8.13	7.30	8.55	7.69	

McLaughlin-Levrone, Sydney (USA) (

Heat 3 - 2025 World Athletics Championships (Tokyo, JPN)

Seiko Timing (2025) - 2025 World Championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.14		23.78		36.12		49.41	49.41	6 / 1							
reaction time	0.199	interval				11.64		12.34		13.29		# of strides	12.14	11.64	12.34	13.29	23.78	25.63	1.85
		velocity		8.24		8.59		8.10		7.52	8.10	180.5	8.24	8.59	8.10	7.52	8.41	7.80	

Breuer, Grit (GER) (1972)

FINAL - 1991 IAAF World Championships (Tokyo, JPN)

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Aug-91	time				23.00		35.39		49.42	49.42	3 / 2							
reaction time		interval						12.39		14.03	WJR	# of strides			12.39	14.03	23.00	26.42	3.42
		velocity				8.70		8.07		7.13	8.09	193.5			8.07	7.13	8.70	7.57	

Paulino, Marileidy (DOM) (1996)

Heat 5 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.73	12.20	17.74	23.52	29.54	35.77	42.25	49.42	49.42	5 / 1							
reaction time	0.164	interval		5.47	5.54	5.78	6.02	6.23	6.48	7.17		# of strides	12.20	11.32	12.25	13.65	23.52	25.90	2.38
		velocity	7.43	9.14	9.03	8.65	8.31	8.03	7.72	6.97	8.09	174.0	8.20	8.83	8.16	7.33	8.50	7.72	

Cook, Kathy (GBR) (1960)

FINAL - 1984 Olympic Games (Los Angeles, CA)

Adams (1984) - 1984 olympic games - 200m & 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-84	time				23.4				49.43	49.43	6 / 3							
reaction time	0.208	interval								26.03	NR	# of strides					23.40	26.03	2.63
		velocity				8.55				7.68	8.09	178.0					8.55	7.68	

Fenton, Lorraine (JAM) (1973)

FINAL - 2003 IAAF World Championships (Paris, FRA)

Bonvin (2003) - Compte-rendu 400m et relais 4x 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Aug-03	time				23.6		35.7		49.43	49.43	5 / 2							
reaction time	0.177	interval						12.1		13.7		# of strides			12.10	13.73	23.60	25.83	2.23
		velocity				8.47		8.26		7.28	8.09				8.26	7.28	8.47	7.74	

McLaughlin-Levrone, Sydney (USA) (

FINAL - 2025 Prefontaine Classic (Eugene, OR)

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jul-25	time	6.66	12.30	18.01	23.94	30.07	36.30	42.66	49.43	49.43	5 / 1							
reaction time	0.155	interval		5.64	5.71	5.93	6.13	6.23	6.36	6.77		# of strides	12.30	11.64	12.36	13.13	23.94	25.49	1.55
		velocity	7.51	8.87	8.76	8.43	8.16	8.03	7.86	7.39	8.09	185.0	8.13	8.59	8.09	7.62	8.35	7.85	

Miller-Uibo, Shaunae (BAH) (1994)

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-16	time	6.49	11.80	17.23	22.98	29.03	35.34	42.10	49.44	49.44	7 / 1							
reaction time	0.155	interval		5.31	5.43	5.75	6.05	6.31	6.76	7.34	PB	# of strides	11.80	11.18	12.36	14.10	22.98	26.46	3.48
		velocity	7.70	9.42	9.21	8.70	8.26	7.92	7.40	6.81	8.09	182.0	8.47	8.94	8.09	7.09	8.70	7.56	

Bol, Femke (NED) (2000)

FINAL - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Aug-22	time		12.20		23.70		36.17		49.44	49.44	5 / 1							
reaction time	0.252	interval				11.50		12.47		13.27	NR PB	# of strides	12.20	11.50	12.47	13.27	23.70	25.74	2.04
		velocity		8.20		8.70		8.02		7.54	8.09	180.0	8.20	8.70	8.02	7.54	8.44	7.77	

Müller, Petra (GDR) (1965)

FINAL - 1988 Olympic Games (Seoul, KOR)

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Sep-88	time		12.33		24.10		36.34		49.45	49.45	6 / 2							
reaction time	0.232	interval				11.77		12.24		13.11		# of strides	12.33	11.77	12.24	13.11	24.10	25.35	1.25
		velocity		8.11		8.50		8.17		7.63	8.09	192.0	8.11	8.50	8.17	7.63	8.30	7.89	

Kaczmarek, Natalia (POL) (1998)

Semi-Final 3 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-24	time	6.67	12.14	17.62	23.46	29.71	36.10	42.59	49.45	49.45	7 / 1							
reaction time	0.183	interval		5.47	5.48	5.84	6.25	6.39	6.49	6.86		# of strides	12.14	11.32	12.64	13.35	23.46	25.99	2.53
		velocity	7.50	9.14	9.12	8.56	8.00	7.82	7.70	7.29	8.09	191.0	8.24	8.83	7.91	7.49	8.53	7.70	

Paulino, Marileidy (DOM) (1996)

FINAL - 2024 Memorial van damme (Brussels, BEL)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-24	time	6.60	12.08	17.70	23.52	29.58	35.88	42.44	49.45	49.45	5 / 1							
reaction time	0.175	interval		5.48	5.62	5.82	6.06	6.30	6.56	7.01		# of strides	12.08	11.44	12.36	13.57	23.52	25.93	2.41
		velocity	7.58	9.12	8.90	8.59	8.25	7.94	7.62	7.13	8.09	171.0	8.28	8.74	8.09	7.37	8.50	7.71	

Kratochvílová, Jarmila (TCH) (1951)

FINAL - 1980 Olympic Games (Moscow, URS)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-80	time						35.6		49.46	49.46	6 / 2							
reaction time		interval								13.86	PB	# of strides				13.86			
		velocity						8.43		7.22	8.09					7.22			

Miller-Uibo, Shaunae (BAH) (1994)

FINAL - 2017 Memorial van Damme (Brussels, BEL)

Omega Timing (2017) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Sep-17	time		12.0	17.8	23.8	30.1	36.4	42.8	49.46	49.46	7 / 1							
reaction time	0.147	interval			5.80	6.00	6.30	6.30	6.40	6.66		# of strides	12.00	11.80	12.60	13.06	23.80	25.66	1.86

		velocity		8.33	8.62	8.33	7.94	7.94	7.81	7.51	8.09	179.0	8.33	8.47	7.94	7.66	8.40	7.79

Felix, Allyson (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Olympic Games (Tokyo, JPN)																	*Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final*
date 06-Aug-21	time	6.52	11.85	17.52	23.40	29.44	35.68	42.29	49.47	49.46	9 / 3							
reaction time 0.158	interval		5.33	5.67	5.88	6.04	6.24	6.61	7.18		# of strides	11.85	11.55	12.28	13.79	23.40	26.07	2.67
	velocity	7.67	9.38	8.82	8.50	8.28	8.01	7.56	6.96	8.09	183.2	8.44	8.66	8.14	7.25	8.55	7.67	

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 23-Jun-24	time		12.11		23.96		36.35		49.46	49.46	8 / 1							
reaction time	interval				11.85		12.39		13.11	PB	# of strides	12.11	11.85	12.39	13.11	23.96	25.50	1.54
	velocity		8.26		8.44		8.07		7.63	8.09		8.26	8.44	8.07	7.63	8.35	7.84	

Pryce, Nickisha (JAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 16-Sep-25	time		12.19		23.45		35.68		49.46	49.46	7 / 3							
reaction time 0.191	interval				11.26		12.23		13.78		# of strides	12.19	11.26	12.23	13.78	23.45	26.01	2.56
	velocity		8.20		8.88		8.18		7.26	8.09	185.0	8.20	8.88	8.18	7.26	8.53	7.69	

Jackson, Shericka (JAM) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 IAAF World Championships (Doha, QAT)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 03-Oct-19	time	6.64	12.19	17.84	23.70	29.69	35.96	42.47	49.47	49.47	3 / 3							
reaction time 0.184	interval		5.55	5.65	5.86	5.99	6.27	6.51	7.00	PB	# of strides	12.19	11.51	12.26	13.51	23.70	25.77	2.07
	velocity	7.53	9.01	8.85	8.53	8.35	7.97	7.68	7.14	8.09	193.5	8.20	8.69	8.16	7.40	8.44	7.76	

Anning, Amber (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 07-Aug-24	time	6.61	12.02	17.58	23.42	29.64	36.03	42.61	49.47	49.47	6 / 2							
reaction time 0.227	interval		5.41	5.56	5.84	6.22	6.39	6.58	6.86	PB	# of strides	12.02	11.40	12.61	13.44	23.42	26.05	2.63
	velocity	7.56	9.24	8.99	8.56	8.04	7.82	7.60	7.29	8.09	179.5	8.32	8.77	7.93	7.44	8.54	7.68	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)																	*Grand Slam Track (2025) - results and splits by race*
date 31-May-25	time		12.20		23.97		36.10		49.47	49.47	6 / ~~2~~							
reaction time 0.350	interval				11.77		12.13		13.37	DQ	# of strides	12.20	11.77	12.13	13.37	23.97	25.50	1.53
	velocity		8.20		8.50		8.24		7.48	8.09		8.20	8.50	8.24	7.48	8.34	7.84	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 16-Sep-25	time		11.85		23.09		35.55		49.47	49.47	5 / 1							
reaction time 0.199	interval				11.24		12.46		13.92		# of strides	11.85	11.24	12.46	13.92	23.09	26.38	3.29
	velocity		8.44		8.90		8.03		7.18	8.09		8.44	8.90	8.03	7.18	8.66	7.58	

McCorory, Francena (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																	*Track Newsletter (2014) - USATF women's championships*
date 28-Jun-14	time		12.4		24.0		36.2		49.5	49.48	/ 1							
reaction time	interval				11.6		12.2		13.3		# of strides	12.40	11.60	12.20	13.30	24.00	25.50	1.50
	velocity		8.06		8.62		8.20		7.52	8.08		8.06	8.62	8.20	7.52	8.33	7.84	

Bol, Femke (NED) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	*European Athletics (2025) - 2025 european team championships, first division - results book*
date 27-Jun-25	time	6.56	12.15	17.98	23.99	30.09	36.43	42.83	49.48	49.48	6 / 1							
reaction time 0.162	interval		5.59	5.83	6.01	6.10	6.34	6.40	6.65		# of strides	12.15	11.84	12.44	13.05	23.99	25.49	1.50
	velocity	7.62	8.94	8.58	8.32	8.20	7.89	7.81	7.52	8.08	178.7	8.23	8.45	8.04	7.66	8.34	7.85	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 18-Sep-25	time		12.49		23.97		36.13		49.48	49.48	4 / 6							
reaction time 0.195	interval				11.48		12.16		13.35	NR PB	# of strides	12.49	11.48	12.16	13.35	23.97	25.51	1.54
	velocity		8.01		8.71		8.22		7.49	8.08	186.2	8.01	8.71	8.22	7.49	8.34	7.84	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Weltklasse (Zürich, SUI)																	*Omega Timing (2025) - diamond league race analysis*
date 28-Aug-25	time	6.63	12.10	17.80	23.66	29.70	35.99	42.52	49.49	49.49	4 / 3							
reaction time 0.118	interval		5.47	5.70	5.86	6.04	6.29	6.53	6.97	NR PB	# of strides	12.10	11.56	12.33	13.50	23.66	25.83	2.17
	velocity	7.54	9.14	8.77	8.53	8.28	7.95	7.66	7.17	8.08		8.26	8.65	8.11	7.41	8.45	7.74	

Müller, Petra (GDR) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)																	*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*
date 25-Sep-88	time		12.45		23.94		36.09		49.50	49.50	4 / 2							
reaction time	interval				11.49		12.15		13.41		# of strides	12.45	11.49	12.15	13.41	23.94	25.56	1.62
	velocity		8.03		8.70		8.23		7.46	8.08		8.03	8.70	8.23	7.46	8.35	7.82	

Pérec, Marie-José (FRA) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Nikaïa (Nice, FRA)																	*Vazel (2020) - Pérec vs Torrence 400m Nice battle of titans*
date 15-Jul-92	time				23.7				49.50	49.50	4 / 1							
reaction time	interval								25.80		# of strides					23.70	25.80	2.10
	velocity				8.44				7.75	8.08						8.44	7.75	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 21-Aug-23	time		12.19		23.58		36.21		49.50	49.50	5 / 1							
reaction time 0.173	interval				11.39		12.63		13.29		# of strides	12.19	11.39	12.63	13.29	23.58	25.92	2.34
	velocity		8.20		8.78		7.92		7.52	8.08	192.0	8.20	8.78	7.92	7.52	8.48	7.72	

Williams, Shericka (JAM) (1985)
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-09	time		12.30		24.05		36.20		49.51	49.51	4 / 1							
reaction time	0.208	interval				11.75		12.15		13.31	PB	# of strides	12.30	11.75	12.15	13.31	24.05	25.46	1.41
		velocity		8.13		8.51		8.23		7.51	8.08	196.7	8.13	8.51	8.23	7.51	8.32	7.86	

Felix, Allyson (USA) (1985)
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-16	time	6.54	11.88	17.42	23.23	29.42	35.80	42.41	49.51	49.51	4 / 2							
reaction time	0.177	interval		5.34	5.54	5.81	6.19	6.38	6.61	7.10		# of strides	11.88	11.35	12.57	13.71	23.23	26.28	3.05
		velocity	7.65	9.36	9.03	8.61	8.08	7.84	7.56	7.04	8.08	181.0	8.42	8.81	7.96	7.29	8.61	7.61	

McLaughlin-Levrone, Sydney (USA) (
FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY)
Track Newsletter (2023) - USATF NYC grand prix

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-23	time				23.74				49.51	49.51	5 / 1							
reaction time		interval								25.77	PB	# of strides					23.74	25.77	2.03
		velocity				8.42				7.76	8.08	184.0					8.42	7.76	

Bryzgina, Olga (URS) (1963)
FINAL - 1984 Women's Friendship Games (Praha, TCH)
Bondarchuk (2007) - transfer of training in sports

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-84	time		11.82		23.41		35.76		49.55	49.52	/ 3							
reaction time		interval				11.59		12.35		13.79		# of strides	11.82	11.59	12.35	13.79	23.41	26.14	2.73
		velocity		8.46		8.63		8.10		7.25	8.08		8.46	8.63	8.10	7.25	8.54	7.65	

Wimbley, Shakima (USA) (1995)
FINAL - 2018 USATF National Championships (Des Moines, IA)
Track Newsletter (2018) - USATF championships women

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-18	time				23.6		36.0		49.6	49.52	/ 1							
reaction time		interval						12.40		13.60	PB	# of strides			12.40	13.60	23.60	26.00	2.40
		velocity				8.47		8.06		7.35	8.08				8.06	7.35	8.47	7.69	

Masilingi, Beatrice (NAM) (2003)
FINAL - 2021 International All Comers Meeting (Lusaka, ZAM)
Vazel (2021) - https://twitter.com/pjvazel/status/1382341180789231617?s=21

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Apr-21	time		12.1		23.8		36.5		49.53	49.53	5 / 2							
reaction time		interval				11.70		12.70		13.03	PB	# of strides	12.10	11.70	12.70	13.03	23.80	25.73	1.93
		velocity		8.26		8.55		7.87		7.67	8.08	182.0	8.26	8.55	7.87	7.67	8.40	7.77	

Paulino, Marileidy (DOM) (1996)
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-23	time		12.29		23.68		36.08		49.54	49.54	7 / 1							
reaction time	0.187	interval				11.39		12.40		13.46		# of strides	12.29	11.39	12.40	13.46	23.68	25.86	2.18
		velocity		8.14		8.78		8.06		7.43	8.07	171.0	8.14	8.78	8.06	7.43	8.45	7.73	

Miles-Clark, Jearl (USA) (1966)
FINAL - 1996 Olympic Games (Atlanta, GA)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-96	time				23.97		36.1		49.55	49.55	8 / 5							
reaction time	0.320	interval						12.13		13.45	PB	# of strides			12.13	13.45	23.97	25.58	1.61
		velocity				8.34		8.24		7.43	8.07				8.24	7.43	8.34	7.82	

Wiliams-Darling, Tonique (BAH) (197
FINAL - 2005 IAAF World Championships (Helsinki, FIN)
Butler (2013) - IAAF world championships statistics handbook- moscow 2013

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-05	time						35.7		49.6	49.55	6 / 1							
reaction time	0.162	interval								13.9		# of strides				13.85			
		velocity						8.40		7.22	8.07	192.7				7.22			

Richards-Ross, Sanya (USA) (1985)
FINAL - 2012 Olympic Games (London, GBR)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-12	time		11.9		23.7		36.0		49.6	49.55	6 / 1							
reaction time	0.189	interval				11.80		12.30		13.60		# of strides	11.90	11.80	12.30	13.60	23.70	25.90	2.20
		velocity		8.40		8.47		8.13		7.35	8.07	190.5	8.40	8.47	8.13	7.35	8.44	7.72	

Naser, Salwa Eid (BRN) (1998)
FINAL - 2018 Meeting de Paris (Paris, FRA)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-18	time		12.5		24.3		36.7		49.55	49.55	5 / 1							
reaction time	0.159	interval				11.8		12.4		12.9	AR	# of strides	12.50	11.80	12.40	12.85	24.30	25.25	0.95
		velocity		8.00		8.47		8.06		7.78	8.07	183.7	8.00	8.47	8.06	7.78	8.23	7.92	

Miller-Uibo, Shaunae (BAH) (1994)
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		11.78		23.43		35.71		49.55	49.55	6 / 1							
reaction time	0.129	interval				11.65		12.28		13.84		# of strides	11.78	11.65	12.28	13.84	23.43	26.12	2.69
		velocity		8.49		8.58		8.14		7.23	8.07	172.0	8.49	8.58	8.14	7.23	8.54	7.66	

Hennagan, Monique (USA) (1976)
FINAL - 2004 USA Olympic Trials (Sacramento, CA)
USATF Women's Sprint Development (2004)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-04	time		12.03		23.62	29.85	36.12	42.43	49.56	49.56	7 / 1							
reaction time		interval				11.59	6.23	6.27	6.31	7.13	PB	# of strides	12.03	11.59	12.50	13.44	23.62	25.94	2.32
		velocity		8.31		8.63	8.03	7.97	7.92	7.01	8.07		8.31	8.63	8.00	7.44	8.47	7.71	

Guevara, Ana (MEX) (1977)
FINAL - 2004 Olympic Games (Athens, GRE)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-04	time		12.0		23.5		35.7		49.6	49.56	3 / 2							
reaction time	0.234	interval				11.5		12.2		13.9		# of strides	12.00	11.50	12.20	13.90	23.50	26.10	2.60
		velocity		8.33		8.70		8.20		7.19	8.07	193.2	8.33	8.70	8.20	7.19	8.51	7.66	

Montsho, Amantle (BOT) (1983)
FINAL - 2011 IAAF World Championships (Daegu, KOR)
Butler (2013) - IAAF world athletic results 2008-2011 full results

date	29-Aug-11	time			23.3		35.7		49.56	49.56	4 / 1						
reaction time	0.247	interval					12.4		13.9	NR	# of strides			12.40	13.86	23.30	26.26	2.96
		velocity			8.58		8.06		7.22	8.07	183.5			8.06	7.22	8.58	7.62	

Jackson, Grace (JAM) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Nikala (Nice, FRA)																	
date 10-Jul-88	time	12.52		23.91		36.39		49.57	49.57	/ 1							
reaction time	interval			11.39		12.48		13.18	PB	# of strides	12.52	11.39	12.48	13.18	23.91	25.66	1.75
	velocity	7.99		8.78		8.01		7.59	8.07		7.99	8.78	8.01	7.59	8.36	7.79	

Veney - split times from PJ

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 ISTAF (Berlin, GER)																	
date 14-Jun-09	time	12.27		24.36		36.62		49.57	49.57	/ 1							
reaction time 0.361	interval			12.09		12.26		12.95		# of strides	12.27	12.09	12.26	12.95	24.36	25.21	0.85
	velocity	8.15		8.27		8.16		7.72	8.07		8.15	8.27	8.16	7.72	8.21	7.93	

Graubner (2009) - http://www.fgs.uni-halle.de

Mu, Athing (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 NCAA Championships (Eugene, OR)																	
date 06-Jun-21	time	12.1		23.7		36.1		49.57	49.57	7 / 1							
reaction time 0.172	interval			11.60		12.40		13.47	NJR PB	# of strides	12.10	11.60	12.40	13.47	23.70	25.87	2.17
	velocity	8.26		8.62		8.06		7.42	8.07	180.5	8.26	8.62	8.06	7.42	8.44	7.73	

Vazel (2021) - https://twitter.com/pjvazel/status/1403991035081023493?s=21

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)																	
date 23-Aug-23	time	12.30		23.46		35.92		49.57	49.57	6 / 2							
reaction time 0.168	interval			11.16		12.46		13.65		# of strides	12.30	11.16	12.46	13.65	23.46	26.11	2.65
	velocity	8.13		8.96		8.03		7.33	8.07	192.0	8.13	8.96	8.03	7.33	8.53	7.66	

Seiko Timing (2023) - world championship race analysis

Rübsam-Neubauer, Dagmar (GDR) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 East German National Championshps (Erfurt, GDR)																	
date 02-Jun-84	time	12.46		24.12		36.43		49.58	49.58	/ 3							
reaction time	interval			11.66		12.31		13.15	PB	# of strides	12.46	11.66	12.31	13.15	24.12	25.46	1.34
	velocity	8.03		8.58		8.12		7.60	8.07		8.03	8.58	8.12	7.60	8.29	7.86	

Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84

Fenton, Lorraine (JAM) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)																	
date 25-Sep-00	time	12.14		23.70		36.00		49.58	49.58	4 / 2							
reaction time 0.452	interval			11.56		12.30		13.58	PB	# of strides	12.14	11.56	12.30	13.58	23.70	25.88	2.18
	velocity	8.24		8.65		8.13		7.36	8.07	186.5	8.24	8.65	8.13	7.36	8.44	7.73	

Behm (2000) - Sydney 2000: Compte-rendu du 400m haies

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)																	
date 21-Aug-23	time	12.21		23.90		36.19		49.58	49.58	7 / 2							
reaction time 0.191	interval			11.69		12.29		13.39	NR PB	# of strides	12.21	11.69	12.29	13.39	23.90	25.68	1.78
	velocity	8.19		8.55		8.14		7.47	8.07	190.0	8.19	8.55	8.14	7.47	8.37	7.79	

Seiko Timing (2023) - world championship race analysis

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																	
date 17-Sep-23	time	6.83	12.45	18.06	23.91	29.98	36.27	42.74	49.58	49.58	5 / 1						
reaction time 0.182	interval		5.62	5.61	5.85	6.07	6.29	6.47	6.84		# of strides	12.45	11.46	12.36	13.31	23.91	25.67	1.76
	velocity	7.32	8.90	8.91	8.55	8.24	7.95	7.73	7.31	8.07	172.2	8.03	8.73	8.09	7.51	8.36	7.79	

Omega Timing (2023) - diamond league race analysis

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 London Athletics Meet (London, GBR)																	
date 20-Jul-24	time	6.59	11.90	17.35	23.05	29.11	35.43	42.18	49.58	49.58	3 / 3						
reaction time 0.160	interval		5.31	5.45	5.70	6.06	6.32	6.75	7.40	PB	# of strides	11.90	11.15	12.38	14.15	23.05	26.53	3.48
	velocity	7.59	9.42	9.17	8.77	8.25	7.91	7.41	6.76	8.07		8.40	8.97	8.08	7.07	8.68	7.54	

Omega Timing (2024) - diamond league race analysis

Felix, Allyson (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 IAAF World Championships (Daegu, KOR)																	
date 29-Aug-11	time			23.4		35.9		49.59	49.59	3 / 2							
reaction time 0.273	interval					12.5		13.7		# of strides			12.50	13.69	23.40	26.19	2.79
	velocity			8.55		8.00		7.30	8.07	175.7			8.00	7.30	8.55	7.64	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

McLaughlin-Levrone, Sydney (USA) (

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 USATF Championships (Eugene, OR)																	
date 01-Aug-25	time	12.13		24.02		36.31		49.59	49.59	5 / 1							
reaction time	interval			11.89		12.29		13.28		# of strides	12.13	11.89	12.29	13.28	24.02	25.57	1.55
	velocity	8.24		8.41		8.14		7.53	8.07	183.0	8.24	8.41	8.14	7.53	8.33	7.82	

USATF and Karmarush (2025) - USATF championships results and race analysis

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 USATF Championships (Eugene, OR)																	
date 02-Aug-25	time	12.12		23.74		36.07		49.59	49.59	6 / 2							
reaction time	interval			11.62		12.33		13.52		# of strides	12.12	11.62	12.33	13.52	23.74	25.85	2.11
	velocity	8.25		8.61		8.11		7.40	8.07	186.7	8.25	8.61	8.11	7.40	8.42	7.74	

USATF and Karmarush (2025) - USATF championships results and race analysis

Williams, Stacey-Ann (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2025 World Athletics Championships (Tokyo, JPN)																	
date 14-Sep-25	time	12.03		23.59		35.96		49.59	49.59	7 / 2							
reaction time 0.181	interval			11.56		12.37		13.63	PB	# of strides	12.03	11.56	12.37	13.63	23.59	26.00	2.41
	velocity	8.31		8.65		8.08		7.34	8.07	187.0	8.31	8.65	8.08	7.34	8.48	7.69	

Seiko Timing (2025) - 2025 World Championships race analysis

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 World Athletics Championships (Eugene, OR)																	
date 22-Jul-22	time	12.21		23.78		36.10		49.60	49.60	6 / 2							
reaction time 0.189	interval			11.57		12.32		13.50		# of strides	12.21	11.57	12.32	13.50	23.78	25.82	2.04

Timing by Seiko (2022) - world athletics championships race analysis

		velocity		8.19		8.64		8.12		7.41	8.06	175.2	8.19	8.64	8.12	7.41	8.41	7.75	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 23-Aug-23	time		12.08		23.49		35.90		49.60	49.60	8 / 3						
reaction time 0.183	interval				11.41		12.41		13.70		# of strides	12.08	11.41	12.41	13.70	23.49	26.11	2.62
	velocity		8.28		8.76		8.06		7.30	8.06	190.5	8.28	8.76	8.06	7.30	8.51	7.66	

Ohuruogu, Christine (GBR) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)										*Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics*							
date 29-Aug-07	time	6.86	12.27	17.98	23.85	29.87	36.14	42.72	49.61	49.61	6 / 1						
reaction time 0.219	interval		5.41	5.71	5.87	6.02	6.27	6.58	6.89	PB	# of strides	12.27	11.58	12.29	13.47	23.85	25.76	1.91
	velocity	7.29	9.24	8.76	8.52	8.31	7.97	7.60	7.26	8.06	183.5	8.15	8.64	8.14	7.42	8.39	7.76	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Olympic Games (Tokyo, JPN)										*Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final*							
date 06-Aug-21	time	6.61	11.98	17.49	23.30	29.49	35.90	42.44	49.62	49.61	6 / 4						
reaction time 0.131	interval		5.37	5.51	5.81	6.19	6.41	6.54	7.18		# of strides	11.98	11.32	12.60	13.72	23.30	26.32	3.02
	velocity	7.56	9.31	9.07	8.61	8.08	7.80	7.65	6.96	8.06	185.5	8.35	8.83	7.94	7.29	8.58	7.60	

Ohuruogu, Christine (GBR) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN) *(TV Analysis)*										*Graubner (2008) - http://www.fgs.uni-halle.de*							
date 19-Aug-08	time		12.4		23.83		36.24		49.62	49.62	4 / 1						
reaction time 0.237	interval				11.43		12.41		13.38		# of strides	12.40	11.43	12.41	13.38	23.83	25.79	1.96
	velocity		8.06		8.75		8.06		7.47	8.06	185.2	8.06	8.75	8.06	7.47	8.39	7.75	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)										*Omega Timing (2023) - diamond league race analysis*							
date 21-Jul-23	time	6.79	12.36	17.98	23.83	29.92	36.33	42.84	49.63	49.63	6 / 1						
reaction time 0.174	interval		5.57	5.62	5.85	6.09	6.41	6.51	6.79		# of strides	12.36	11.47	12.50	13.30	23.83	25.80	1.97
	velocity	7.36	8.98	8.90	8.55	8.21	7.80	7.68	7.36	8.06	189.5	8.09	8.72	8.00	7.52	8.39	7.75	

Anning, Amber (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 London Athletics Meet (London, GBR)										*Omega Timing (2024) - diamond league race analysis*							
date 20-Jul-24	time	6.61	12.09	17.73	23.59	29.80	36.18	42.76	49.63	49.63	4 / 4						
reaction time 0.192	interval		5.48	5.64	5.86	6.21	6.38	6.58	6.87		# of strides	12.09	11.50	12.59	13.45	23.59	26.04	2.45
	velocity	7.56	9.12	8.87	8.53	8.05	7.84	7.60	7.28	8.06		8.27	8.70	7.94	7.43	8.48	7.68	

Pryce, Nickisha (JAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Herculis Meeting International d'Athlétisme (Monaco, MON)										*Omega Timing (2025) - diamond league race analysis*							
date 11-Jul-25	time	6.69	12.28	17.92	23.77	29.83	36.00	42.49	49.63	49.63	6 / 3						
reaction time 0.164	interval		5.59	5.64	5.85	6.06	6.17	6.49	7.14		# of strides	12.28	11.49	12.23	13.63	23.77	25.86	2.09
	velocity	7.47	8.94	8.87	8.55	8.25	8.10	7.70	7.00	8.06	184.5	8.14	8.70	8.18	7.34	8.41	7.73	

Torrence, Gwen (USA) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Nikaïa (Nice, FRA)										*Vazel (2020) - Pérec vs Torrence 400m Nice battle of titans*							
date 15-Jul-92	time				24.3				49.64	49.64	5 / 2						
reaction time	interval								25.34	PB	# of strides					24.30	25.34	1.04
	velocity				8.23				7.89	8.06						8.23	7.89	

Restrepo, Ximena (COL) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 05-Aug-92	time				24.0		35.7		49.7	49.64	6 / 3						
reaction time	interval						11.70		14.00	NR	# of strides			11.70	14.00	24.00	25.70	1.70
	velocity				8.33		8.55		7.14	8.06	189.0			8.55	7.14	8.33	7.78	

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)										*Track Newsletter (2007) - USATF women's championships*							
date 23-Jun-07	time				23.9		35.8		49.6	49.64	5 / 1						
reaction time	interval						11.90		13.80	PB	# of strides			11.90	13.80	23.90	25.70	1.80
	velocity				8.37		8.40		7.25	8.06	188.0			8.40	7.25	8.37	7.78	

Wilson, Britton (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 NCAA Championships (Austin, TX)										*Lindstrom (2023) - 400 - Adeleke with a meet record*							
date 10-Jun-23	time				24.2				49.64	49.64	6 / 2						
reaction time	interval								25.44		# of strides					24.20	25.44	1.24
	velocity				8.26				7.86	8.06	180.2					8.26	7.86	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)										*Omega Timing (2024) - diamond league race analysis*							
date 12-Jul-24	time	6.63	11.94	17.35	22.99	29.03	35.37	42.14	49.64	49.64	3 / 2						
reaction time 0.153	interval		5.31	5.41	5.64	6.04	6.34	6.77	7.50	PB	# of strides	11.94	11.05	12.38	14.27	22.99	26.65	3.66
	velocity	7.54	9.42	9.24	8.87	8.28	7.89	7.39	6.67	8.06	185.0	8.38	9.05	8.08	7.01	8.70	7.50	

Sanders, Nicola (GBR) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)										*Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics*							
date 29-Aug-07	time	6.83	12.47	18.20	24.17	29.96	36.21	42.72	49.65	49.65	4 / 2						
reaction time 0.175	interval		5.64	5.73	5.97	5.79	6.25	6.51	6.93	PB	# of strides	12.47	11.70	12.04	13.44	24.17	25.48	1.31
	velocity	7.32	8.87	8.73	8.38	8.64	8.00	7.68	7.22	8.06	190.0	8.02	8.55	8.31	7.44	8.27	7.85	

Brehmer, Christina (GDR) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 Olympic Games (Moscow, URS)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 28-Jul-80	time						36.2		49.66	49.66	5 / 3						
reaction time	interval								13.46	PB	# of strides				13.46			
	velocity						8.29		7.43	8.05					7.43			

Williams, Novlene (JAM) (1982) — **FINAL** - 2007 IAAF World Championships (Osaka, JPN) — *Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Aug-07	time	6.63	12.07	17.65	23.47	29.46	35.77	42.44	49.66	49.66	7 / 3							
reaction time	0.206	interval		5.44	5.58	5.82	5.99	6.31	6.67	7.22		# of strides	12.07	11.40	12.30	13.89	23.47	26.19	2.72
		velocity	7.54	9.19	8.96	8.59	8.35	7.92	7.50	6.93	8.05	197.5	8.29	8.77	8.13	7.20	8.52	7.64	

Richards-Ross, Sanya (USA) (1985) — **FINAL** - 2014 USATF National Championships (Sacramento, CA) — *Track Newsletter (2014) - USATF women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-14	time		12.3		24.1		36.5		49.7	49.66	/ 2							
reaction time		interval				11.8		12.4		13.2		# of strides	12.30	11.80	12.40	13.20	24.10	25.60	1.50
		velocity		8.13		8.47		8.06		7.58	8.05		8.13	8.47	8.06	7.58	8.30	7.81	

Miller-Uibo, Shaunae (BAH) (1994) — **Semi-Final 2** - 2019 IAAF World Championships (Doha, QAT) — *Yamanaka (2019) - race analysis of men and women 400m competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Oct-19	time	6.57	12.13	17.85	23.83	29.92	36.06	42.43	49.66	49.66	6 / 1							
reaction time	0.144	interval		5.56	5.72	5.98	6.09	6.14	6.37	7.23		# of strides	12.13	11.70	12.23	13.60	23.83	25.83	2.00
		velocity	7.61	8.99	8.74	8.36	8.21	8.14	7.85	6.92	8.05	173.0	8.24	8.55	8.18	7.35	8.39	7.74	

Bryzgina, Olga (URS) (1963) — **FINAL** - 1986 European Championships (Stuttgart, FRG) — *Bondarchuk (2007) - transfer of training in sports*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Aug-86	time		11.82		23.41		35.75		49.67	49.67	4 / 2							
reaction time		interval				11.59		12.34		13.92		# of strides	11.82	11.59	12.34	13.92	23.41	26.26	2.85
		velocity		8.46		8.63		8.10		7.18	8.05	192.2	8.46	8.63	8.10	7.18	8.54	7.62	

Freeman, Cathy (AUS) (1973) — **FINAL** - 1999 IAAF World Championships (Sevilla, ESP) — *Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-99	time	6.56	12.19	17.87	23.79	29.87	35.97	42.50	49.67	49.67	5 / 1							
reaction time	0.193	interval		5.63	5.68	5.92	6.08	6.10	6.53	7.17		# of strides	12.19	11.60	12.18	13.70	23.79	25.88	2.09
		velocity	7.62	8.88	8.80	8.45	8.22	8.20	7.66	6.97	8.05		8.20	8.62	8.21	7.30	8.41	7.73	

Krivoshapka, Antonina (RUS) (1987) — **Semi-Final 2** - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-09	time	6.69	12.26	17.89	23.76	29.81	36.11	42.70	49.67	49.67	5 / 2							
reaction time	0.180	interval		5.57	5.63	5.87	6.05	6.30	6.59	6.97		# of strides	12.26	11.50	12.35	13.56	23.76	25.91	2.15
		velocity	7.47	8.98	8.88	8.52	8.26	7.94	7.59	7.17	8.05	196.7	8.16	8.70	8.10	7.37	8.42	7.72	

Miller-Uibo, Shaunae (BAH) (1994) — **FINAL** - 2015 IAAF World Championships (Beijing, CHN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Aug-15	time	6.78	12.24	17.90	23.84	30.01	36.14	42.65	49.67	49.67	5 / 2							
reaction time	0.176	interval		5.46	5.66	5.94	6.17	6.13	6.51	7.02	PB	# of strides	12.24	11.60	12.30	13.53	23.84	25.83	1.99
		velocity	7.37	9.16	8.83	8.42	8.10	8.16	7.68	7.12	8.05		8.17	8.62	8.13	7.39	8.39	7.74	

Bukowiecka, Natalia (POL) (1998) — **Semi-Final 1** - 2025 World Athletics Championships (Tokyo, JPN) — *Seiko Timing (2025) - 2025 World Championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-25	time		12.01		23.24		35.93		49.67	49.67	5 / 1							
reaction time	0.203	interval				11.23		12.69		13.74		# of strides	12.01	11.23	12.69	13.74	23.24	26.43	3.19
		velocity		8.33		8.90		7.88		7.28	8.05	193.5	8.33	8.90	7.88	7.28	8.61	7.57	

Felix, Allyson (USA) (1985) — **FINAL** - 2016 USA Olympic Trials (Eugene, OR) — *Track Newsletter (2016) - US olympic trials women*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jul-16	time		12.00		24.2		36.5		49.7	49.68	6 / 1							
reaction time	0.206	interval				12.20		12.30		13.20		# of strides	12.00	12.20	12.30	13.20	24.20	25.50	1.30
		velocity		8.33		8.20		8.13		7.58	8.05		8.33	8.20	8.13	7.58	8.26	7.84	

Mu, Athing (USA) (2002) — **Quarter-Final 2** - 2021 NCAA Preliminary West Round (College Station, TX) — *Vazel (2021) - https://twitter.com/pjvazel/status/1403991035081023493?s=21*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-May-21	time		12.1		23.5		35.9		49.68	49.68	6 / 1							
reaction time	0.172	interval				11.40		12.40		13.78	NJR PB	# of strides	12.10	11.40	12.40	13.78	23.50	26.18	2.68
		velocity		8.26		8.77		8.06		7.26	8.05	181.0	8.26	8.77	8.06	7.26	8.51	7.64	

Little, Shamier (USA) (1995) — **FINAL** - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-23	time	6.68	12.07	17.57	23.32	29.43	35.75	42.40	49.68	49.68	8 / 2							
reaction time	0.259	interval		5.39	5.50	5.75	6.11	6.32	6.65	7.28	PB	# of strides	12.07	11.25	12.43	13.93	23.32	26.36	3.04
		velocity	7.49	9.28	9.09	8.70	8.18	7.91	7.52	6.87	8.05		8.29	8.89	8.05	7.18	8.58	7.59	

Anning, Amber (GBR) (2000) — **Heat 3** - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.54	11.94	17.55	23.46	29.73	36.22	42.83	49.68	49.68	8 / 1							
reaction time	0.185	interval		5.40	5.61	5.91	6.27	6.49	6.61	6.85		# of strides	11.94	11.52	12.76	13.46	23.46	26.22	2.76
		velocity	7.65	9.26	8.91	8.46	7.97	7.70	7.56	7.30	8.05		8.38	8.68	7.84	7.43	8.53	7.63	

Nazarova, Olga (URS) (1965) — **FINAL** - 1992 Olympic Games (Barcelona, ESP) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-92	time				24.0		35.8		49.7	49.69	8 / 4							
reaction time		interval						11.80		13.90		# of strides			11.80	13.90	24.00	25.70	1.70
		velocity				8.33		8.47		7.19	8.05				8.47	7.19	8.33	7.78	

Wiliams-Darling, Tonique (BAH) (197 — **Semi-Final 3** - 2005 IAAF World Championships (Helsinki, FIN) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-05	time						35.5		49.7	49.69	4 / 1							
reaction time	0.176	interval								14.2		# of strides				14.19			
		velocity						8.45		7.05	8.05					7.05			

Stambolova, Vania (BUL) (1983) — **Semi-Final 1** - 2006 European Championships (Göteborg, SWE) *(TV Analysis)* — *Graubner (2008) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	09-Aug-06	time	12.67	24.33	36.58	49.69	49.69	/ 1									
reaction time	0.232	interval		11.66	12.25	13.11		# of strides	12.67	11.66	12.25	13.11	24.33	25.36	1.03		
		velocity	7.89	8.58	8.16	7.63	8.05		7.89	8.58	8.16	7.63	8.22	7.89			

Williams, Shericka (JAM) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN) *(TV Analysis)*																	*Graubner (2008) - http://www.fgs.uni-halle.de*
date	19-Aug-08	time	12.3	23.59	36.38	49.69	49.69	6 / 2									
reaction time	0.207	interval		11.29	12.79	13.31	PB	# of strides	12.30	11.29	12.79	13.31	23.59	26.10	2.51		
		velocity	8.13	8.86	7.82	7.51	8.05	192.2	8.13	8.86	7.82	7.51	8.48	7.66			

McLaughlin-Levrone, Sydney (USA) (

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																	*Grand Slam Track (2025) - results and splits by race*
date	04-May-25	time	12.36	24.28	36.76	49.69	49.69	5 / 1									
reaction time	0.200	interval		11.92	12.48	12.93		# of strides	12.36	11.92	12.48	12.93	24.28	25.41	1.13		
		velocity	8.09	8.39	8.01	7.73	8.05	186.0	8.09	8.39	8.01	7.73	8.24	7.87			

Ohuruogu, Christine (GBR) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	05-Aug-12	time	12.2	23.9	36.2	49.7	49.70	8 / 2									
reaction time	0.174	interval		11.70	12.30	13.50		# of strides	12.20	11.70	12.30	13.50	23.90	25.80	1.90		
		velocity	8.20	8.55	8.13	7.41	8.05	183.0	8.20	8.55	8.13	7.41	8.37	7.75			

Krivoshapka, Antonina (RUS) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date	18-Aug-09	time	12.13	23.59	35.90	49.71	49.71	5 / 3									
reaction time	0.187	interval		11.46	12.31	13.81		# of strides	12.13	11.46	12.31	13.81	23.59	26.12	2.53		
		velocity	8.24	8.73	8.12	7.24	8.05	199.5	8.24	8.73	8.12	7.24	8.48	7.66			

McLaughlin-Levrone, Sydney (USA) (

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Meeting de Paris (Paris, FRA)																	*Omega Timing (2023) - diamond league race analysis*
date	09-Jun-23	time	6.30	11.59	17.02	22.66	28.59	34.94	41.88	49.71	49.71	4 / 2						
reaction time	0.155	interval		5.29	5.43	5.64	5.93	6.35	6.94	7.83	PB	# of strides	11.59	11.07	12.28	14.77	22.66	27.05	4.39
		velocity	7.94	9.45	9.21	8.87	8.43	7.87	7.20	6.39	8.05	185.7	8.63	9.03	8.14	6.77	8.83	7.39	

Brown, Kaylyn (USA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	22-Jun-24	time	11.98	23.53	36.17	49.71	49.71	8 / 1									
reaction time		interval		11.55	12.64	13.54		# of strides	11.98	11.55	12.64	13.54	23.53	26.18	2.65		
		velocity	8.35	8.66	7.91	7.39	8.05		8.35	8.66	7.91	7.39	8.50	7.64			

Butler, Aaliyah (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	23-Jun-24	time	12.01	23.70	36.15	49.71	49.71	5 / 2									
reaction time		interval		11.69	12.45	13.56	PB	# of strides	12.01	11.69	12.45	13.56	23.70	26.01	2.31		
		velocity	8.33	8.55	8.03	7.37	8.05	192.0	8.33	8.55	8.03	7.37	8.44	7.69			

Merry, Katharine (GBR) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	25-Sep-00	time	12.32	23.80	36.08	49.72	49.72	3 / 3									
reaction time	0.270	interval		11.48	12.28	13.64	PB	# of strides	12.32	11.48	12.28	13.64	23.80	25.92	2.12		
		velocity	8.12	8.71	8.14	7.33	8.05	184.7	8.12	8.71	8.14	7.33	8.40	7.72			

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 DN Galan (Stockholm, SWE)																	*Vazel (2011) - speed reserve in the 400m*
date	07-Aug-07	time	11.8	23.6	36.0	49.7	49.72	/ 2									
reaction time		interval		11.8	12.4	13.7		# of strides	11.80	11.80	12.40	13.70	23.60	26.10	2.50		
		velocity	8.47	8.47	8.06	7.30	8.05		8.47	8.47	8.06	7.30	8.47	7.66			

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	05-Aug-12	time	12.1	23.7	35.9	49.7	49.72	4 / 3									
reaction time	0.167	interval		11.60	12.20	13.80		# of strides	12.10	11.60	12.20	13.80	23.70	26.00	2.30		
		velocity	8.26	8.62	8.20	7.25	8.05	187.5	8.26	8.62	8.20	7.25	8.44	7.69			

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championship (Sacramento, CA)																	*Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*
date	24-Jun-17	time	12.20	23.89	36.14	49.72	49.72	7 / 1									
reaction time		interval		11.69	12.25	13.58	PB	# of strides	12.20	11.69	12.25	13.58	23.89	25.83	1.94		
		velocity	8.24	8.73	8.12	7.24	8.05		8.20	8.55	8.16	7.36	8.37	7.74			

Bukowiecka, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2025) - diamond league race analysis*
date	11-Jul-25	time	6.65	12.07	17.57	23.39	29.58	35.98	42.58	49.72	49.72	7 / 4						
reaction time	0.160	interval		5.42	5.50	5.82	6.19	6.40	6.60	7.14		# of strides	12.07	11.32	12.59	13.74	23.39	26.33	2.94
		velocity	7.52	9.23	9.09	8.59	8.08	7.81	7.58	7.00	8.05	192.5	8.29	8.83	7.94	7.28	8.55	7.60	

Weil, Martina (CHI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Weltklasse (Zürich, SUI)																	*Omega Timing (2025) - diamond league race analysis*
date	28-Aug-25	time	6.73	12.39	18.24	24.15	30.14	36.44	42.95	49.72	49.72	1 / 4						
reaction time	0.149	interval		5.66	5.85	5.91	5.99	6.30	6.51	6.77	NR PB	# of strides	12.39	11.76	12.29	13.28	24.15	25.57	1.42
		velocity	7.43	8.83	8.55	8.46	8.35	7.94	7.68	7.39	8.05		8.07	8.50	8.14	7.53	8.28	7.82	

Rücker, Anja (GER) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																	*Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*
date	26-Aug-99	time	6.80	12.41	18.10	24.03	30.09	36.21	42.66	49.74	49.74	8 / 2						
reaction time	0.203	interval		5.61	5.69	5.93	6.06	6.12	6.45	7.08	PB	# of strides	12.41	11.62	12.18	13.53	24.03	25.71	1.68

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.35	8.91	8.79	8.43	8.25	8.17	7.75	7.06	8.04		8.06	8.61	8.21	7.39	8.32	7.78	

Richards, Sanya (USA) (1985)

FINAL - 2005 IAAF World Championships (Helsinki, FIN)

Vazel (2011) - speed reserve in the 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-05	time		12.4		23.5		35.6		49.7	49.74	3 / 2							
reaction time	0.155	interval				11.1		12.1		14.1		# of strides	12.40	11.10	12.10	14.10	23.50	26.20	2.70
		velocity		8.06		9.01		8.26		7.09	8.04	193.7	8.06	9.01	8.26	7.09	8.51	7.63	

Jæger, Henriette (NOR) (2003)

FINAL - 2025 European Athletics U23 Championships (Bergen, NOR)

European Athletics (2025) - 2025 european athletics U23 championships- results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jul-25	time	6.60	12.21	17.91	23.72	29.74	36.11	42.75	49.74	49.74	6 / 1							
reaction time	0.143	interval		5.61	5.70	5.81	6.02	6.37	6.64	6.99	CR	# of strides	12.21	11.51	12.39	13.63	23.72	26.02	2.30
		velocity	7.58	8.91	8.77	8.61	8.31	7.85	7.53	7.15	8.04	191.0	8.19	8.69	8.07	7.34	8.43	7.69	

Jæger, Henriette (NOR) (2003)

FINAL - 2025 World Athletics Championships (Tokyo, JPN)

Seiko Timing (2025) - 2025 World Championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Sep-25	time		12.21		23.81		36.12		49.74	49.74	3 / 7							
reaction time	0.148	interval				11.60		12.31		13.62		# of strides	12.21	11.60	12.31	13.62	23.81	25.93	2.12
		velocity		8.19		8.62		8.12		7.34	8.04	191.0	8.19	8.62	8.12	7.34	8.40	7.71	

Bussman, Gaby (FRG) (1959)

FINAL - 1983 IAAF World Championships (Helsinki, FIN)

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-83	time				23.9				49.8	49.75	5 / 4							
reaction time		interval								25.9		# of strides					23.90	25.90	2.00
		velocity				8.37				7.72	8.04						8.37	7.72	

Montsho, Amantle (BOT) (1983)

FINAL - 2012 Olympic Games (London, GBR)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-12	time		12.2		23.9		36.3		49.8	49.75	7 / 4							
reaction time	0.198	interval				11.70		12.40		13.50		# of strides	12.20	11.70	12.40	13.50	23.90	25.90	2.00
		velocity		8.20		8.55		8.06		7.41	8.04	182.0	8.20	8.55	8.06	7.41	8.37	7.72	

Williams, Sada (BAR) (1997)

FINAL - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-22	time		12.13		23.55		35.80		49.75	49.75	7 / 3							
reaction time	0.181	interval				11.42		12.25		13.95	NR PB	# of strides	12.13	11.42	12.25	13.95	23.55	26.20	2.65
		velocity		8.24		8.76		8.16		7.17	8.04	192.0	8.24	8.76	8.16	7.17	8.49	7.63	

Bol, Femke (NED) (2000)

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)

Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-22	time	6.80	12.36	18.12	24.03	30.07	36.38	42.94	49.75	49.75	4 / 1							
reaction time	0.172	interval		5.56	5.76	5.91	6.04	6.31	6.56	6.81	NR PB	# of strides	12.36	11.67	12.35	13.37	24.03	25.72	1.69
		velocity	7.35	8.99	8.68	8.46	8.28	7.92	7.62	7.34	8.04		8.09	8.57	8.10	7.48	8.32	7.78	

Anning, Amber (GBR) (2000)

FINAL - 2025 Weltklasse (Zürich, SUI)

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Aug-25	time	6.54	11.99	17.68	23.56	29.76	36.25	42.93	49.75	49.75	3 / 5							
reaction time	0.145	interval		5.45	5.69	5.88	6.20	6.49	6.68	6.82		# of strides	11.99	11.57	12.69	13.50	23.56	26.19	2.63
		velocity	7.65	9.17	8.79	8.50	8.06	7.70	7.49	7.33	8.04		8.34	8.64	7.88	7.41	8.49	7.64	

Yusuf-Olukoju, Fatima (NGR) (1971)

FINAL - 1996 Olympic Games (Atlanta, GA)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-96	time				23.30		35.7		49.77	49.77	6 / 6							
reaction time	0.319	interval						12.40		14.07		# of strides			12.40	14.07	23.30	26.47	3.17
		velocity				8.58		8.06		7.11	8.04				8.06	7.11	8.58	7.56	

Freeman, Cathy (AUS) (1973)

FINAL - 1997 IAAF World Championships (Athens, GRE)

Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-97	time	6.54	12.26	17.90	23.70	29.70	35.90	42.50	49.54	49.77	1 / 1							
reaction time	0.226	interval		5.72	5.64	5.80	6.00	6.20	6.60	7.04		# of strides	12.26	11.44	12.20	13.64	23.70	25.84	2.14
		velocity	7.65	8.74	8.87	8.62	8.33	8.06	7.58	7.10	8.04		8.16	8.74	8.20	7.33	8.44	7.74	

Williams-Mills, Novlene (JAM) (1982)

FINAL - 2009 IAAF World Championships (Berlin, GER)

Graubner (2011) - biomechanical analysis of the sprint and hurdle events at the 2009 IAAF world championships in athletics

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time	6.72	12.36	18.11	24.00	29.97	36.18	42.67	49.77	49.77	6 / 4							
reaction time	0.214	interval		5.64	5.75	5.89	5.97	6.21	6.49	7.10		# of strides	12.36	11.64	12.18	13.59	24.00	25.77	1.77
		velocity	7.44	8.87	8.70	8.49	8.38	8.05	7.70	7.04	8.04	197.0	8.09	8.59	8.21	7.36	8.33	7.76	

Holmes, Alexis (USA) (2000)

FINAL - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Aug-24	time	6.53	11.96	17.59	23.47	29.61	36.05	42.67	49.77	49.77	9 / 6							
reaction time	0.147	interval		5.43	5.63	5.88	6.14	6.44	6.62	7.10	PB	# of strides	11.96	11.51	12.58	13.72	23.47	26.30	2.83
		velocity	7.66	9.21	8.88	8.50	8.14	7.76	7.55	7.04	8.04	187.7	8.36	8.69	7.95	7.29	8.52	7.60	

Myers, Sandra (ESP) (1961)

FINAL - 1991 IAAF World Championships (Tokyo, JPN)

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Aug-91	time				23.82				49.78	49.78	5 / 3							
reaction time		interval								25.96		# of strides					23.82	25.96	2.14
		velocity				8.40				7.70	8.04	193.7					8.40	7.70	

Krivoshapka, Antonina (RUS) (1987)

FINAL - 2013 IAAF World Championships (Moscow, RUS)

Track Newsletter (2013) - world championships women

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Aug-13	time		12.1		23.5		36.0		49.8	49.78	8 / 3							
reaction time	0.209	interval				11.4		12.5		13.8		# of strides	12.10	11.40	12.50	13.80	23.50	26.30	2.80
		velocity		8.26		8.77		8.00		7.25	8.04		8.26	8.77	8.00	7.25	8.51	7.60	

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)																	
date 23-Jun-24 time		12.09		23.90		36.49		49.78	49.78	3 / 4							
reaction time		interval		11.81		12.59		13.29	PB	# of strides	12.09	11.81	12.59	13.29	23.90	25.88	1.98
		velocity		8.27		8.47		7.94	7.52	8.04	187.7	8.27	8.47	7.94	7.52	8.37	7.73	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Bauhaus Galan (Stockholm, SWE)																	
date 15-Jun-25 time	6.62	12.34	18.16	24.09	30.16	36.45	42.91	49.78	49.78	6 / 1							
reaction time 0.169	interval	5.72	5.82	5.93	6.07	6.29	6.46	6.87		# of strides	12.34	11.75	12.36	13.33	24.09	25.69	1.60
	velocity 7.55	8.74	8.59	8.43	8.24	7.95	7.74	7.28	8.04	186.0	8.10	8.51	8.09	7.50	8.30	7.79	

Omega Timing (2025) - diamond league race analysis

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 World Athletics Championships (Tokyo, JPN)																	
date 16-Sep-25 time		12.40		23.86		36.12		49.78	49.78	9 / 2							
reaction time 0.223	interval			11.46		12.26		13.66		# of strides	12.40	11.46	12.26	13.66	23.86	25.92	2.06
	velocity	8.06		8.73		8.16		7.32	8.04		8.06	8.73	8.16	7.32	8.38	7.72	

Seiko Timing (2025) - 2025 World Championships race analysis

Brisco-Hooks, Valerie (USA) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 USA Olympic Trials (Los Angeles, CA)																	
date 19-Jun-84 time				23.0				49.8	49.79	3 / 2							
reaction time	interval							26.8		# of strides					23.00	26.80	3.80
	velocity			8.70				7.46	8.03						8.70	7.46	

Hymans (2008) - history of the US olympic trials - track and field

Müller, Petra (GDR) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1986 Golden Oval (Dresden, GDR)																	
date 16-Aug-86 time		11.00		22.14				49.79	49.79	/ 2							
reaction time	interval			11.14				27.65	PB	# of strides	11.00	11.14			22.14	27.65	5.51
	velocity	9.09		8.98				7.23	8.03		9.09	8.98			9.03	7.23	

Bondarchuk (2007) - transfer of training in sports

Richards, Sandie (JAM) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 IAAF World Championships (Athens, GRE)																	
date 04-Aug-97 time	6.50	12.06	17.82	23.70	29.78	36.02	42.62	49.62	49.79	5 / 2							
reaction time 0.167	interval	5.56	5.76	5.88	6.08	6.24	6.60	7.00	PB	# of strides	12.06	11.64	12.32	13.60	23.70	25.92	2.22
	velocity 7.69	8.99	8.68	8.50	8.22	8.01	7.58	7.14	8.03		8.29	8.59	8.12	7.35	8.44	7.72	

Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997

Fraser, Donna (GBR) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)																	
date 25-Sep-00 time		12.4		24.1		36.8		49.8	49.79	2 / 4							
reaction time 0.174	interval			11.70		12.70		13.00	PB	# of strides	12.40	11.70	12.70	13.00	24.10	25.70	1.60
	velocity	8.06		8.55		7.87		7.69	8.03	175.0	8.06	8.55	7.87	7.69	8.30	7.78	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT)																	
date 01-Oct-19 time	6.79	12.15	17.58	23.33	29.45	35.93	42.71	49.79	49.79	7 / 1							
reaction time 0.185	interval	5.36	5.43	5.75	6.12	6.48	6.78	7.08		# of strides	12.15	11.18	12.60	13.86	23.33	26.46	3.13
	velocity 7.36	9.33	9.21	8.70	8.17	7.72	7.37	7.06	8.03	183.0	8.23	8.94	7.94	7.22	8.57	7.56	

Yamanaka (2019) - race analysis of men and women 400m competition

Wilson, Britton (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)																	
date 08-Jul-23 time		12.30		23.45		35.82		49.79	49.79	4 / 2							
reaction time 0.190	interval			11.15		12.37		13.97		# of strides	12.30	11.15	12.37	13.97	23.45	26.34	2.89
	velocity	8.13		8.97		8.08		7.16	8.03	181.0	8.13	8.97	8.08	7.16	8.53	7.59	

Track Newsletter (2023) - USATF championships/WCT women

Irby, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)																	
date 09-Jun-18 time				23.2		35.6		49.8	49.80	/ 1							
reaction time	interval					12.40		14.20	PB	# of strides			12.40	14.20	23.20	26.60	3.40
	velocity			8.62		8.06		7.04	8.03				8.06	7.04	8.62	7.52	

Track Newsletter (2018) - NCAA women's championships

Cofil, Fiordaliza (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Memorial van Damme (Brussels, BEL)																	
date 02-Sep-22 time	6.75	12.45	18.22	24.12	30.18	36.43	42.86	49.80	49.80	2 / 1							
reaction time 0.160	interval	5.70	5.77	5.90	6.06	6.25	6.43	6.94	PB	# of strides	12.45	11.67	12.31	13.37	24.12	25.68	1.56
	velocity 7.41	8.77	8.67	8.47	8.25	8.00	7.78	7.20	8.03	188.7	8.03	8.57	8.12	7.48	8.29	7.79	

Omega Timing (2022) - diamond league race analysis

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bislett Games (Oslo, NOR)																	
date 30-May-24 time	6.80	12.29	17.85	23.72	29.79	36.31	42.83	49.80	49.80	5 / 2							
reaction time 0.150	interval	5.49	5.56	5.87	6.07	6.52	6.52	6.97		# of strides	12.29	11.43	12.59	13.49	23.72	26.08	2.36
	velocity 7.35	9.11	8.99	8.52	8.24	7.67	7.67	7.17	8.03	195.0	8.14	8.75	7.94	7.41	8.43	7.67	

Omega Timing (2024) - diamond league race analysis

Quirot, Ana Fidelia (CUB) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Nikala (Nice, FRA)																	
date 10-Jul-88 time		12.10		23.59		36.13		49.81	49.81	/ 2							
reaction time	interval			11.49		12.54		13.68		# of strides	12.10	11.49	12.54	13.68	23.59	26.22	2.63
	velocity	8.26		8.70		7.97		7.31	8.03		8.26	8.70	7.97	7.31	8.48	7.63	

Veney - split times from PJ

Ma Yuqin (CHN) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1993 Chinese National Games (Beijing, CHN)																	
date 11-Sep-93 time		12.03		23.98		36.63		49.81	49.81	/ 1							
reaction time	interval			11.95		12.65		13.18	AR	# of strides	12.03	11.95	12.65	13.18	23.98	25.83	1.85
	velocity	8.31		8.37		7.91		7.59	8.03		8.31	8.37	7.91	7.59	8.34	7.74	

Wang (2012) - Research on the analysis of the speed distribution of China's outstanding female 400-meter runners

Guevara, Ana (MEX) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																	

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

date	10-Aug-05	time				36.1		49.8	49.81	4 / 3								
reaction time	0.144	interval						13.7		# of strides				13.71				
		velocity				8.31		7.29	8.03	196.0				7.29				

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 22-Jun-24	time	12.27		23.64		35.93		49.81	49.81	4 / 1							
reaction time	interval			11.37		12.29		13.88	PB	# of strides	12.27	11.37	12.29	13.88	23.64	26.17	2.53
	velocity	8.15		8.80		8.14		7.20	8.03	184.0	8.15	8.80	8.14	7.20	8.46	7.64	

Bryzgina, Olga (URS) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 IAAF World Championships (Tokyo, JPN)										*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*							
date 27-Aug-91	time			23.49				49.82	49.82	6 / 4							
reaction time	interval							26.33		# of strides				23.49	26.33		2.84
	velocity			8.51				7.60	8.03	188.7				8.51	7.60		

Miles-Clark, Jearl (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1993 IAAF World Championships (Stuttgart, GER)										*Grgic (2019) - final result prediction in female 400m track event based on results achieved at certain race segments*							
date 17-Aug-93	time	12.43		23.95		36.33		49.82	49.82	6 / 1							
reaction time	interval			11.52		12.38		13.49	PB	# of strides	12.43	11.52	12.38	13.49	23.95	25.87	1.92
	velocity	8.05		8.68		8.08		7.41	8.03		8.05	8.68	8.08	7.41	8.35	7.73	

Bol, Femke (NED) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, First Division (Chorzów, POL)										*European Athletics (2023) - 3rd european games, athletics - results book*							
date 23-Jun-23	time	12.29		23.80		36.45		49.82	49.82	6 / 1							
reaction time 0.259	interval			11.51		12.65		13.37		# of strides	12.29	11.51	12.65	13.37	23.80	26.02	2.22
	velocity	8.14		8.69		7.91		7.48	8.03	181.0	8.14	8.69	7.91	7.48	8.40	7.69	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Meeting de Paris (Paris, FRA)										*Omega Timing (2024) - diamond league race analysis*							
date 07-Jul-24	time	6.79	12.35	17.95	23.83	30.14	36.41	43.02	49.82	49.82	6 / 2						
reaction time 0.174	interval		5.56	5.60	5.88	6.31	6.27	6.61	6.80		# of strides	12.35	11.48	12.58	13.41	23.83	25.99	2.16
	velocity	7.36	8.99	8.93	8.50	7.92	7.97	7.56	7.35	8.03	193.0	8.10	8.71	7.95	7.46	8.39	7.70	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Meeting de Paris (Paris, FRA)										*Omega Timing (2024) - diamond league race analysis*							
date 07-Jul-24	time	6.77	12.16	17.76	23.65	29.76	36.00	42.69	49.82	49.82	3 / 3						
reaction time 0.171	interval		5.39	5.60	5.89	6.11	6.24	6.69	7.13		# of strides	12.16	11.49	12.35	13.82	23.65	26.17	2.52
	velocity	7.39	9.28	8.93	8.49	8.18	8.01	7.47	7.01	8.03	186.0	8.22	8.70	8.10	7.24	8.46	7.64	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 World Athletics Championships (Tokyo, JPN)										*Seiko Timing (2025) - 2025 World Championships race analysis*							
date 16-Sep-25	time		12.04		23.17		35.62		49.82	49.82	6 / 2						
reaction time 0.210	interval				11.13		12.45		14.20		# of strides	12.04	11.13	12.45	14.20	23.17	26.65	3.48
	velocity		8.31		8.98		8.03		7.04	8.03	170.2	8.31	8.98	8.03	7.04	8.63	7.50	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 09-Aug-24	time	6.77	12.28	17.78	23.46	29.41	35.77	42.48	49.83	49.83	2 / 7						
reaction time 0.176	interval		5.51	5.50	5.68	5.95	6.36	6.71	7.35		# of strides	12.28	11.18	12.31	14.06	23.46	26.37	2.91
	velocity	7.39	9.07	9.09	8.80	8.40	7.86	7.45	6.80	8.03	193.5	8.14	8.94	8.12	7.11	8.53	7.58	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Jetour Doha Meeting (Doha, QAT)										*Omega Timing (2025) - diamond league race analysis*							
date 16-May-25	time	6.64	12.09	17.98	24.15	30.26	36.56	42.94	49.83	49.83	5 / 1						
reaction time 0.172	interval		5.45	5.89	6.17	6.11	6.30	6.38	6.89		# of strides	12.09	12.06	12.41	13.27	24.15	25.68	1.53
	velocity	7.53	9.17	8.49	8.10	8.18	7.94	7.84	7.26	8.03	188.0	8.27	8.29	8.06	7.54	8.28	7.79	

Weil, Martina (CHI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Meeting de Paris (Paris, FRA)										*Omega Timing (2025) - diamond league race analysis*							
date 20-Jun-25	time	6.56	12.14	17.93	23.98	30.15	36.54	43.00	49.83	49.83	2 / 3						
reaction time 0.180	interval		5.58	5.79	6.05	6.17	6.39	6.46	6.83	NR	# of strides	12.14	11.84	12.56	13.29	23.98	25.85	1.87
	velocity	7.62	8.96	8.64	8.26	8.10	7.82	7.74	7.32	8.03	183.0	8.24	8.45	7.96	7.52	8.34	7.74	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Kamila Skolimowska Memorial (Chorzów, POL)										*Omega Timing (2025) - diamond league race analysis*							
date 16-Aug-25	time	6.73	12.17	17.93	23.90	30.08	36.48	42.99	49.83	49.83	7 / 3						
reaction time 0.136	interval		5.44	5.76	5.97	6.18	6.40	6.51	6.84		# of strides	12.17	11.73	12.58	13.35	23.90	25.93	2.03
	velocity	7.43	9.19	8.68	8.38	8.09	7.81	7.68	7.31	8.03		8.22	8.53	7.95	7.49	8.37	7.71	

Dixon, Diane (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)										*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*							
date 25-Sep-88	time		12.03		23.56		36.06		49.84	49.84	8 / 3						
reaction time	interval				11.53		12.50		13.78	PB	# of strides	12.03	11.53	12.50	13.78	23.56	26.28	2.72
	velocity		8.31		8.67		8.00		7.26	8.03		8.31	8.67	8.00	7.26	8.49	7.61	

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)										*Track Newsletter (2007) - USATF women's championships*							
date 23-Jun-07	time				23.5		35.9		49.8	49.84	7 / 2						
reaction time	interval						12.40		13.90	PB	# of strides			12.40	13.90	23.50	26.30	2.80
	velocity				8.51		8.06		7.19	8.03	188.5			8.06	7.19	8.51	7.60	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2018) - diamond league race analysis*							
date 10-Jun-18	time		12.4		24.2		36.7		49.84	49.84	6 / 1						
reaction time 0.165	interval				11.8		12.5		13.1	NR	# of strides	12.40	11.80	12.50	13.14	24.20	25.64	1.44

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.06		8.47		8.00		7.61	8.03	184.7	8.06	8.47	8.00	7.61	8.26	7.80	

Stambolova, Vania (BUL) (1983)

FINAL - 2006 European Championships (Göteborg, SWE) — *Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-06	time				23.7		35.8		49.85	49.85	/ 1							
reaction time		interval						12.10		14.05		# of strides		23.70	12.10	14.05	23.70	26.15	2.45
		velocity				8.44		16.53		7.12	8.02			4.22	8.26	7.12	8.44	7.65	

Jackson, Shericka (JAM) (1994)

FINAL - 2016 Olympic Games (Rio de Janeiro, BRA) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-16	time	6.67	12.04	17.60	23.39	29.52	35.92	42.61	49.85	49.85	5 / 3							
reaction time	0.176	interval		5.37	5.56	5.79	6.13	6.40	6.69	7.24		# of strides	12.04	11.35	12.53	13.93	23.39	26.46	3.07
		velocity	7.50	9.31	8.99	8.64	8.16	7.81	7.47	6.91	8.02	183.0	8.31	8.81	7.98	7.18	8.55	7.56	

Paulino, Marileidy (DOM) (1996)

Heat 6 - 2025 World Athletics Championships (Tokyo, JPN) — *Seiko Timing (2025) - 2025 World Championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.11		23.51		35.90		49.85	49.85	6 / 1							
reaction time	0.213	interval				11.40		12.39		13.95		# of strides	12.11	11.40	12.39	13.95	23.51	26.34	2.83
		velocity		8.26		8.77		8.07		7.17	8.02	169.0	8.26	8.77	8.07	7.17	8.51	7.59	

Kaczmarek, Natalia (POL) (1998)

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-22	time	6.83	12.53	18.27	24.23	30.37	36.69	43.13	49.86	49.86	6 / 2							
reaction time	0.145	interval		5.70	5.74	5.96	6.14	6.32	6.44	6.73	PB	# of strides	12.53	11.70	12.46	13.17	24.23	25.63	1.40
		velocity	7.32	8.77	8.71	8.39	8.14	7.91	7.76	7.43	8.02		7.98	8.55	8.03	7.59	8.25	7.80	

Butler, Aaliyah (USA) (2003)

FINAL - 2025 Prefontaine Classic (Eugene, OR) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jul-25	time	6.64	12.31	18.07	24.24	30.47	36.73	43.06	49.86	49.86	6 / 2							
reaction time	0.149	interval		5.67	5.76	6.17	6.23	6.26	6.33	6.80		# of strides	12.31	11.93	12.49	13.13	24.24	25.62	1.38
		velocity	7.53	8.82	8.68	8.10	8.03	7.99	7.90	7.35	8.02	187.7	8.12	8.38	8.01	7.62	8.25	7.81	

Howard-Hill, Denean (USA) (1964)

Semi-Final 1 - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-88	time		12.11		23.90		36.37		49.87	49.87	3 / 4							
reaction time		interval				11.79		12.47		13.50	PB	# of strides	12.11	11.79	12.47	13.50	23.90	25.97	2.07
		velocity		8.26		8.48		8.02		7.41	8.02		8.26	8.48	8.02	7.41	8.37	7.70	

Breuer, Grit (GER) (1972)

FINAL - 1991 European Cup (Frankfurt, GER) — *Federle (2003) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-91	time		12.21		23.83		35.98		49.87	49.87	1 / 2							
reaction time	0.183	interval				11.62		12.15		13.89		# of strides	12.21	11.62	12.15	13.89	23.83	26.04	2.21
		velocity		8.19		8.61		8.23		7.20	8.02	194.7	8.19	8.61	8.23	7.20	8.39	7.68	

Colander-Richardson, LaTasha (USA

FINAL - 2000 USA Olympic Trials (Sacramento, CA) — *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jul-00	time		12.3		23.7		35.9		49.87	49.87	7 / 1							
reaction time		interval				11.4		12.2		14.0	PB	# of strides	12.30	11.40	12.20	13.97	23.70	26.17	2.47
		velocity		8.13		8.77		8.20		7.16	8.02		8.13	8.77	8.20	7.16	8.44	7.64	

McLeod, Candice (JAM) (1996)

FINAL - 2020 Olympic Games (Tokyo, JPN) — *Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-21	time	6.69	12.22	17.86	23.78	29.96	36.39	42.92	49.88	49.87	4 / 5							
reaction time	0.152	interval		5.53	5.64	5.92	6.18	6.43	6.53	6.96		# of strides	12.22	11.56	12.61	13.49	23.78	26.10	2.32
		velocity	7.47	9.04	8.87	8.45	8.09	7.78	7.66	7.18	8.02	198.0	8.18	8.65	7.93	7.41	8.41	7.66	

McLeod, Candice (JAM) (1996)

FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-22	time	6.79	12.36	18.06	23.97	30.04	36.30	42.85	49.87	49.87	7 / 2							
reaction time	0.137	interval		5.57	5.70	5.91	6.07	6.26	6.55	7.02		# of strides	12.36	11.61	12.33	13.57	23.97	25.90	1.93
		velocity	7.36	8.98	8.77	8.46	8.24	7.99	7.63	7.12	8.02	198.2	8.09	8.61	8.11	7.37	8.34	7.72	

Paulino, Marileidy (DOM) (1996)

FINAL - 2022 Athletissima (Lausanne, SUI) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-22	time	6.60	11.98	17.51	23.29	29.35	35.83	42.55	49.87	49.87	6 / 1							
reaction time	0.178	interval		5.38	5.53	5.78	6.06	6.48	6.72	7.32		# of strides	11.98	11.31	12.54	14.04	23.29	26.58	3.29
		velocity	7.58	9.29	9.04	8.65	8.25	7.72	7.44	6.83	8.02	173.7	8.35	8.84	7.97	7.12	8.59	7.52	

Adeleke, Rhasidat (IRL) (2002)

Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-23	time		12.48		24.20		36.63		49.87	49.87	5 / 2							
reaction time	0.161	interval				11.72		12.43		13.24		# of strides	12.48	11.72	12.43	13.24	24.20	25.67	1.47
		velocity		8.01		8.53		8.05		7.55	8.02	185.5	8.01	8.53	8.05	7.55	8.26	7.79	

Klaver, Lieke (NED) (1998)

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-23	time		12.15		23.52		36.16		49.87	49.87	6 / 1							
reaction time	0.177	interval				11.37		12.64		13.71		# of strides	12.15	11.37	12.64	13.71	23.52	26.35	2.83
		velocity		8.23		8.80		7.91		7.29	8.02	182.2	8.23	8.80	7.91	7.29	8.50	7.59	

Nielsen, Laviai (GBR) (1988)

FINAL - 2024 London Athletics Meet (London, GBR) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-24	time	6.61	12.12	17.77	23.68	29.82	36.18	42.80	49.87	49.87	7 / 5							
reaction time	0.144	interval		5.51	5.65	5.91	6.14	6.36	6.62	7.07	PB	# of strides	12.12	11.56	12.50	13.69	23.68	26.19	2.51
		velocity	7.56	9.07	8.85	8.46	8.14	7.86	7.55	7.07	8.02		8.25	8.65	8.00	7.30	8.45	7.64	

Irby-Jackson, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Meeting de Paris (Paris, FRA)																	*Omega Timing (2025) - diamond league race analysis*
date 20-Jun-25 time	6.41	11.82	17.51	23.40	29.45	35.81	42.52	49.87	49.87	8 / 4							
reaction time 0.162 interval		5.41	5.69	5.89	6.05	6.36	6.71	7.35		# of strides	11.82	11.58	12.41	14.06	23.40	26.47	3.07
velocity	7.80	9.24	8.79	8.49	8.26	7.86	7.45	6.80	8.02	181.2	8.46	8.64	8.06	7.11	8.55	7.56	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 16-Sep-25 time		11.88		23.25		35.93		49.87	49.87	7 / 3							
reaction time 0.176 interval				11.37		12.68		13.94		# of strides	11.88	11.37	12.68	13.94	23.25	26.62	3.37
velocity		8.42		8.80		7.89		7.17	8.02	194.0	8.42	8.80	7.89	7.17	8.60	7.51	

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Championship (Carson, CA)																	*USATF Women's Sprint Development (2005)*
date 25-Jun-05 time		12.45	18.28	24.46	30.50	36.60	43.04	49.88	49.88	5 / 2							
reaction time interval			5.83	6.18	6.04	6.10	6.44	6.84	**PB**	# of strides	12.45	12.01	12.14	13.28	24.46	25.42	0.96
velocity		8.03	8.58	8.09	8.28	8.20	7.76	7.31	8.02		8.03	8.33	8.24	7.53	8.18	7.87	

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 16-Aug-09 time		12.33		23.96		36.25		49.88	49.88	5 / 1							
reaction time 0.226 interval				11.63		12.29		13.63		# of strides	12.33	11.63	12.29	13.63	23.96	25.92	1.96
velocity		8.11		8.60		8.14		7.34	8.02	194.7	8.11	8.60	8.14	7.34	8.35	7.72	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2017) - diamond league race analysis*
date 01-Sep-17 time		12.2	17.9	23.9	30.0	36.4	42.9	49.88	49.88	6 / 2							
reaction time 0.158 interval			5.70	6.00	6.10	6.40	6.50	6.98	**NR AJR PB**	# of strides	12.20	11.70	12.50	13.48	23.90	25.98	2.08
velocity		8.20	8.77	8.33	8.20	7.81	7.69	7.16	8.02	186.0	8.20	8.55	8.00	7.42	8.37	7.70	

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 09-Sep-21 time	6.7	12.4	18.3	24.3	30.3	36.4	42.9	49.88	49.88	7 / 1							
reaction time 0.188 interval		5.70	5.90	6.00	6.00	6.10	6.50	6.98		# of strides	12.40	11.90	12.10	13.48	24.30	25.58	1.28
velocity	7.46	8.77	8.47	8.33	8.33	8.20	7.69	7.16	8.02		8.06	8.40	8.26	7.42	8.23	7.82	

Weil, Martina (CHI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 16-Sep-25 time		12.13		23.70		36.32		49.88	49.88	5 / 4							
reaction time 0.197 interval				11.57		12.62		13.56		# of strides	12.13	11.57	12.62	13.56	23.70	26.18	2.48
velocity		8.24		8.64		7.92		7.37	8.02	183.7	8.24	8.64	7.92	7.37	8.44	7.64	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 17-Jul-04 time		12.00		23.87	30.00	36.20	42.59	49.89	49.89	3 / 2							
reaction time interval				11.87	6.13	6.20	6.39	7.30	**AJR**	# of strides	12.00	11.87	12.33	13.69	23.87	26.02	2.15
velocity		8.33		8.42	8.16	8.06	7.82	6.85	8.02		8.33	8.42	8.11	7.30	8.38	7.69	

Antyukh, Natalya (RUS) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 Olympic Games (Athens, GRE)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 24-Aug-04 time		12.1		23.6		35.9		49.9	49.89	6 / 3							
reaction time 0.263 interval				11.5		12.3		14.0		# of strides	12.10	11.50	12.30	14.00	23.60	26.30	2.70
velocity		8.26		8.70		8.13		7.14	8.02	184.0	8.26	8.70	8.13	7.14	8.47	7.60	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 03-Jul-08 time		11.87	17.18	24.07	30.09	36.43	42.79	49.89	49.89	5 / 1							
reaction time interval			5.31	6.89	6.02	6.34	6.36	7.10		# of strides	11.87	12.20	12.36	13.46	24.07	25.82	1.75
velocity		8.42	9.42	7.26	8.31	7.89	7.86	7.04	8.02		8.42	8.20	8.09	7.43	8.31	7.75	

Montsho, Amantle (BOT) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 16-Aug-09 time		12.20		23.74		36.26		49.89	49.89	4 / 2							
reaction time 0.220 interval				11.54		12.52		13.63		# of strides	12.20	11.54	12.52	13.63	23.74	26.15	2.41
velocity		8.20		8.67		7.99		7.34	8.02	181.5	8.20	8.67	7.99	7.34	8.42	7.65	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 07-Aug-24 time	6.74	12.29	17.93	23.78	29.89	36.16	42.80	49.89	49.89	4 / 3							
reaction time 0.187 interval		5.55	5.64	5.85	6.11	6.27	6.64	7.09		# of strides	12.29	11.49	12.38	13.73	23.78	26.11	2.33
velocity	7.42	9.01	8.87	8.55	8.18	7.97	7.53	7.05	8.02	192.0	8.14	8.70	8.08	7.28	8.41	7.66	

Brisco-Hooks, Valerie (USA) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)																	*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*
date 25-Sep-88 time		12.27		23.77		36.33		49.90	49.90	4 / 2							
reaction time interval				11.50		12.56		13.57		# of strides	12.27	11.50	12.56	13.57	23.77	26.13	2.36
velocity		8.15		8.70		7.96		7.37	8.02		8.15	8.70	7.96	7.37	8.41	7.65	

Nazarova, Olga (URS) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Olympic Games (Seoul, KOR)																	*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*
date 26-Sep-88 time		12.15		23.59		35.78		49.90	49.90	4 / 3							
reaction time 0.231 interval				11.44		12.19		14.12		# of strides	12.15	11.44	12.19	14.12	23.59	26.31	2.72
velocity		8.23		8.74		8.20		7.08	8.02	201.5	8.23	8.74	8.20	7.08	8.48	7.60	

Miles-Clark, Jearl (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 IAAF World Championships (Athens, GRE)																	*Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

date	04-Aug-97	time	6.67	12.23	17.79	23.75	29.83	36.07	42.67	49.75	49.90	4 / 3						
reaction time	0.143	interval		5.56	5.56	5.96	6.08	6.24	6.60	7.08		# of strides	12.23	11.52	12.32	13.68	23.75	26.00	2.25
		velocity	7.50	8.99	8.99	8.39	8.22	8.01	7.58	7.06	8.02		8.18	8.68	8.12	7.31	8.42	7.69	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2008 Olympic Games (Beijing, CHN)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 17-Aug-08	time					35.5		49.9	49.90	7 / 1							
reaction time 0.190	interval							14.40		# of strides				14.40			
	velocity					8.45		6.94	8.02					6.94			

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Commonwealth Games (Birmingham, GBR)										*Longines Timing (2022) - commonwealth games race analysis*							
date 07-Aug-22	time	6.6	12.3	18.2	24.1	30.0	36.2	42.8	49.90	49.90	6 / 1						
reaction time 0.169	interval		5.70	5.90	5.90	5.90	6.20	6.60	7.10		# of strides	12.30	11.80	12.10	13.70	24.10	25.80	1.70
	velocity	7.58	8.77	8.47	8.47	8.47	8.06	7.58	7.04	8.02	194.0	8.13	8.47	8.26	7.30	8.30	7.75	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 20-Aug-23	time		12.37		23.82		36.16		49.90	49.90	5 / 1						
reaction time 0.207	interval				11.45		12.34		13.74		# of strides	12.37	11.45	12.34	13.74	23.82	26.08	2.26
	velocity		8.08		8.73		8.10		7.28	8.02	172.0	8.08	8.73	8.10	7.28	8.40	7.67	

Payne-Wiggins, Marita (CAN) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)										*Adams (1984) - 1984 olympic games - 200m & 400m*							
date 06-Aug-84	time				24.6				49.91	49.91	2 / 4						
reaction time 0.251	interval								25.31	NR	# of strides					24.60	25.31	0.71
	velocity				8.13				7.90	8.01						8.13	7.90	

Richardson-Briscoe, Jillian (CAN) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR										*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*							
date 25-Sep-88	time		11.99		23.57		36.19		49.91	49.91	7 / 5						
reaction time	interval				11.58		12.62		13.72	PB	# of strides	11.99	11.58	12.62	13.72	23.57	26.34	2.77
	velocity		8.34		8.64		7.92		7.29	8.01		8.34	8.64	7.92	7.29	8.49	7.59	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 05-Aug-24	time	6.61	11.93	17.54	23.43	29.57	35.93	42.64	49.91	49.91	3 / 1						
reaction time 0.148	interval		5.32	5.61	5.89	6.14	6.36	6.71	7.27		# of strides	11.93	11.50	12.50	13.98	23.43	26.48	3.05
	velocity	7.56	9.40	8.91	8.49	8.14	7.86	7.45	6.88	8.01	187.7	8.38	8.70	8.00	7.15	8.54	7.55	

Butler, Aaliyah (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 USATF Championships (Eugene, OR)										*USATF and Karmarush (2025) - USATF championships results and race analysis*							
date 02-Aug-25	time		12.20		24.02		36.36		49.91	49.91	9 / 3						
reaction time	interval				11.82		12.34		13.55		# of strides	12.20	11.82	12.34	13.55	24.02	25.89	1.87
	velocity		8.20		8.46		8.10		7.38	8.01	188.0	8.20	8.46	8.10	7.38	8.33	7.72	

Pryce, Nickisha (JAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2025 World Athletics Championships (Tokyo, JPN)										*Seiko Timing (2025) - 2025 World Championships race analysis*							
date 14-Sep-25	time		12.22		23.78		36.17		49.91	49.91	6 / 1						
reaction time 0.201	interval				11.56		12.39		13.74		# of strides	12.22	11.56	12.39	13.74	23.78	26.13	2.35
	velocity		8.18		8.65		8.07		7.28	8.01		8.18	8.65	8.07	7.28	8.41	7.65	

Venlogh, Wadeline (HAI) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 World Athletics Championships (Tokyo, JPN)										*Seiko Timing (2025) - 2025 World Championships race analysis*							
date 14-Sep-25	time		11.98		23.78		36.16		49.91	49.91	8 / 1						
reaction time 0.202	interval				11.80		12.38		13.75	NR	# of strides	11.98	11.80	12.38	13.75	23.78	26.13	2.35
	velocity		8.35		8.47		8.08		7.27	8.01		8.35	8.47	8.08	7.27	8.41	7.65	

Graham, Lorraine (JAM) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP)										*Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*							
date 26-Aug-99	time	6.61	12.11	17.73	23.59	29.78	36.12	42.72	49.92	49.92	3 / 3						
reaction time 0.182	interval		5.50	5.62	5.86	6.19	6.34	6.60	7.20	PB	# of strides	12.11	11.48	12.53	13.80	23.59	26.33	2.74
	velocity	7.56	9.09	8.90	8.53	8.08	7.89	7.58	6.94	8.01		8.26	8.71	7.98	7.25	8.48	7.60	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*							
date 09-Aug-17	time		11.70		23.11		35.66	42.40	49.72	49.92	6 / 1						
reaction time 0.196	interval				11.41		12.55	6.74	7.32	PB	# of strides	11.70	11.41	12.55	14.06	23.11	26.61	3.50
	velocity		8.55		8.76		7.97	7.42	6.83	8.01	178.3	8.55	8.76	7.97	7.11	8.65	7.52	

Richardson-Briscoe, Jillian (CAN) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 05-Aug-92	time				23.9		35.8		50.0	49.93	4 / 5						
reaction time	interval						11.90		14.20		# of strides			11.90	14.20	23.90	26.10	2.20
	velocity				8.37		8.40		7.04	8.01	184.0			8.40	7.04	8.37	7.66	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN)										*Vazel (2011) - speed reserve in the 400m*							
date 19-Aug-08	time		11.75		23.50		35.66		49.93	49.93	7 / 3						
reaction time 0.196	interval				11.75		12.16		14.27		# of strides	11.75	11.75	12.16	14.27	23.50	26.43	2.93
	velocity		8.51		8.51		8.22		7.01	8.01	189.5	8.51	8.51	8.22	7.01	8.51	7.57	

Cofil, Fiordaliza (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Weltklasse (Zürich, SUI)										*Omega Timing (2022) - diamond league race analysis*							
date 08-Sep-22	time	6.78	12.47	18.30	24.23	30.30	36.57	43.10	49.93	49.93	4 / 2						
reaction time 0.162	interval		5.69	5.83	5.93	6.07	6.27	6.53	6.83		# of strides	12.47	11.76	12.34	13.36	24.23	25.70	1.47

		velocity	7.37	8.79	8.58	8.43	8.24	7.97	7.66	7.32	8.01		8.02	8.50	8.10	7.49	8.25	7.78	

Diggs, Talitha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)																	
																	Track Newsletter (2023) - USATF championships/WCT women
date 08-Jul-23	time		12.41		24.21		36.77		49.93	49.93	7 / 3								
reaction time 0.177	interval				11.80		12.56		13.16	PB	# of strides	12.41	11.80	12.56	13.16	24.21	25.72	1.51
	velocity		8.06		8.47		7.96		7.60	8.01	196.0	8.06	8.47	7.96	7.60	8.26	7.78	

Müller, Petra (GDR) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 IAAF World Championships (Rome, ITA)																	
																	Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)
date 31-Aug-87	time		12.20		23.64		36.07		49.94	49.94	3 / 2								
reaction time	interval				11.44		12.43		13.87		# of strides	12.20	11.44	12.43	13.87	23.64	26.30	2.66
	velocity		8.20		8.74		8.05		7.21	8.01	191.2	8.20	8.74	8.05	7.21	8.46	7.60	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	
																	Track Newsletter (2016) - US olympic trials women
date 03-Jul-16	time		12.20		24.1		36.6		49.9	49.94	2 / 2								
reaction time 0.190	interval				11.90		12.50		13.30	PB	# of strides	12.20	11.90	12.50	13.30	24.10	25.80	1.70
	velocity		8.20		8.40		8.00		7.52	8.01		8.20	8.40	8.00	7.52	8.30	7.75	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 European Athletics Championships (Munich, GER)																	
																	European Athletics (2022) - european athletics championships race analysis
date 17-Aug-22	time		12.17		23.59		36.29		49.94	49.94	6 / 2								
reaction time 0.178	interval				11.42		12.70		13.65		# of strides	12.17	11.42	12.70	13.65	23.59	26.35	2.76
	velocity		8.22		8.76		7.87		7.33	8.01	195.0	8.22	8.76	7.87	7.33	8.48	7.59	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Athletissima (Lausanne, SUI)																	
																	Omega Timing (2022) - diamond league race analysis
date 26-Aug-22	time	6.64	12.14	17.78	23.59	29.56	35.95	42.67	49.94	49.94	5 / 2								
reaction time 0.168	interval		5.50	5.64	5.81	5.97	6.39	6.72	7.27		# of strides	12.14	11.45	12.36	13.99	23.59	26.35	2.76
	velocity	7.53	9.09	8.87	8.61	8.38	7.82	7.44	6.88	8.01	197.0	8.24	8.73	8.09	7.15	8.48	7.59	

Leatherwood, Lillie (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 TAC National Championships (San Jose, CA)																	
																	Track Newsletter (1987) - TAC National Championships
date 27-Jun-87	time				23.8				50.0	49.95	5 / 1								
reaction time	interval								26.20	PB	# of strides					23.80	26.20	2.40
	velocity				8.40				7.63	8.01						8.40	7.63	

Thiam, Amy Mbacké (SEN) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)																	
																	Bonvin (2003) - Compte-rendu 400m et relais 4x 400m
date 27-Aug-03	time				23.1		35.7		49.95	49.95	6 / 3								
reaction time 0.175	interval						12.6		14.3		# of strides			12.60	14.25	23.10	26.85	3.75
	velocity				8.66		7.94		7.02	8.01				7.94	7.02	8.66	7.45	

Dunn, Debbie (USA) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)																	
																	Graubner (2009) - biomechanical analyses at the 12th IAAF world championships
date 16-Aug-09	time		12.08		23.70		36.08		49.95	49.95	3 / 3								
reaction time 0.189	interval				11.62		12.38		13.87	PB	# of strides	12.08	11.62	12.38	13.87	23.70	26.25	2.55
	velocity		8.28		8.61		8.08		7.21	8.01	195.5	8.28	8.61	8.08	7.21	8.44	7.62	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Meeting de Paris (Paris, FRA)																	
																	Omega Timing (2023) - diamond league race analysis
date 09-Jun-23	time	6.52	11.81	17.30	23.15	29.37	35.97	42.75	49.95	49.95	3 / 3								
reaction time 0.143	interval		5.29	5.49	5.85	6.22	6.60	6.78	7.20		# of strides	11.81	11.34	12.82	13.98	23.15	26.80	3.65
	velocity	7.67	9.45	9.11	8.55	8.04	7.58	7.37	6.94	8.01	186.2	8.47	8.82	7.80	7.15	8.64	7.46	

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																	
																	Paris 2024 Olympic Games - Results Book (2024)
date 07-Aug-24	time	6.62	12.07	17.54	23.22	29.16	35.44	42.26	49.95	49.95	8 / 2								
reaction time 0.159	interval		5.45	5.47	5.68	5.94	6.28	6.82	7.69		# of strides	12.07	11.15	12.22	14.51	23.22	26.73	3.51
	velocity	7.55	9.17	9.14	8.80	8.42	7.96	7.33	6.50	8.01	187.7	8.29	8.97	8.18	6.89	8.61	7.48	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Kamila Skolimowska Memorial (Chorzów, POL)																	
																	Omega Timing (2024) - diamond league race analysis
date 25-Aug-24	time	6.76	12.29	17.82	23.71	30.00	36.56	43.21	49.95	49.95	5 / 3								
reaction time 0.167	interval		5.53	5.53	5.89	6.29	6.56	6.65	6.74		# of strides	12.29	11.42	12.85	13.39	23.71	26.24	2.53
	velocity	7.40	9.04	9.04	8.49	7.95	7.62	7.52	7.42	8.01	193.5	8.14	8.76	7.78	7.47	8.44	7.62	

Guevara, Ana (MEX) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)																	
																	Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016
date 25-Sep-00	time		12.3		24.1		36.3		50.0	49.96	5 / 5								
reaction time 0.261	interval				11.80		12.20		13.70		# of strides	12.30	11.80	12.20	13.70	24.10	25.90	1.80
	velocity		8.13		8.47		8.20		7.30	8.01	189.0	8.13	8.47	8.20	7.30	8.30	7.72	

Henderson, Monique (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Championship (Carson, CA)																	
																	USATF Women's Sprint Development (2005)
date 25-Jun-05	time		12.31	18.06	24.09	30.18	36.35	42.86	49.96	49.96	6 / 3								
reaction time	interval			5.75	6.03	6.09	6.17	6.51	7.10	PB	# of strides	12.31	11.78	12.26	13.61	24.09	25.87	1.78
	velocity		8.12	8.70	8.29	8.21	8.10	7.68	7.04	8.01		8.12	8.49	8.16	7.35	8.30	7.73	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Jamaica Invitational (Kingston, JAM)																	
																	ferrari (2009) - Split 100 metri uomini e donne (www.noivelocisti.net/forum?func=view&catid=9&id=1813)
date 07-May-05	time		12.3		24.6		36.9		49.96	49.96	4 / 1								
reaction time	interval				12.3		12.3		13.06		# of strides	12.30	12.30	12.30	13.06	24.60	25.36	0.76
	velocity		8.13		8.13		8.13		7.66	8.01	192.0	8.13	8.13	8.13	7.66	8.13	7.89	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championship (Sacramento, CA)										*Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*							
date 24-Jun-17 time		12.23		23.44		36.13		49.96	49.96	4 / 2							
reaction time interval				11.21		12.69		13.83		# of strides	12.23	11.21	12.69	13.83	23.44	26.52	3.08
velocity		8.24		8.73		8.12		7.24	8.01		8.18	8.92	7.88	7.23	8.53	7.54	

Semenya, Caster (RSA) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 African Championships (Asaba Asaba, NGR)										*Vazel (2018.08.03) - https://twitter.com/pjvazel*							
date 03-Aug-18 time				24.3		36.7		49.96	49.96	4 / 1							
reaction time interval						12.40		13.26	NR	# of strides			12.40	13.26	24.30	25.66	1.36
velocity				8.23		8.06		7.54	8.01	194.0			8.06	7.54	8.23	7.79	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)										*Omega Timing (2021) - diamond league race analysis*							
date 09-Sep-21 time	6.8	12.5	18.3	24.3	30.3	36.5	43.0	49.96	49.96	5 / 2							
reaction time 0.179 interval		5.70	5.80	6.00	6.00	6.20	6.50	6.96		# of strides	12.50	11.80	12.20	13.46	24.30	25.66	1.36
velocity	7.35	8.77	8.62	8.33	8.33	8.06	7.69	7.18	8.01	176.5	8.00	8.47	8.20	7.43	8.23	7.79	

Bolingo, Cynthia (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 21-Aug-23 time		12.23		23.71		36.46		49.96	49.96	8 / 3							
reaction time 0.184 interval				11.48		12.75		13.50	NR PB	# of strides	12.23	11.48	12.75	13.50	23.71	26.25	2.54
velocity		8.18		8.71		7.84		7.41	8.01	191.0	8.18	8.71	7.84	7.41	8.44	7.62	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 05-Aug-24 time	6.67	12.07	17.68	23.47	29.59	36.07	42.83	49.96	49.96	2 / 2							
reaction time 0.162 interval		5.40	5.61	5.79	6.12	6.48	6.76	7.13		# of strides	12.07	11.40	12.60	13.89	23.47	26.49	3.02
velocity	7.50	9.26	8.91	8.64	8.17	7.72	7.40	7.01	8.01	186.0	8.29	8.77	7.94	7.20	8.52	7.55	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 09-Aug-24 time	6.63	12.04	17.63	23.47	29.62	36.06	42.71	49.96	49.96	3 / 8							
reaction time 0.142 interval		5.41	5.59	5.84	6.15	6.44	6.65	7.25		# of strides	12.04	11.43	12.59	13.90	23.47	26.49	3.02
velocity	7.54	9.24	8.94	8.56	8.13	7.76	7.52	6.90	8.01	193.2	8.31	8.75	7.94	7.19	8.52	7.55	

Anning, Amber (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Meeting de Paris (Paris, FRA)										*Omega Timing (2025) - diamond league race analysis*							
date 20-Jun-25 time	6.41	11.97	17.79	23.80	29.99	36.42	43.07	49.96	49.96	4 / 5							
reaction time 0.169 interval		5.56	5.82	6.01	6.19	6.43	6.65	6.89		# of strides	11.97	11.83	12.62	13.54	23.80	26.16	2.36
velocity	7.80	8.99	8.59	8.32	8.08	7.78	7.52	7.26	8.01	179.5	8.35	8.45	7.92	7.39	8.40	7.65	

Anning, Amber (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2025 World Athletics Championships (Tokyo, JPN)										*Seiko Timing (2025) - 2025 World Championships race analysis*							
date 14-Sep-25 time		11.96		23.76		36.45		49.96	49.96	5 / 2							
reaction time 0.186 interval				11.80		12.69		13.51		# of strides	11.96	11.80	12.69	13.51	23.76	26.20	2.44
velocity		8.36		8.47		7.88		7.40	8.01	179.0	8.36	8.47	7.88	7.40	8.42	7.63	

Hennegan, Monique (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 Olympic Games (Athens, GRE)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 24-Aug-04 time		12.0		23.8		35.8		50.0	49.97	5 / 4							
reaction time 0.241 interval				11.8		12.0		14.2		# of strides	12.00	11.80	12.00	14.20	23.80	26.20	2.40
velocity		8.33		8.47		8.33		7.04	8.00	187.0	8.33	8.47	8.33	7.04	8.40	7.63	

Williams, Jodie (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Olympic Games (Tokyo, JPN)										*Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final*							
date 06-Aug-21 time	6.53	11.91	17.46	23.29	29.33	35.73	42.49	49.98	49.97	8 / 6							
reaction time 0.127 interval		5.38	5.55	5.83	6.04	6.40	6.76	7.49	=PB	# of strides	11.91	11.38	12.44	14.25	23.29	26.69	3.40
velocity	7.66	9.29	9.01	8.58	8.28	7.81	7.40	6.68	8.00	185.7	8.40	8.79	8.04	7.02	8.59	7.49	

Pryce, Nickisha (JAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 World Athletics Championships (Tokyo, JPN)										*Seiko Timing (2025) - 2025 World Championships race analysis*							
date 18-Sep-25 time		12.08		23.59		35.99		49.97	49.97	2 / 8							
reaction time 0.158 interval				11.51		12.40		13.98		# of strides	12.08	11.51	12.40	13.98	23.59	26.38	2.79
velocity		8.28		8.69		8.06		7.15	8.00	185.0	8.28	8.69	8.06	7.15	8.48	7.58	

Nazarova, Natalya (RUS) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)										*Bonvin (2003) - Compte-rendu 400m et relais 4x 400m*							
date 27-Aug-03 time				23.6		36.0		49.98	49.98	7 / 4							
reaction time 0.170 interval						12.4		14.0		# of strides			12.40	13.98	23.60	26.38	2.78
velocity				8.47		8.06		7.15	8.00				8.06	7.15	8.47	7.58	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bislett Games (Oslo, NOR)										*Omega Timing (2018) - diamond league race analysis*							
date 07-Jun-18 time		12.4		24.0		36.5		49.98	49.98	5 / 1							
reaction time 0.161 interval				11.6		12.5		13.5		# of strides	12.40	11.60	12.50	13.48	24.00	25.98	1.98
velocity		8.06		8.62		8.00		7.42	8.00	186.0	8.06	8.62	8.00	7.42	8.33	7.70	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 20-Jul-22 time		12.18		23.67		36.22		49.98	49.98	3 / 1							
reaction time 0.171 interval				11.49		12.55		13.76		# of strides	12.18	11.49	12.55	13.76	23.67	26.31	2.64
velocity		8.21		8.70		7.97		7.27	8.00	173.0	8.21	8.70	7.97	7.27	8.45	7.60	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Weltklasse (Zürich, SUI)										*Omega Timing (2022) - diamond league race analysis*							

date	08-Sep-22	time	6.60	12.18	17.88	23.70	29.66	35.99	42.75	49.98	49.98	5 / 3						
reaction time	0.133	interval		5.58	5.70	5.82	5.96	6.33	6.76	7.23		# of strides	12.18	11.52	12.29	13.99	23.70	26.28	2.58
		velocity	7.58	8.96	8.77	8.59	8.39	7.90	7.40	6.92	8.00	193.5	8.21	8.68	8.14	7.15	8.44	7.61	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time	6.71	12.17	17.72	23.51	29.71	36.10	42.86	49.98	49.98	4 / 1							
reaction time 0.169	interval		5.46	5.55	5.79	6.20	6.39	6.76	7.12		# of strides	12.17	11.34	12.59	13.88	23.51	26.47	2.96
	velocity	7.45	9.16	9.01	8.64	8.06	7.82	7.40	7.02	8.00	189.0	8.22	8.82	7.94	7.20	8.51	7.56	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 IAAF World Championships (Moscow, RUS)																	*Track Newsletter (2013) - world championships women*
date 12-Aug-13	time		12.1		23.7		36.4		50.0	49.99	2 / 4							
reaction time 0.198	interval				11.6		12.7		13.6		# of strides	12.10	11.60	12.70	13.60	23.70	26.30	2.60
	velocity		8.26		8.62		7.87		7.35	8.00		8.26	8.62	7.87	7.35	8.44	7.60	

Jackson, Shericka (JAM) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 IAAF World Championships (Beijing, CHN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 27-Aug-15	time	6.80	12.14	17.63	23.45	29.56	36.03	42.79	49.99	49.99	4 / 3							
reaction time 0.196	interval		5.34	5.49	5.82	6.11	6.47	6.76	7.20	PB	# of strides	12.14	11.31	12.58	13.96	23.45	26.54	3.09
	velocity	7.35	9.36	9.11	8.59	8.18	7.73	7.40	6.94	8.00		8.24	8.84	7.95	7.16	8.53	7.54	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2023) - diamond league race analysis*
date 21-Jul-23	time	6.67	12.02	17.56	23.34	29.49	36.01	42.78	49.99	49.99	4 / 3							
reaction time 0.247	interval		5.35	5.54	5.78	6.15	6.52	6.77	7.21		# of strides	12.02	11.32	12.67	13.98	23.34	26.65	3.31
	velocity	7.50	9.35	9.03	8.65	8.13	7.67	7.39	6.93	8.00	184.5	8.32	8.83	7.89	7.15	8.57	7.50	

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2023) - diamond league race analysis*
date 21-Jul-23	time	6.74	12.23	17.79	23.58	29.60	35.90	42.55	49.99	49.99	5 / 4							
reaction time 0.144	interval		5.49	5.56	5.79	6.02	6.30	6.65	7.44		# of strides	12.23	11.35	12.32	14.09	23.58	26.41	2.83
	velocity	7.42	9.11	8.99	8.64	8.31	7.94	7.52	6.72	8.00	184.7	8.18	8.81	8.12	7.10	8.48	7.57	

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Weltklasse (Zürich, SUI)																	*Omega Timing (2025) - diamond league race analysis*
date 28-Aug-25	time	6.83	12.51	18.36	24.37	30.46	36.71	43.19	49.99	49.99	7 / 6							
reaction time 0.160	interval		5.68	5.85	6.01	6.09	6.25	6.48	6.80		# of strides	12.51	11.86	12.34	13.28	24.37	25.62	1.25
	velocity	7.32	8.80	8.55	8.32	8.21	8.00	7.72	7.35	8.00	185.0	7.99	8.43	8.10	7.53	8.21	7.81	

Miles, Jearl (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 IAAF World Championships (Gothenburg, SWE)																	*Track Newsletter (1995) - World Championships V*
date 08-Aug-95	time		12.30		23.9		36.3		50	50.00	3 / 3							
reaction time	interval				11.60		12.40		13.70		# of strides	12.30	11.60	12.40	13.70	23.90	26.10	2.20
	velocity		8.13		8.62		8.06		7.30	8.00		8.13	8.62	8.06	7.30	8.37	7.66	

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 Olympic Games (Athens, GRE)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 24-Aug-04	time		12.3		23.9		36.0		50.0	50.00	1 / 5							
reaction time 0.225	interval				11.6		12.1		14.0	PB	# of strides	12.30	11.60	12.10	14.00	23.90	26.10	2.20
	velocity		8.13		8.62		8.26		7.14	8.00	191.0	8.13	8.62	8.26	7.14	8.37	7.66	

Ellis, Kendal (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championship (Sacramento, CA)																	*Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*
date 24-Jun-17	time		12.39		23.92		36.37		50.00	50.00	6 / 3							
reaction time	interval				11.53		12.45		13.63	PB	# of strides	12.39	11.53	12.45	13.63	23.92	26.08	2.16
	velocity		8.24		8.73		8.12		7.24	8.00		8.07	8.67	8.03	7.34	8.36	7.67	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2023) - diamond league race analysis*
date 21-Jul-23	time	6.52	11.89	17.41	23.18	29.26	35.70	42.53	50.00	50.00	7 / 5							
reaction time 0.185	interval		5.37	5.52	5.77	6.08	6.44	6.83	7.47		# of strides	11.89	11.29	12.52	14.30	23.18	26.82	3.64
	velocity	7.67	9.31	9.06	8.67	8.22	7.76	7.32	6.69	8.00		8.41	8.86	7.99	6.99	8.63	7.46	

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 07-Aug-24	time	6.63	12.17	17.83	23.81	29.97	36.42	42.97	50.00	50.00	5 / 2							
reaction time 0.164	interval		5.54	5.66	5.98	6.16	6.45	6.55	7.03		# of strides	12.17	11.64	12.61	13.58	23.81	26.19	2.38
	velocity	7.54	9.03	8.83	8.36	8.12	7.75	7.63	7.11	8.00	182.5	8.22	8.59	7.93	7.36	8.40	7.64	

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Kamila Skolimowska Memorial (Chorzów, POL)																	*Omega Timing (2024) - diamond league race analysis*
date 25-Aug-24	time	6.56	11.80	17.37	23.27	29.42	35.81	42.57	50.00	50.00	7 / 4							
reaction time 0.153	interval		5.24	5.57	5.90	6.15	6.39	6.76	7.43		# of strides	11.80	11.47	12.54	14.19	23.27	26.73	3.46
	velocity	7.62	9.54	8.98	8.47	8.13	7.82	7.40	6.73	8.00		8.47	8.72	7.97	7.05	8.59	7.48	

Gushchina, Yuliya (RUS) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 19-Aug-08	time		11.8		23.3		35.8		50.0	50.01	5 / 4							
reaction time 0.242	interval				11.50		12.50		14.20	PB	# of strides	11.80	11.50	12.50	14.20	23.30	26.70	3.40
	velocity		8.47		8.70		8.00		7.04	8.00	181.5	8.47	8.70	8.00	7.04	8.58	7.49	

Butler, Aaliyah (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 22-Jun-24	time		12.34		23.74		36.16		50.01	50.01	5 / 2							
reaction time	interval				11.40		12.42		13.85		# of strides	12.34	11.40	12.42	13.85	23.74	26.27	2.53

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.10		8.77		8.05		7.22	8.00	189.7	8.10	8.77	8.05	7.22	8.42	7.61	

Holmes, Alexis (USA) (2000)
FINAL - 2024 Kamila Skolimowska Memorial (Chorzów, POL) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-24	time	6.63	12.12	17.79	23.83	30.08	36.62	43.27	50.01	50.01	3 / 5							
reaction time	0.148	interval		5.49	5.67	6.04	6.25	6.54	6.65	6.74		# of strides	12.12	11.71	12.79	13.39	23.83	26.18	2.35
		velocity	7.54	9.11	8.82	8.28	8.00	7.65	7.52	7.42	8.00		8.25	8.54	7.82	7.47	8.39	7.64	

Trotter, De'Hashia (Dee Dee) (USA) (1
FINAL - 2012 USA Olympic Trials (Eugene, OR) — *Hymans (2020) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-12	time				24.3		36.5		50.02	50.02	7 / 2							
reaction time	0.269	interval						12.20		13.52		# of strides			12.20	13.52	24.30	25.72	1.42
		velocity				8.23		8.20		7.40	8.00				8.20	7.40	8.23	7.78	

Kaczmarek, Natalia (POL) (1998)
Heat 1 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.39		23.74		36.65		50.02	50.02	7 / 1							
reaction time	0.179	interval				11.35		12.91		13.37		# of strides	12.39	11.35	12.91	13.37	23.74	26.28	2.54
		velocity		8.07		8.81		7.75		7.48	8.00	190.2	8.07	8.81	7.75	7.48	8.42	7.61	

Holmes, Alexis (USA) (2000)
FINAL - 2024 Meeting de Paris (Paris, FRA) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jul-24	time	6.68	12.28	18.12	24.13	30.32	36.61	43.16	50.02	50.02	4 / 4							
reaction time	0.175	interval		5.60	5.84	6.01	6.19	6.29	6.55	6.86		# of strides	12.28	11.85	12.48	13.41	24.13	25.89	1.76
		velocity	7.49	8.93	8.56	8.32	8.08	7.95	7.63	7.29	8.00	180.2	8.14	8.44	8.01	7.46	8.29	7.72	

Pryce, Nickisha (JAM) (2001)
Heat 2 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.72	12.32	18.10	24.07	30.20	36.37	42.86	50.02	50.02	8 / 1							
reaction time	0.187	interval		5.60	5.78	5.97	6.13	6.17	6.49	7.16		# of strides	12.32	11.75	12.30	13.65	24.07	25.95	1.88
		velocity	7.44	8.93	8.65	8.38	8.16	8.10	7.70	6.98	8.00	182.0	8.12	8.51	8.13	7.33	8.31	7.71	

Ogunkoya, Falilat (NGR) (1968)
FINAL - 1999 IAAF World Championships (Sevilla, ESP) — *Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-99	time	6.55	12.14	17.82	23.66	29.79	35.95	42.63	50.03	50.03	4 / 4							
reaction time	0.157	interval		5.59	5.68	5.84	6.13	6.16	6.68	7.40		# of strides	12.14	11.52	12.29	14.08	23.66	26.37	2.71
		velocity	7.63	8.94	8.80	8.56	8.16	8.12	7.49	6.76	8.00		8.24	8.68	8.14	7.10	8.45	7.58	

Trotter, De'Hashia (Dee Dee) (USA) (1
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN) — *Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-05	time		12.71		24.65		36.43	42.93	50.03	50.03	5 / 1							
reaction time		interval				11.94		11.78	6.50	7.10		# of strides	12.71	11.94	11.78	13.60	24.65	25.38	0.73
		velocity		7.87		8.38		8.49	7.69	7.04	8.00		7.87	8.38	8.49	7.35	8.11	7.88	

Kapachinskaya, Anastasiya (RUS) (19
FINAL - 2008 Olympic Games (Beijing, CHN) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Aug-08			12.3		24.1		36.2		50.0	50.03	9 / 5							
reaction time	0.378	interval				11.80		12.10		13.80	PB	# of strides	12.30	11.80	12.10	13.80	24.10	25.90	1.80
		velocity		8.13		8.47		8.26		7.25	8.00	194.5	8.13	8.47	8.26	7.25	8.30	7.72	

Szewinska, Irena (POL) (1946)
FINAL - 1974 Kusocinski Memorial (Warsaw, POL) — *Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-74	time		11.8		22.9		35.7		49.9	49.9	2 / 1							
reaction time		interval				11.1		12.8		14.2	WR	# of strides	11.80	11.10	12.80	14.20	22.90	27.00	4.10
		velocity		8.47		9.01		7.81		7.04	8.02	187.0	8.47	9.01	7.81	7.04	8.73	7.41	

Pryce, Nickisha (JAM) (2001)
Long Sprints - 2025 Grand Slam Track Philadelphia (Philadelphia, PA) — *Grand Slam Track (2025) - results and splits by race*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-May-25	time		12.12		24.09		36.47		50.04	50.04	5 / ~~3~~ 2							
reaction time	0.220	interval				11.97		12.38		13.57		# of strides	12.12	11.97	12.38	13.57	24.09	25.95	1.86
		velocity		8.25		8.35		8.08		7.37	7.99		8.25	8.35	8.08	7.37	8.30	7.71	

Seyerling, Heide (RSA) (1976)
FINAL - 2000 Olympic Games (Sydney, AUS) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-00	time		12.2		24.3		36.5		50.1	50.05	7 / 6							
reaction time	0.175	interval				12.10		12.20		13.60	NR / PB	# of strides	12.20	12.10	12.20	13.60	24.30	25.80	1.50
		velocity		8.20		8.26		8.20		7.35	7.99		8.20	8.26	8.20	7.35	8.23	7.75	

McLeod, Candice (JAM) (1996)
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		12.25		23.74		36.28		50.05	50.05	3 / 2							
reaction time	0.149	interval				11.49		12.54		13.77		# of strides	12.25	11.49	12.54	13.77	23.74	26.31	2.57
		velocity		8.16		8.70		7.97		7.26	7.99	198.7	8.16	8.70	7.97	7.26	8.42	7.60	

Payne-Wiggins, Marita (CAN) (1960)
FINAL - 1983 IAAF World Championships (Helsinki, FIN) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-83	time				23.6				50.1	50.06	6 / 5							
reaction time		interval								26.5	AR	# of strides					23.60	26.50	2.90
		velocity				8.47				7.55	7.99						8.47	7.55	

Breuer, Grit (GER) (1972)
FINAL - 1997 IAAF World Championships (Athens, GRE) — *Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-97	time	6.44	11.92	17.16	23.52	29.72	36.12	42.76	49.92	50.06	6 / 4							
reaction time	0.143	interval		5.48	5.24	6.36	6.20	6.40	6.64	7.16		# of strides	11.92	11.60	12.60	13.80	23.52	26.40	2.88
		velocity	7.76	9.12	9.54	7.86	8.06	7.81	7.53	6.98	7.99		8.39	8.62	7.94	7.25	8.50	7.58	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*							
date 09-Aug-17	time	12.01		23.50		35.93	42.60	49.86	50.06	4 / 2							
reaction time 0.203	interval			11.49		12.43	6.67	7.26	NR / NJR	# of strides	12.01	11.49	12.43	13.93	23.50	26.36	2.86
	velocity	8.33		8.70		8.05	7.50	6.89	7.99	189.6	8.33	8.70	8.05	7.18	8.51	7.59	

Irby-Jackson, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 USATF Championships (Eugene, OR)										*USATF and Karmarush (2025) - USATF championships results and race analysis*							
date 02-Aug-25	time	11.76		23.41		35.83		50.06	50.06	4 / 4							
reaction time	interval			11.65		12.42		14.23		# of strides	11.76	11.65	12.42	14.23	23.41	26.65	3.24
	velocity	8.50		8.58		8.05		7.03	7.99	182.5	8.50	8.58	8.05	7.03	8.54	7.50	

Nazarova, Irina (URS) (1957)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 Olympic Games (Moscow, URS)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 28-Jul-80	time					36.2		50.07	50.07	8 / 4							
reaction time	interval							13.87	PB	# of strides				13.87			
	velocity					8.29		7.21	7.99					7.21			

Richards-Ross, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2012 Olympic Games (London, GBR)										Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m							
date 04-Aug-12	time			23.25		35.97		50.07	50.07	4 / 1							
reaction time 0.149	interval					12.72		14.10		# of strides			12.72	14.10	23.25	26.82	3.57
	velocity			8.60		7.86		7.09	7.99	189.7			7.86	7.09	8.60	7.46	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2018) - diamond league race analysis*							
date 30-Jun-18	time	12.3		24.0		36.7		50.07	50.07	5 / 2							
reaction time 0.190	interval			11.7		12.7		13.4		# of strides	12.30	11.70	12.70	13.37	24.00	26.07	2.07
	velocity	8.13		8.55		7.87		7.48	7.99	179.0	8.13	8.55	7.87	7.48	8.33	7.67	

Jonathas, Wadeline (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT)										*Yamanaka (2019) - race analysis of men and women 400m competition*							
date 01-Oct-19	time	6.54	11.92	17.40	23.23	29.39	36.01	42.87	50.07	50.07	4 / 2						
reaction time 0.202	interval		5.38	5.48	5.83	6.16	6.62	6.86	7.20	PB	# of strides	11.92	11.31	12.78	14.06	23.23	26.84	3.61
	velocity	7.65	9.29	9.12	8.58	8.12	7.55	7.29	6.94	7.99	188.0	8.39	8.84	7.82	7.11	8.61	7.45	

Brown, Kaylyn (USA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 23-Jun-24	time	11.90		23.54		36.29		50.07	50.07	7 / 4							
reaction time	interval			11.64		12.75		13.78		# of strides	11.90	11.64	12.75	13.78	23.54	26.53	2.99
	velocity	8.40		8.59		7.84		7.26	7.99		8.40	8.59	7.84	7.26	8.50	7.54	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2025) - diamond league race analysis*							
date 15-Jun-25	time	6.90	12.26	18.06	23.94	30.06	36.46	43.13	50.07	50.07	5 / 2						
reaction time 0.136	interval		5.36	5.80	5.88	6.12	6.40	6.67	6.94		# of strides	12.26	11.68	12.52	13.61	23.94	26.13	2.19
	velocity	7.25	9.33	8.62	8.50	8.17	7.81	7.50	7.20	7.99	192.7	8.16	8.56	7.99	7.35	8.35	7.65	

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 USATF Championships (Eugene, OR)										*USATF and Karmarush (2025) - USATF championships results and race analysis*							
date 01-Aug-25	time	12.34		24.09		36.54		50.07	50.07	4 / 1							
reaction time	interval			11.75		12.45		13.53		# of strides	12.34	11.75	12.45	13.53	24.09	25.98	1.89
	velocity	8.10		8.51		8.03		7.39	7.99		8.10	8.51	8.03	7.39	8.30	7.70	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Athlos (Randalls Island, NY)										*Athlos and Karmarush (2025). Athlos results and race analysis*							
date 10-Oct-25	time	12.47		24.18		36.63		50.07	50.07	6 / 1							
reaction time	interval			11.71		12.45		13.44		# of strides	12.47	11.71	12.45	13.44	24.18	25.89	1.71
	velocity	8.02		8.54		8.03		7.44	7.99	171.0	8.02	8.54	8.03	7.44	8.27	7.72	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*							
date 07-Aug-17	time	11.70		23.97		36.37	42.98	49.88	50.08	7 / 1							
reaction time 0.200	interval			12.27		12.40	6.61	6.90	NR / NJR	# of strides	11.70	12.27	12.40	13.51	23.97	25.91	1.94
	velocity	8.55		8.15		8.06	7.56	7.25	7.99	189.2	8.55	8.15	8.06	7.40	8.34	7.72	

Felix, Allyson (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*							
date 09-Aug-17	time	11.46		22.70		35.46	42.31	49.90	50.08	5 / 3							
reaction time 0.184	interval			11.24		12.76	6.85	7.59		# of strides	11.46	11.24	12.76	14.44	22.70	27.20	4.50
	velocity	8.73		8.90		7.84	7.30	6.59	7.99	181.6	8.73	8.90	7.84	6.93	8.81	7.35	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 USATF National Championships (Des Moines, IA)										*Track Newsletter (2018) - USATF championships women*							
date 23-Jun-18	time			23.7		36.6		50.1	50.08	/ 2							
reaction time	interval					12.90		13.50	PB	# of strides			12.90	13.50	23.70	26.40	2.70
	velocity			8.44		7.75		7.41	7.99				7.75	7.41	8.44	7.58	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)										*Omega Timing (2024) - diamond league race analysis*							
date 20-Apr-24	time	6.74	12.32	18.03	23.97	30.11	36.47	43.01	50.08	50.08	5 / 1						
reaction time 0.180	interval		5.58	5.71	5.94	6.14	6.36	6.54	7.07		# of strides	12.32	11.65	12.50	13.61	23.97	26.11	2.14
	velocity	7.42	8.96	8.76	8.42	8.14	7.86	7.65	7.07	7.99	173.0	8.12	8.58	8.00	7.35	8.34	7.66	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)										*European Athletics (2024) - 2024 european athletics championships - results book*							

date	10-Jun-24	time		12.45		23.92		36.34		50.08	50.08	8 / 3						
reaction time	0.185	interval				11.47		12.42		13.74		# of strides	12.45	11.47	12.42	13.74	23.92	26.16	2.24
		velocity		8.03		8.72		8.05		7.28	7.99	184.0	8.03	8.72	8.05	7.28	8.36	7.65	

Amertil, Christine (BAH) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)																	
date	19-Sep-05	time		12.53		24.40		36.42	43.03	50.09	50.09	6 / 2							
reaction time		interval				11.87		12.02	6.61	7.06	PB	# of strides	12.53	11.87	12.02	13.67	24.40	25.69	1.29
		velocity		7.98		8.42		8.32	7.56	7.08	7.99		7.98	8.42	8.32	7.32	8.20	7.79	

Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Asian Games (Jakarta, INA)																	
date	26-Aug-18	time	6.69	12.30	18.10	24.14	30.40	36.77	43.29	50.09	50.09	5 / 1							
reaction time	0.156	interval		5.61	5.80	6.04	6.26	6.37	6.52	6.80	CR	# of strides	12.30	11.84	12.63	13.32	24.14	25.95	1.81
		velocity	7.47	8.91	8.62	8.28	7.99	7.85	7.67	7.35	7.99	187.5	8.13	8.45	7.92	7.51	8.29	7.71	

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

Bolingo, Cynthia (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Memorial van Damme (Brussels, BEL)																	
date	08-Sep-23	time	6.71	12.20	17.87	23.79	30.01	36.46	43.15	50.09	50.09	4 / 1							
reaction time	0.186	interval		5.49	5.67	5.92	6.22	6.45	6.69	6.94		# of strides	12.20	11.59	12.67	13.63	23.79	26.30	2.51
		velocity	7.45	9.11	8.82	8.45	8.04	7.75	7.47	7.20	7.99	192.0	8.20	8.63	7.89	7.34	8.41	7.60	

Seiko Timing (2023) - world championship race analysis

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2024 Olympic Games (Paris, FRA)																	
date	05-Aug-24	time	6.59	12.02	17.55	23.40	29.45	35.77	42.45	50.09	50.09	5 / 1							
reaction time	0.162	interval		5.43	5.53	5.85	6.05	6.32	6.68	7.64		# of strides	12.02	11.38	12.37	14.32	23.40	26.69	3.29
		velocity	7.59	9.21	9.04	8.55	8.26	7.91	7.49	6.54	7.99	187.0	8.32	8.79	8.08	6.98	8.55	7.49	

Paris 2024 Olympic Games - Results Book (2024)

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Athletissima (Lausanne, SUI)																	
date	20-Aug-25	time	6.70	12.33	18.10	24.05	30.22	36.61	43.23	50.09	50.09	4 / 1							
reaction time	0.122	interval		5.63	5.77	5.95	6.17	6.39	6.62	6.86		# of strides	12.33	11.72	12.56	13.48	24.05	26.04	1.99
		velocity	7.46	8.88	8.67	8.40	8.10	7.82	7.55	7.29	7.99	194.0	8.11	8.53	7.96	7.42	8.32	7.68	

Omega Timing (2025) - diamond league race analysis

Henderson, Monique (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 NCAA Championships (Sacramento, CA)																	
date	11-Jun-05	time		12.1		23.5		35.8		50.1	50.10	5 / 1							
reaction time		interval				11.40		12.30		14.30	PB	# of strides	12.10	11.40	12.30	14.30	23.50	26.60	3.10
		velocity		8.26		8.77		8.13		6.99	7.98	189.0	8.26	8.77	8.13	6.99	8.51	7.52	

Track Newsletter (2005) - NCAA women's championships

Jackson, Shericka (JAM) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2019 IAAF World Championships (Doha, QAT)																	
date	01-Oct-19	time	6.91	12.60	18.37	24.40	30.61	36.96	43.41	50.10	50.10	7 / 3							
reaction time	0.181	interval		5.69	5.77	6.03	6.21	6.35	6.45	6.69		# of strides	12.60	11.80	12.56	13.14	24.40	25.70	1.30
		velocity	7.24	8.79	8.67	8.29	8.05	7.87	7.75	7.47	7.98	193.0	7.94	8.47	7.96	7.61	8.20	7.78	

Yamanaka (2019) - race analysis of men and women 400m competition

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)																	
date	05-Jun-22	time	6.64	12.26	18.00	23.89	30.04	36.52	43.05	50.10	50.10	5 / 1							
reaction time	0.171	interval		5.62	5.74	5.89	6.15	6.48	6.53	7.05		# of strides	12.26	11.63	12.63	13.58	23.89	26.21	2.32
		velocity	7.53	8.90	8.71	8.49	8.13	7.72	7.66	7.09	7.98	173.0	8.16	8.60	7.92	7.36	8.37	7.63	

Omega Timing (2022) - diamond league race analysis

Miller-Uibo, Shaunae (BAH) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting de Paris (Paris, FRA)																	
date	18-Jun-22	time	6.53	11.92	17.54	23.44	29.56	35.82	42.44	50.10	50.10	4 / 1							
reaction time	0.142	interval		5.39	5.62	5.90	6.12	6.26	6.62	7.66		# of strides	11.92	11.52	12.38	14.28	23.44	26.66	3.22
		velocity	7.66	9.28	8.90	8.47	8.17	7.99	7.55	6.53	7.98	175.0	8.39	8.68	8.08	7.00	8.53	7.50	

Omega Timing (2022) - diamond league race analysis

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
date	10-Aug-22	time	6.79	12.37	18.05	23.90	29.90	36.22	42.93	50.10	50.10	5 / 3							
reaction time	0.189	interval		5.58	5.68	5.85	6.00	6.32	6.71	7.17		# of strides	12.37	11.53	12.32	13.88	23.90	26.20	2.30
		velocity	7.36	8.96	8.80	8.55	8.33	7.91	7.45	6.97	7.98	192.0	8.08	8.67	8.12	7.20	8.37	7.63	

Omega Timing (2022) - diamond league race analysis

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Meeting de Paris (Paris, FRA)																	
date	09-Jun-23	time	6.54	12.03	17.62	23.48	29.69	36.19	42.87	50.10	50.10	6 / 4							
reaction time	0.160	interval		5.49	5.59	5.86	6.21	6.50	6.68	7.23		# of strides	12.03	11.45	12.71	13.91	23.48	26.62	3.14
		velocity	7.65	9.11	8.94	8.53	8.05	7.69	7.49	6.92	7.98	191.7	8.31	8.73	7.87	7.19	8.52	7.51	

Omega Timing (2023) - diamond league race analysis

Stevens, Rochelle (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)																	
date	05-Aug-92	time				24.1		36.2		50.1	50.11	1 / 6							
reaction time		interval						12.10		13.90		# of strides			12.10	13.90	24.10	26.00	1.90
		velocity				8.30		8.26		7.19	7.98				8.26	7.19	8.30	7.69	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

Pospelova, Svetlana (RUS) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																	
date	10-Aug-05	time						35.8		50.1	50.11	5 / 4							
reaction time	0.130	interval								14.3		# of strides				14.31			
		velocity						8.38		6.99	7.98	184.7				6.99			

Butler (2013) - IAAF world championships statistics handbook- moscow 2013

Firova, Tatyana (RUS) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN)																	
date	19-Aug-08			12.5		24.0		36.0		50.1	50.11	3 / 6							
reaction time	0.196	interval				11.50		12.00		14.10		# of strides	12.50	11.50	12.00	14.10	24.00	26.10	2.10

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

		velocity		8.00		8.70		8.33		7.09	7.98	184.0	8.00	8.70	8.33	7.09	8.33	7.66

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 05-Aug-12	time		12.2		24.1		36.6		50.1	50.11	2 / 5							
reaction time 0.258	interval				11.90		12.50		13.50		# of strides	12.20	11.90	12.50	13.50	24.10	26.00	1.90
	velocity		8.20		8.40		8.00		7.41	7.98	192.0	8.20	8.40	8.00	7.41	8.30	7.69	

Bol, Femke (NED) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)										*Omega Timing (2023) - continental tour race analysis*							
date 04-Jun-23	time	6.70	12.30	18.09	24.11	30.39	36.82	43.39	50.11	50.11	4 / 1							
reaction time 0.167	interval		5.60	5.79	6.02	6.28	6.43	6.57	6.72		# of strides	12.30	11.81	12.71	13.29	24.11	26.00	1.89
	velocity	7.46	8.93	8.64	8.31	7.96	7.78	7.61	7.44	7.98	182.5	8.13	8.47	7.87	7.52	8.30	7.69	

Irby-Jackson, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)										*Track Newsletter (2023) - USATF championships/WCT women*							
date 08-Jul-23	time		12.11		23.95		36.30		50.11	50.11	3 / 4							
reaction time 0.194	interval				11.84		12.35		13.81		# of strides	12.11	11.84	12.35	13.81	23.95	26.16	2.21
	velocity		8.26		8.45		8.10		7.24	7.98	181.2	8.26	8.45	8.10	7.24	8.35	7.65	

Anning, Amber (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Kamila Skolimowska Memorial (Chorzów, POL)										*Omega Timing (2025) - diamond league race analysis*							
date 16-Aug-25	time	6.66	12.15	17.98	24.09	30.43	36.95	43.49	50.11	50.11	8 / 4							
reaction time 0.156	interval		5.49	5.83	6.11	6.34	6.52	6.54	6.62		# of strides	12.15	11.94	12.86	13.16	24.09	26.02	1.93
	velocity	7.51	9.11	8.58	8.18	7.89	7.67	7.65	7.55	7.98		8.23	8.38	7.78	7.60	8.30	7.69	

Ogunkoya, Falilat (NGR) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							
date 25-Sep-00	time		12.3		24.2		36.6		50.1	50.12	8 / 7							
reaction time 0.254	interval				11.90		12.40		13.50		# of strides	12.30	11.90	12.40	13.50	24.20	25.90	1.70
	velocity		8.13		8.40		8.06		7.41	7.98		8.13	8.40	8.06	7.41	8.26	7.72	

Williams, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)										*Graubner (2007) - http://www.fgs.uni-halle.de*							
date 23-Sep-07	time		12.37		24.23		36.69		50.12	50.12	6 / 2							
reaction time 0.186	interval				11.86		12.46		13.43		# of strides	12.37	11.86	12.46	13.43	24.23	25.89	1.66
	velocity		8.08		8.43		8.03		7.45	7.98		8.08	8.43	8.03	7.45	8.25	7.72	

Felix, Allyson (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*							
date 07-Aug-17	time		11.65		23.22		36.01	42.98	49.94	50.12	4 / 2							
reaction time 0.178	interval				11.57		12.79	6.97	6.96		# of strides	11.65	11.57	12.79	13.93	23.22	26.72	3.50
	velocity		8.58		8.64		7.82	7.17	7.18	7.98	181.0	8.58	8.64	7.82	7.18	8.61	7.49	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Meeting de Paris (Paris, FRA)										*Omega Timing (2021) - diamond league race analysis*							
date 28-Aug-21	time	6.8	12.5	18.4	24.4	30.4	36.6	43.1	50.12	50.12	5 / 1							
reaction time 0.196	interval		5.70	5.90	6.00	6.00	6.20	6.50	7.02		# of strides	12.50	11.90	12.20	13.52	24.40	25.72	1.32
	velocity	7.35	8.77	8.47	8.33	8.33	8.06	7.69	7.12	7.98	176.0	8.00	8.40	8.20	7.40	8.20	7.78	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 20-Jul-22	time		12.37		24.28		36.37		50.12	50.12	5 / 2							
reaction time 0.168	interval				11.91		12.09		13.75		# of strides	12.37	11.91	12.09	13.75	24.28	25.84	1.56
	velocity		8.08		8.40		8.27		7.27	7.98	193.0	8.08	8.40	8.27	7.27	8.24	7.74	

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Kingston (Kingston, JAM)										*Grand Slam Track (2025) - results and splits by race*							
date 05-Apr-25	time		12.35		24.23		36.75		50.12	50.12	7 / 4							
reaction time 0.190	interval				11.88		12.52		13.37		# of strides	12.35	11.88	12.52	13.37	24.23	25.89	1.66
	velocity		8.10		8.42		7.99		7.48	7.98	184.5	8.10	8.42	7.99	7.48	8.25	7.72	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2025 World Athletics Championships (Tokyo, JPN)										*Seiko Timing (2025) - 2025 World Championships race analysis*							
date 14-Sep-25	time		12.43		24.37		36.83		50.12	50.12	7 / 2							
reaction time 0.159	interval				11.94		12.46		13.29		# of strides	12.43	11.94	12.46	13.29	24.37	25.75	1.38
	velocity		8.05		8.38		8.03		7.52	7.98		8.05	8.38	8.03	7.52	8.21	7.77	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)										*Omega Timing (2019) - diamond league race analysis*							
date 16-Jun-19	time		12.2		23.7		36.3		50.13	50.13	4 / 1							
reaction time 0.165	interval				11.5		12.6		13.8		# of strides	12.20	11.50	12.60	13.83	23.70	26.43	2.73
	velocity		8.20		8.70		7.94		7.23	7.98	193.2	8.20	8.70	7.94	7.23	8.44	7.57	

Cofil, Fiordaliza (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Athletissima (Lausanne, SUI)										*Omega Timing (2022) - diamond league race analysis*							
date 26-Aug-22	time	6.64	12.23	18.00	24.02	30.12	36.51	43.02	50.13	50.13	8 / 3							
reaction time 0.168	interval		5.59	5.77	6.02	6.10	6.39	6.51	7.11	PB	# of strides	12.23	11.79	12.49	13.62	24.02	26.11	2.09
	velocity	7.53	8.94	8.67	8.31	8.20	7.82	7.68	7.03	7.98	189.5	8.18	8.48	8.01	7.34	8.33	7.66	

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 23-Aug-23	time		12.22		23.54		35.90		50.13	50.13	4 / 4							
reaction time 0.181	interval				11.32		12.36		14.23		# of strides	12.22	11.32	12.36	14.23	23.54	26.59	3.05
	velocity		8.18		8.83		8.09		7.03	7.98	184.7	8.18	8.83	8.09	7.03	8.50	7.52	

Little, Shamier (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	
date 21-Jun-24 time		12.34		24.15		36.71		50.13	50.13	7 / 1							
reaction time interval				11.81		12.56		13.42		# of strides	12.34	11.81	12.56	13.42	24.15	25.98	1.83
velocity		8.10		8.47		7.96		7.45	7.98	185.0	8.10	8.47	7.96	7.45	8.28	7.70	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Day, Christine (JAM) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 IAAF World Championships (Beijing, CHN)																	
date 27-Aug-15 time	6.94	12.61	18.42	24.37	30.40	36.62	43.17	50.14	50.14	8 / 4							
reaction time 0.180 interval		5.67	5.81	5.95	6.03	6.22	6.55	6.97	PB	# of strides	12.61	11.76	12.25	13.52	24.37	25.77	1.40
velocity	7.20	8.82	8.61	8.40	8.29	8.04	7.63	7.17	7.98		7.93	8.50	8.16	7.40	8.21	7.76	

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championship (Sacramento, CA)																	
date 24-Jun-17 time		11.83		23.19		35.92		50.14	50.14	3 / 4							
reaction time interval				11.36		12.73		14.22		# of strides	11.83	11.36	12.73	14.22	23.19	26.95	3.76
velocity		8.24		8.73		8.12		7.24	7.98		8.45	8.80	7.86	7.03	8.62	7.42	

Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/

Cofil, Fiordaliza (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																	
date 20-Jul-22 time		12.18		23.83		36.67		50.14	50.14	5 / 1							
reaction time 0.158 interval				11.65		12.84		13.47	PB	# of strides	12.18	11.65	12.84	13.47	23.83	26.31	2.48
velocity		8.21		8.58		7.79		7.42	7.98	191.0	8.21	8.58	7.79	7.42	8.39	7.60	

Timing by Seiko (2022) - world athletics championships race analysis

Bukowiecka, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	
date 27-Jun-25 time	6.63	12.28	18.13	24.19	30.36	36.72	43.13	50.14	50.14	7 / 2							
reaction time 0.167 interval		5.65	5.85	6.06	6.17	6.36	6.41	7.01		# of strides	12.28	11.91	12.53	13.42	24.19	25.95	1.76
velocity	7.54	8.85	8.55	8.25	8.10	7.86	7.80	7.13	7.98	196.0	8.14	8.40	7.98	7.45	8.27	7.71	

European Athletics (2025) - 2025 european team championships, first division - results book

Müller, Petra (GDR) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1987 IAAF World Championships (Rome, ITA)																	
date 30-Aug-87 time		12.11		23.98		36.43		50.15	50.15	3 / 1							
reaction time interval				11.87		12.45		13.72		# of strides	12.11	11.87	12.45	13.72	23.98	26.17	2.19
velocity		8.26		8.42		8.03		7.29	7.98	191.0	8.26	8.42	8.03	7.29	8.34	7.64	

Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)

Malone, Maicel (USA) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)																	
date 17-Jun-96 time		12.24		24.23		36.65	43.20	50.15	50.15	4 / 1							
reaction time interval				11.99		12.42	6.55	6.95		# of strides	12.24	11.99	12.42	13.50	24.23	25.92	1.69
velocity		8.17		8.34		8.05	7.63	7.19	7.98		8.17	8.34	8.05	7.41	8.25	7.72	

USATF Women's Sprint Development (1996)

Veshkurova, Tatyana (RUS) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 European Championships (Göteborg, SWE)																	
date 10-Aug-06 time				23.9		36.5		50.15	50.15	/ 2							
reaction time interval						12.60		13.65		# of strides			12.60	13.65	23.90	26.25	2.35
velocity				8.37		15.87		7.33	7.98				7.94	7.33	8.37	7.62	

Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 NCAA Championships (Sacramento, CA)																	
date 09-Jun-07 time				24.2		36.5		50.2	50.15	5 / 1							
reaction time interval						12.30		13.70	PB	# of strides			12.30	13.70	24.20	26.00	1.80
velocity				8.26		8.13		7.30	7.98	193.0			8.13	7.30	8.26	7.69	

Track Newsletter (2007) - NCAA women's championships

Montsho, Amantle (BOT) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2012 Olympic Games (London, GBR)																	
date 04-Aug-12 time				23.45		36.06		50.15	50.15	5 / 1							
reaction time 0.205 interval						12.61		14.09		# of strides			12.61	14.09	23.45	26.70	3.25
velocity				8.53		7.93		7.10	7.98	184.0			7.93	7.10	8.53	7.49	

Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																	
date 17-Jul-22 time		12.38		24.27		36.73		50.15	50.15	4 / 1							
reaction time 0.123 interval				11.89		12.46		13.42		# of strides	12.38	11.89	12.46	13.42	24.27	25.88	1.61
velocity		8.08		8.41		8.03		7.45	7.98	186.2	8.08	8.41	8.03	7.45	8.24	7.73	

Timing by Seiko (2022) - world athletics championships race analysis

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Memorial van Damme (Brussels, BEL)																	
date 02-Sep-22 time	6.65	12.17	17.72	23.51	29.53	35.99	42.83	50.15	50.15	4 / 2							
reaction time 0.169 interval		5.52	5.55	5.79	6.02	6.46	6.84	7.32		# of strides	12.17	11.34	12.48	14.16	23.51	26.64	3.13
velocity	7.52	9.06	9.01	8.64	8.31	7.74	7.31	6.83	7.98	196.0	8.22	8.82	8.01	7.06	8.51	7.51	

Omega Timing (2022) - diamond league race analysis

Brisco-Hooks, Valerie (USA) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Olympic Games (Seoul, KOR)																	
date 26-Sep-88 time		11.71		22.94		35.47		50.16	50.16	1 / 4							
reaction time 0.196 interval				11.23		12.53		14.69		# of strides	11.71	11.23	12.53	14.69	22.94	27.22	4.28
velocity		8.54		8.90		7.98		6.81	7.97	199.0	8.54	8.90	7.98	6.81	8.72	7.35	

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

Guevara, Ana (MEX) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)																	
date 29-Aug-07 time	6.90	12.47	18.28	24.31	30.24	36.50	43.05	50.16	50.16	9 / 4							
reaction time 0.183 interval		5.57	5.81	6.03	5.93	6.26	6.55	7.11		# of strides	12.47	11.84	12.19	13.66	24.31	25.85	1.54
velocity	7.25	8.98	8.61	8.29	8.43	7.99	7.63	7.03	7.97	196.0	8.02	8.45	8.20	7.32	8.23	7.74	

Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Memorial van Damme (Brussels, BEL)																	

Seiko Timing (2023) - world championship race analysis

date	08-Sep-23	time	6.59	11.97	17.59	23.47	29.78	36.32	43.03	50.16	50.16	6 / 2						
reaction time	0.180	interval		5.38	5.62	5.88	6.31	6.54	6.71	7.13		# of strides	11.97	11.50	12.85	13.84	23.47	26.69	3.22
		velocity	7.59	9.29	8.90	8.50	7.92	7.65	7.45	7.01	7.97	186.0	8.35	8.70	7.78	7.23	8.52	7.49	

Little, Shamier (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																	
date	22-Jun-24	time		12.48		24.01		36.62		50.16	50.16	8 / 2							
reaction time		interval				11.53		12.61		13.54		# of strides	12.48	11.53	12.61	13.54	24.01	26.15	2.14
		velocity		8.01		8.67		7.93		7.39	7.97		8.01	8.67	7.93	7.39	8.33	7.65	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Williams, Stacey-Ann (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 Olympic Games (Paris, FRA)																	
date	05-Aug-24	time	6.72	12.21	18.03	24.09	30.13	36.40	43.01	50.16	50.16	8 / 2							
reaction time	0.145	interval		5.49	5.82	6.06	6.04	6.27	6.61	7.15		# of strides	12.21	11.88	12.31	13.76	24.09	26.07	1.98
		velocity	7.44	9.11	8.59	8.25	8.28	7.97	7.56	6.99	7.97	190.0	8.19	8.42	8.12	7.27	8.30	7.67	

Paris 2024 Olympic Games - Results Book (2024)

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)																	
date	31-May-25	time		12.33		24.24		36.88		50.16	50.16	3 / ~~4~~ 3							
reaction time	0.210	interval				11.91		12.64		13.28	PB	# of strides	12.33	11.91	12.64	13.28	24.24	25.92	1.68
		velocity		8.11		8.40		7.91		7.53	7.97		8.11	8.40	7.91	7.53	8.25	7.72	

Grand Slam Track (2025) - results and splits by race

Bukowiecka, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Kamila Skolimowska Memorial (Chorzów, POL)																	
date	16-Aug-25	time	6.90	12.51	18.15	24.08	30.26	39.74	43.36	50.16	50.16	5 / 5							
reaction time	0.183	interval		5.61	5.64	5.93	6.18	9.48	3.62	6.80		# of strides	12.51	11.57	15.66	10.42	24.08	26.08	2.00
		velocity	7.25	8.91	8.87	8.43	8.09	5.27	13.81	7.35	7.97	199.0	7.99	8.64	6.39	9.60	8.31	7.67	

Omega Timing (2025) - diamond league race analysis

Bukowiecka, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 World Athletics Championships (Tokyo, JPN)																	
date	14-Sep-25	time		12.17		23.72		36.38		50.16	50.16	5 / 2							
reaction time	0.196	interval				11.55		12.66		13.78		# of strides	12.17	11.55	12.66	13.78	23.72	26.44	2.72
		velocity		8.22		8.66		7.90		7.26	7.97		8.22	8.66	7.90	7.26	8.43	7.56	

Seiko Timing (2025) - 2025 World Championships race analysis

Zyuskova, Nina (URS) (1952)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 Olympic Games (Moscow, URS)																	
date	28-Jul-80	time						36.9		50.17	50.17	3 / 5							
reaction time		interval								13.27	PB	# of strides				13.27			
		velocity						8.13		7.54	7.97					7.54			

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

Kaiser-Brown, Natasha (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1993 IAAF World Championships (Stuttgart, GER)																	
date	17-Aug-93	time		12.41		23.78		36.47		50.17	50.17	3 / 2							
reaction time		interval				11.37		12.69		13.70		# of strides	12.41	11.37	12.69	13.70	23.78	26.39	2.61
		velocity		8.06		8.80		7.88		7.30	7.97		8.06	8.80	7.88	7.30	8.41	7.58	

Grgic (2019) - final result prediction in female 400m track event based on results achieved at certain race segments

Pérec, Marie-José (FRA) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Atlanta Grand Prix (Atlanta, GA)																	
date	18-May-96	time				24.4		36.8		50.2	50.17	4 / 1							
reaction time		interval						12.40		13.40		# of strides			12.40	13.40	24.40	25.80	1.40
		velocity				8.20		8.06		7.46	7.97	171.2			8.06	7.46	8.20	7.75	

Track Newsletter (1996) - atlanta GP- hot debut for Olympic track

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)																	
date	29-Aug-07	time	7.00	12.54	18.28	24.23	30.03	36.27	42.91	50.17	50.17	8 / 5							
reaction time	0.162	interval		5.54	5.74	5.95	5.80	6.24	6.64	7.26		# of strides	12.54	11.69	12.04	13.90	24.23	25.94	1.71
		velocity	7.14	9.03	8.71	8.40	8.62	8.01	7.53	6.89	7.97	187.7	7.97	8.55	8.31	7.19	8.25	7.71	

Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics

Krivoshapka, Antonina (RUS) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)																	
date	05-Aug-12	time		11.8		23.2		35.8		50.2	50.17	5 / ~~6~~							
reaction time	0.175	interval				11.40		12.60		14.40	DV	# of strides	11.80	11.40	12.60	14.40	23.20	27.00	3.80
		velocity		8.47		8.77		7.94		6.94	7.97	199.5	8.47	8.77	7.94	6.94	8.62	7.41	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	
date	03-Jul-16	time		11.8		23.7		36.0		50.2	50.17	7 / 3							
reaction time	0.225	interval				11.90		12.30		14.20		# of strides	11.80	11.90	12.30	14.20	23.70	26.50	2.80
		velocity		8.47		8.40		8.13		7.04	7.97		8.47	8.40	8.13	7.04	8.44	7.55	

Track Newsletter (2016) - US olympic trials women

Irby-Jackson, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																	
date	22-Jun-24	time		11.98		23.66		36.23		50.17	50.17	7 / 1							
reaction time		interval				11.68		12.57		13.94		# of strides	11.98	11.68	12.57	13.94	23.66	26.51	2.85
		velocity		8.35		8.56		7.96		7.17	7.97	181.2	8.35	8.56	7.96	7.17	8.45	7.54	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																	
date	07-Aug-24	time	6.61	12.09	17.68	23.53	29.66	36.11	42.89	50.17	50.17	4 / 3							
reaction time	0.129	interval		5.48	5.59	5.85	6.13	6.45	6.78	7.28		# of strides	12.09	11.44	12.58	14.06	23.53	26.64	3.11
		velocity	7.56	9.12	8.94	8.55	8.16	7.75	7.37	6.87	7.97	194.0	8.27	8.74	7.95	7.11	8.50	7.51	

Paris 2024 Olympic Games - Results Book (2024)

Anning, Amber (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Bauhaus Galan (Stockholm, SWE)																	
date	15-Jun-25	time		12.20	17.96	23.85	30.06	36.57	43.22	50.17	50.17	7 / 3							
reaction time	0.191	interval			5.76	5.89	6.21	6.51	6.65	6.95		# of strides	12.20	11.65	12.72	13.60	23.85	26.32	2.47

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.20	8.68	8.49	8.05	7.68	7.52	7.19	7.97		8.20	8.58	7.86	7.35	8.39	7.60	

Klaver, Lieke (NED) (1998)

FINAL - 2025 Athletissima (Lausanne, SUI) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-25	time	6.65	12.02	17.53	23.28	29.36	35.85	42.68	50.17	50.17	8 / 2							
reaction time	0.201	interval		5.37	5.51	5.75	6.08	6.49	6.83	7.49		# of strides	12.02	11.26	12.57	14.32	23.28	26.89	3.61
		velocity	7.52	9.31	9.07	8.70	8.22	7.70	7.32	6.68	7.97	185.0	8.32	8.88	7.96	6.98	8.59	7.44	

Freeman, Cathy (AUS) (1973)

FINAL - 1994 Herculis (Monaco, MON) — *Vazel (2011) - speed reserve in the 400m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-94	time		12.5		24.3		36.9		50.2	50.18	/ 1							
reaction time		interval				11.80		12.60		13.30	PB	# of strides	12.50	11.80	12.60	13.30	24.30	25.90	1.60
		velocity		8.00		8.47		7.94		7.52	7.97		8.00	8.47	7.94	7.52	8.23	7.72	

Klaver, Lieke (NED) (1998)

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		12.09		23.80		36.69		50.18	50.18	8 / 2							
reaction time	0.140	interval				11.71		12.89		13.49	NR PB	# of strides	12.09	11.71	12.89	13.49	23.80	26.38	2.58
		velocity		8.27		8.54		7.76		7.41	7.97	184.0	8.27	8.54	7.76	7.41	8.40	7.58	

Whittaker, Isabella (USA) (2002)

FINAL - 2025 Meeting de Paris (Paris, FRA) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-25	time	6.68	12.35	18.20	24.26	30.37	36.74	43.27	50.18	50.18	7 / 6							
reaction time	0.178	interval		5.67	5.85	6.06	6.11	6.37	6.53	6.91		# of strides	12.35	11.91	12.48	13.44	24.26	25.92	1.66
		velocity	7.49	8.82	8.55	8.25	8.18	7.85	7.66	7.24	7.97		8.10	8.40	8.01	7.44	8.24	7.72	

Holmes, Alexis (USA) (2000)

FINAL - 2025 Kamila Skolimowska Memorial (Chorzów, POL) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-25	time	6.77	12.24	17.92	23.92	30.18	36.64	43.29	50.18	50.18	9 / 6							
reaction time	0.241	interval		5.47	5.68	6.00	6.26	6.46	6.65	6.89		# of strides	12.24	11.68	12.72	13.54	23.92	26.26	2.34
		velocity	7.39	9.14	8.80	8.33	7.99	7.74	7.52	7.26	7.97		8.17	8.56	7.86	7.39	8.36	7.62	

Leatherwood, Lillie (USA) (1964)

FINAL - 1984 USA Olympic Trials (Los Angeles, CA) — *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jun-84	time				24.4				50.2	50.19	6 / 3							
reaction time		interval								25.8	PB	# of strides					24.40	25.80	1.40
		velocity				8.20				7.75	7.97						8.20	7.75	

Richards, Sandie (JAM) (1968)

FINAL - 1992 Olympic Games (Barcelona, ESP) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-92	time				24.0		36.3		50.2	50.19	2 / 7							
reaction time		interval						12.30		13.90		# of strides			12.30	13.90	24.00	26.20	2.20
		velocity				8.33		8.13		7.19	7.97				8.13	7.19	8.33	7.63	

Richards, Sanya (USA) (1985)

FINAL - 2004 Olympic Games (Athens, GRE) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-04	time		11.9		23.5		35.8		50.2	50.19	2 / 6							
reaction time	0.205	interval				11.6		12.3		14.4		# of strides	11.90	11.60	12.30	14.40	23.50	26.70	3.20
		velocity		8.40		8.62		8.13		6.94	7.97	195.0	8.40	8.62	8.13	6.94	8.51	7.49	

Felix, Allyson (USA) (1985)

FINAL - 2015 USATF National Championships (Eugene, OR) — *Track Newsletter (2015) - USATF women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time				24.6		37.2		50.2	50.19	/ 1							
reaction time		interval						12.6		13.0		# of strides			12.60	13.00	24.60	25.60	1.00
		velocity				8.13		7.94		7.69	7.97				7.94	7.69	8.13	7.81	

Ellis, Kendall (USA) (1996)

FINAL - 2018 NCAA Championships (Eugene, OR) — *Track Newsletter (2018) - NCAA women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-18	time				23.7		36.5		50.2	50.19	/ 2							
reaction time		interval						12.80		13.70		# of strides			12.80	13.70	23.70	26.50	2.80
		velocity				8.44		7.81		7.30	7.97				7.81	7.30	8.44	7.55	

Bolingo, Cynthia (BEL) (1993)

FINAL - 2022 Memorial van Damme (Brussels, BEL) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-22	time	6.66	12.27	17.72	23.87	29.98	36.39	43.07	50.19	50.19	5 / 3							
reaction time	0.172	interval		5.61	5.45	6.15	6.11	6.41	6.68	7.12	NR PB	# of strides	12.27	11.60	12.52	13.80	23.87	26.32	2.45
		velocity	7.51	8.91	9.17	8.13	8.18	7.80	7.49	7.02	7.97	189.0	8.15	8.62	7.99	7.25	8.38	7.60	

McLeod, Candice (JAM) (1996)

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-23	time	6.75	12.32	18.05	24.02	30.14	36.51	43.07	50.19	50.19	6 / 2							
reaction time	0.160	interval		5.57	5.73	5.97	6.12	6.37	6.56	7.12		# of strides	12.32	11.70	12.49	13.68	24.02	26.17	2.15
		velocity	7.41	8.98	8.73	8.38	8.17	7.85	7.62	7.02	7.97	197.7	8.12	8.55	8.01	7.31	8.33	7.64	

Holmes, Alexis (USA) (2000)

Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-24	time		12.15		23.59		36.35		50.19	50.19	6 / 4							
reaction time		interval				11.44		12.76		13.84	PB	# of strides	12.15	11.44	12.76	13.84	23.59	26.60	3.01
		velocity		8.23		8.74		7.84		7.23	7.97	183.0	8.23	8.74	7.84	7.23	8.48	7.52	

Emmelmann, Kirsten (GDR) (1961)

FINAL - 1987 IAAF World Championships (Rome, ITA) — *Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-Aug-87	time		12.21		23.75		36.35		50.20	50.20	6 / 3							
reaction time		interval				11.54		12.60		13.85		# of strides	12.21	11.54	12.60	13.85	23.75	26.45	2.70
		velocity		8.19		8.67		7.94		7.22	7.97	209.0	8.19	8.67	7.94	7.22	8.42	7.56	

Ohuruogu, Christine (GBR) (1984)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)																*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Sep-07	time		12.54		24.37		36.97		50.20	50.20	4 / 3							
reaction time 0.185	interval				11.83		12.60		13.23		# of strides	12.54	11.83	12.60	13.23	24.37	25.83	1.46
	velocity		7.97		8.45		7.94		7.56	7.97		7.97	8.45	7.94	7.56	8.21	7.74	

Whittaker, Isabella (USA) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 World Athletics Championships (Tokyo, JPN)																*Seiko Timing (2025) - 2025 World Championships race analysis*
date 16-Sep-25	time		12.30		23.75		36.24		50.20	50.20	6 / 3							
reaction time 0.194	interval				11.45		12.49		13.96		# of strides	12.30	11.45	12.49	13.96	23.75	26.45	2.70
	velocity		8.13		8.73		8.01		7.16	7.97		8.13	8.73	8.01	7.16	8.42	7.56	

Richards, Sanya (USA) (1985)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)																*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 16-Aug-09	time		12.08		24.15		36.41		50.21	50.21	3 / 1							
reaction time 0.192	interval				12.07		12.26		13.80		# of strides	12.08	12.07	12.26	13.80	24.15	26.06	1.91
	velocity		8.28		8.29		8.16		7.25	7.97	184.7	8.28	8.29	8.16	7.25	8.28	7.67	

Ohuruogu, Christine (GBR) (1984)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 IAAF World Championships (Berlin, GER)																*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 18-Aug-09	time		12.56		24.32		36.76		50.21	50.21	7 / 5							
reaction time 0.231	interval				11.76		12.44		13.45		# of strides	12.56	11.76	12.44	13.45	24.32	25.89	1.57
	velocity		7.96		8.50		8.04		7.43	7.97	184.2	7.96	8.50	8.04	7.43	8.22	7.72	

Wimbley, Shakima (USA) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 USATF National Championships (Des Moines, IA)																*Track Newsletter (2019) - USATF championships women*
date 27-Jul-19	time				23.7		36.4		50.2	50.21	/ 1							
reaction time	interval						12.70		13.80		# of strides			12.70	13.80	23.70	26.50	2.80
	velocity				8.44		7.87		7.25	7.97				7.87	7.25	8.44	7.55	

Kaczmarek, Natalia (POL) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		12.76		24.41		37.11		50.21	50.21	8 / 2							
reaction time 0.152	interval				11.65		12.70		13.10		# of strides	12.76	11.65	12.70	13.10	24.41	25.80	1.39
	velocity		7.84		8.58		7.87		7.63	7.97	197.5	7.84	8.58	7.87	7.63	8.19	7.75	

Richards, Sanya (USA) (1985)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)																*USATF Women's Sprint Development (2004)*
date 12-Jul-04	time		11.98		23.66		36.43	42.92	50.22	50.22	6 / 1							
reaction time	interval				11.68		12.77	6.49	7.30		# of strides	11.98	11.68	12.77	13.79	23.66	26.56	2.90
	velocity		8.35		8.56		7.83	7.70	6.85	7.96	193.7	8.35	8.56	7.83	7.25	8.45	7.53	

Francis, Phyllis (USA) (1992)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT)																*Yamanaka (2019) - race analysis of men and women 400m competition*
date 01-Oct-19	time	6.82	12.33	17.95	23.93	30.15	36.65	43.26	50.22	50.22	5 / 2							
reaction time 0.218	interval		5.51	5.62	5.98	6.22	6.50	6.61	6.96		# of strides	12.33	11.60	12.72	13.57	23.93	26.29	2.36
	velocity	7.33	9.07	8.90	8.36	8.04	7.69	7.56	7.18	7.96	175.5	8.11	8.62	7.86	7.37	8.36	7.61	

Diggs, Talitha (USA) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 USATF National Championships (Eugene, OR)																*Track Newsletter (2022) - USATF championships women*
date 25-Jun-22	time		12.39		24.38		36.85		50.22	50.22	6 / 1							
reaction time	interval				11.99		12.47		13.37		# of strides	12.39	11.99	12.47	13.37	24.38	25.84	1.46
	velocity		8.07		8.34		8.02		7.48	7.96	194.0	8.07	8.34	8.02	7.48	8.20	7.74	

McLeod, Candice (JAM) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																*Omega Timing (2022) - diamond league race analysis*
date 06-Aug-22	time	6.83	12.46	18.27	24.29	30.41	36.65	43.14	50.22	50.22	7 / 3							
reaction time 0.183	interval		5.63	5.81	6.02	6.12	6.24	6.49	7.08		# of strides	12.46	11.83	12.36	13.57	24.29	25.93	1.64
	velocity	7.32	8.88	8.61	8.31	8.17	8.01	7.70	7.06	7.96	199.0	8.03	8.45	8.09	7.37	8.23	7.71	

Miles-Clark, Jearl (USA) (1966)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 USA Olympic Trials (Sacramento, CA)																*Hymans (2008) - history of the US olympic trials - track and field*
date 16-Jul-00	time		12.5		24.2		36.4		50.23	50.23	5 / 2							
reaction time	interval				11.7		12.2		13.8		# of strides	12.50	11.70	12.20	13.83	24.20	26.03	1.83
	velocity		8.00		8.55		8.20		7.23	7.96		8.00	8.55	8.20	7.23	8.26	7.68	

Okolo, Courtney (USA) (1994)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 NCAA Championships (Eugene, OR)																*Track Newsletter (2014) - NCAA women's championships*
date 13-Jun-14	time				24.1		36.8		50.2	50.23	4 / 1							
reaction time	interval						12.70		13.40		# of strides			12.70	13.40	24.10	26.10	2.00
	velocity				8.30		7.87		7.46	7.96				7.87	7.46	8.30	7.66	

Klaver, Lieke (NED) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Herculis Meeting International d'Athlétisme (Monaco, MON)																*Omega Timing (2025) - diamond league race analysis*
date 11-Jul-25	time	6.63	12.16	17.85	23.81	30.04	36.45	43.10	50.23	50.23	3 / 5							
reaction time 0.193	interval		5.53	5.69	5.96	6.23	6.41	6.65	7.13		# of strides	12.16	11.65	12.64	13.78	23.81	26.42	2.61
	velocity	7.54	9.04	8.79	8.39	8.03	7.80	7.52	7.01	7.96	182.5	8.22	8.58	7.91	7.26	8.40	7.57	

Klaver, Lieke (NED) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Weltklasse (Zürich, SUI)																*Omega Timing (2025) - diamond league race analysis*
date 28-Aug-25	time	6.64	12.00	17.56	23.32	29.42	35.92	42.80	50.23	50.23	2 / 7							
reaction time 0.211	interval		5.36	5.56	5.76	6.10	6.50	6.88	7.43		# of strides	12.00	11.32	12.60	14.31	23.32	26.91	3.59
	velocity	7.53	9.33	8.99	8.68	8.20	7.69	7.27	6.73	7.96		8.33	8.83	7.94	6.99	8.58	7.43	

Holland, Maree (AUS) (1963)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)																*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	25-Sep-88	time	12.43	24.40	36.99	50.24	50.24	/ 3									
reaction time		interval		11.97	12.59	13.25	PB	# of strides	12.43	11.97	12.59	13.25	24.40	25.84	1.44		
		velocity	8.05	8.35	7.94	7.55	7.96		8.05	8.35	7.94	7.55	8.20	7.74			

Wineberg, Mary (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)																	*Track Newsletter (2007) - USATF women's championships*
date 23-Jun-07	time			24.0		36.3		50.2	50.24	6 / 3							
reaction time	interval					12.30		13.90	PB	# of strides			12.30	13.90	24.00	26.20	2.20
	velocity			8.33		8.13		7.19	7.96	183.5			8.13	7.19	8.33	7.63	

Kapachinskaya, Anastasiya (RUS) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 IAAF World Championships (Daegu, KOR)																	*Butler (2013) - IAAF world athletic results 2008-2011 full results*
date 29-Aug-11	time			23.8		36.3		50.24	50.24	6 / 3							
reaction time 0.209	interval					12.5		13.9		# of strides					23.80	26.44	2.64
	velocity			8.40		8.00		7.17	7.96	194.0					8.40	7.56	

Seyni, Aminatou (NIG) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																	*Omega Timing (2019) - diamond league race analysis*
date 16-Jun-19	time	12.8		24.5		37.1		50.24	50.24	3 / 2							
reaction time 0.219	interval			11.7		12.6		13.1	NR	# of strides	12.80	11.70	12.60	13.14	24.50	25.74	1.24
	velocity	7.81		8.55		7.94		7.61	7.96	195.0	7.81	8.55	7.94	7.61	8.16	7.77	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Weltklasse (Zürich, SUI)																	*Omega Timing (2019) - diamond league race analysis*
date 29-Aug-19	time	6.9	12.3	18.0	23.9	30.1	36.5	43.3	50.24	50.24	4 / 1						
reaction time 0.145	interval		5.4	5.7	5.9	6.2	6.4	6.8	6.9		# of strides	12.30	11.60	12.60	13.74	23.90	26.34	2.44
	velocity	7.25	9.26	8.77	8.47	8.06	7.81	7.35	7.20	7.96	184.0	8.13	8.62	7.94	7.28	8.37	7.59	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 09-Sep-21	time	6.8	12.5	18.4	24.4	30.4	36.7	43.2	50.24	50.24	6 / 3						
reaction time 0.164	interval		5.70	5.90	6.00	6.00	6.30	6.50	7.04		# of strides	12.50	11.90	12.30	13.54	24.40	25.84	1.44
	velocity	7.35	8.77	8.47	8.33	8.33	7.94	7.69	7.10	7.96	188.5	8.00	8.40	8.13	7.39	8.20	7.74	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting de Paris (Paris, FRA)																	*Omega Timing (2022) - diamond league race analysis*
date 18-Jun-22	time	6.79	12.37	18.02	23.99	30.27	36.77	43.39	50.24	50.24	5 / 2						
reaction time 0.162	interval		5.58	5.65	5.97	6.28	6.50	6.62	6.85		# of strides	12.37	11.62	12.78	13.47	23.99	26.25	2.26
	velocity	7.36	8.96	8.85	8.38	7.96	7.69	7.55	7.30	7.96	93.0	8.08	8.61	7.82	7.42	8.34	7.62	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		12.29		24.06		36.90		50.24	50.24	2 / 3						
reaction time 0.161	interval				11.77		12.84		13.34	NR PB	# of strides	12.29	11.77	12.84	13.34	24.06	26.18	2.12
	velocity		8.14		8.50		7.79		7.50	7.96	184.0	8.14	8.50	7.79	7.50	8.31	7.64	

Leatherwood, Lillie (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)																	*Adams (1984) - 1984 olympic games - 200m & 400m*
date 06-Aug-84	time			24.4				50.25	50.25	8 / 5							
reaction time 0.260	interval							25.85		# of strides					24.40	25.85	1.45
	velocity			8.20				7.74	7.96						8.20	7.74	

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 USATF National Championships (Eugene, OR)																	*Track Newsletter (2015) - USATF women's championships*
date 27-Jun-15	time			23.9		36.6		50.2	50.25	/ 2							
reaction time	interval					12.7		13.6		# of strides			12.70	13.60	23.90	26.30	2.40
	velocity			8.37		7.87		7.35	7.96				7.87	7.35	8.37	7.60	

Ellis-Watson, Taylor (USA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (2016) - US olympic trials women*
date 03-Jul-16	time		12.10		24.1		36.6		50.3	50.25	3 / 4						
reaction time 0.602	interval				12.00		12.50		13.70	PB	# of strides	12.10	12.00	12.50	13.70	24.10	26.20	2.10
	velocity		8.26		8.33		8.00		7.30	7.96		8.26	8.33	8.00	7.30	8.30	7.63	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 09-Sep-21	time	6.8	12.4	18.2	24.1	30.1	36.5	43.2	50.25	50.25	4 / 4						
reaction time 0.130	interval		5.60	5.80	5.90	6.00	6.40	6.70	7.05		# of strides	12.40	11.70	12.40	13.75	24.10	26.15	2.05
	velocity	7.35	8.93	8.62	8.47	8.33	7.81	7.46	7.09	7.96	187.2	8.06	8.55	8.06	7.27	8.30	7.65	

Wilson, Britton (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 USATF Championships (Eugene, OR)																	*USATF and Karmarush (2025) - USATF championships results and race analysis*
date 01-Aug-25	time		12.51		24.27		36.80		50.25	50.25	5 / 2						
reaction time	interval				11.76		12.53		13.45		# of strides	12.51	11.76	12.53	13.45	24.27	25.98	1.71
	velocity		7.99		8.50		7.98		7.43	7.96		7.99	8.50	7.98	7.43	8.24	7.70	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 16-Sep-25	time		12.14		23.63		36.37		50.25	50.25	8 / 4						
reaction time 0.243	interval				11.49		12.74		13.88		# of strides	12.14	11.49	12.74	13.88	23.63	26.62	2.99
	velocity		8.24		8.70		7.85		7.20	7.96		8.24	8.70	7.85	7.20	8.46	7.51	

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2019) - diamond league race analysis*
date 06-Jun-19	time		12.6		24.4		36.7		50.26	50.26	5 / 1						
reaction time 0.178	interval				11.8		12.3		13.6		# of strides	12.60	11.80	12.30	13.56	24.40	25.86	1.46

		velocity		7.94		8.47		8.13		7.37	7.96	188.0	7.94	8.47	8.13	7.37	8.20	7.73	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Meeting de Paris (Paris, FRA)																	
date 20-Jun-25 time	6.48	11.86	17.45	23.30	29.42	35.88	42.69	50.26	50.26	3 / 7							
reaction time 0.195 interval		5.38	5.59	5.85	6.12	6.46	6.81	7.57		# of strides	11.86	11.44	12.58	14.38	23.30	26.96	3.66
velocity	7.72	9.29	8.94	8.55	8.17	7.74	7.34	6.61	7.96		8.43	8.74	7.95	6.95	8.58	7.42	

Omega Timing (2025) - diamond league race analysis

Ogunkoya, Falilat (NGR) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 IAAF World Championships (Athens, GRE)																	
date 04-Aug-97 time	6.58	12.30	17.94	23.70	29.78	35.98	42.74	50.14	50.27	3 / 5							
reaction time 0.126 interval		5.72	5.64	5.76	6.08	6.20	6.76	7.40		# of strides	12.30	11.40	12.28	14.16	23.70	26.44	2.74
velocity	7.60	8.74	8.87	8.68	8.22	8.06	7.40	6.76	7.96		8.13	8.77	8.14	7.06	8.44	7.56	

Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997

Thimm, Ute (FRG) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)																	
date 25-Sep-88 time		12.07		23.80		36.15		50.28	50.28	6 / 6							
reaction time interval				11.73		12.35		14.13	PB	# of strides	12.07	11.73	12.35	14.13	23.80	26.48	2.68
velocity		8.29		8.53		8.10		7.08	7.96		8.29	8.53	8.10	7.08	8.40	7.55	

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																	
date 17-Jul-04 time		12.43		24.19	30.45	36.77	43.06	50.28	50.28	4 / 3							
reaction time interval				11.76	6.26	6.32	6.29	7.22	PB	# of strides	12.43	11.76	12.58	13.51	24.19	26.09	1.90
velocity		8.05		8.50	7.99	7.91	7.95	6.93	7.96		8.05	8.50	7.95	7.40	8.27	7.67	

USATF Women's Sprint Development (2004)

Zaytseva, Olga (RUS) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 European Championships (Göteborg, SWE)																	
date 10-Aug-06 time				23.3		35.6		50.28	50.28	/ 3							
reaction time interval						12.30		14.68		# of strides			12.30	14.68	23.30	26.98	3.68
velocity				8.58		16.26		6.81	7.96				8.13	6.81	8.58	7.41	

Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles

Kielbasinska, Anna (POL) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting de Paris (Paris, FRA)																	
date 18-Jun-22 time	6.54	12.16	17.92	23.86	30.05	36.52	43.18	50.28	50.28	6 / 3							
reaction time 0.165 interval		5.62	5.76	5.94	6.19	6.47	6.66	7.10	PB	# of strides	12.16	11.70	12.66	13.76	23.86	26.42	2.56
velocity	7.65	8.90	8.68	8.42	8.08	7.73	7.51	7.04	7.96	194.0	8.22	8.55	7.90	7.27	8.38	7.57	

Omega Timing (2022) - diamond league race analysis

Weil, Martina (CHI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Kamila Skolimowska Memorial (Chorzów, POL)																	
date 16-Aug-25 time	6.87	12.59	18.36	24.36	30.35	36.67	43.28	50.28	50.28	2 / 7							
reaction time 0.160 interval		5.72	5.77	6.00	5.99	6.32	6.61	7.00		# of strides	12.59	11.77	12.31	13.61	24.36	25.92	1.56
velocity	7.28	8.74	8.67	8.33	8.35	7.91	7.56	7.14	7.96		7.94	8.50	8.12	7.35	8.21	7.72	

Omega Timing (2025) - diamond league race analysis

Payne-Wiggins, Marita (CAN) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)																	
date 25-Sep-88 time		12.15		23.92		36.81		50.29	50.29	1 / 7							
reaction time interval				11.77		12.89		13.48		# of strides	12.15	11.77	12.89	13.48	23.92	26.37	2.45
velocity		8.23		8.50		7.76		7.42	7.95		8.23	8.50	7.76	7.42	8.36	7.58	

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

Collins, Michelle (USA) (1971)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 USA Olympic Trials (Sacramento, CA)																	
date 16-Jul-00 time		12.3		23.5		35.7		50.29	50.29	4 / 3							
reaction time interval				11.2		12.2		14.6		# of strides	12.30	11.20	12.20	14.59	23.50	26.79	3.29
velocity		8.13		8.93		8.20		6.85	7.95		8.13	8.93	8.20	6.85	8.51	7.47	

Hymans (2008) - history of the US olympic trials - track and field

Kielbasinska, Anna (POL) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 European Athletics Championships (Munich, GER)																	
date 17-Aug-22 time		12.39		24.21		36.90		50.29	50.29	4 / 3							
reaction time 0.225 interval				11.82		12.69		13.39		# of strides	12.39	11.82	12.69	13.39	24.21	26.08	1.87
velocity		8.07		8.46		7.88		7.47	7.95	194.0	8.07	8.46	7.88	7.47	8.26	7.67	

European Athletics (2022) - european athletics championships race analysis

Thomas, Gabrielle (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF New York City Grand Prix (Randalls Island, NY)																	
date 24-Jun-23 time				23.71				50.29	50.29	4 / 2							
reaction time interval								26.58		# of strides					23.71	26.58	2.87
velocity				8.44				7.52	7.95	177.0					8.44	7.52	

Track Newsletter (2023) - USATF NYC grand prix

Bolingo, Cynthia (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)																	
date 20-Aug-23 time		12.45		24.08		36.84		50.29	50.29	2 / 2							
reaction time 0.187 interval				11.63		12.76		13.45		# of strides	12.45	11.63	12.76	13.45	24.08	26.21	2.13
velocity		8.03		8.60		7.84		7.43	7.95	192.0	8.03	8.60	7.84	7.43	8.31	7.63	

Seiko Timing (2023) - world championship race analysis

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																	
date 20-Apr-24 time	6.79	12.41	18.07	24.02	30.21	36.68	43.31	50.29	50.29	6 / 2							
reaction time 0.180 interval		5.62	5.66	5.95	6.19	6.47	6.63	6.98		# of strides	12.41	11.61	12.66	13.61	24.02	26.27	2.25
velocity	7.36	8.90	8.83	8.40	8.08	7.73	7.54	7.16	7.95	193.0	8.06	8.61	7.90	7.35	8.33	7.61	

Omega Timing (2024) - diamond league race analysis

Kapachinskaya, Anastasiya (RUS) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																	
date 16-Aug-09 time		12.37		24.08		36.49		50.30	50.30	6 / 3							
reaction time 0.247 interval				11.71		12.41		13.81		# of strides	12.37	11.71	12.41	13.81	24.08	26.22	2.14
velocity		8.08		8.54		8.06		7.24	7.95	199.0	8.08	8.54	8.06	7.24	8.31	7.63	

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 IAAF World Championships (Moscow, RUS)																	*Track Newsletter (2013) - world championships women*
date 12-Aug-13 time		11.8		23.5		36.1		50.3	50.30	3 / 5							
reaction time 0.163 interval				11.7		12.6		14.2		# of strides	11.80	11.70	12.60	14.20	23.50	26.80	3.30
velocity		8.47		8.55		7.94		7.04	7.95		8.47	8.55	7.94	7.04	8.51	7.46	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Meeting de Paris (Paris, FRA)																	*Omega Timing (2021) - diamond league race analysis*
date 28-Aug-21 time	6.7	12.4	18.3	24.3	30.3	36.5	43.2	50.30	50.30	8 / 2							
reaction time 0.162 interval		5.70	5.90	6.00	6.00	6.20	6.70	7.10		# of strides	12.40	11.90	12.20	13.80	24.30	26.00	1.70
velocity	7.46	8.77	8.47	8.33	8.33	8.06	7.46	7.04	7.95	190.2	8.06	8.40	8.20	7.25	8.23	7.69	

Weil, Martina (CHI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2025) - diamond league race analysis*
date 11-Jul-25 time	6.63	12.08	17.78	23.71	29.82	36.15	42.84	50.30	50.30	8 / 6							
reaction time 0.222 interval		5.45	5.70	5.93	6.11	6.33	6.69	7.46		# of strides	12.08	11.63	12.44	14.15	23.71	26.59	2.88
velocity	7.54	9.17	8.77	8.43	8.18	7.90	7.47	6.70	7.95	185.0	8.28	8.60	8.04	7.07	8.44	7.52	

Hennagan, Monique (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 12-Jul-04 time		12.06		23.62		36.18	42.89	50.31	50.31	5 / 1							
reaction time interval				11.56		12.56	6.71	7.42		# of strides	12.06	11.56	12.56	14.13	23.62	26.69	3.07
velocity		8.29		8.65		7.96	7.45	6.74	7.95		8.29	8.65	7.96	7.08	8.47	7.49	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Anniversary Games (London, GBR)																	*Omega Timing (2018) - diamond league race analysis*
date 22-Jul-18 time		12.3		24.0		36.7		50.31	50.31	5 / 1							
reaction time 0.133 interval				11.7		12.7		13.6		# of strides	12.30	11.70	12.70	13.61	24.00	26.31	2.31
velocity		8.13		8.55		7.87		7.35	7.95	184.5	8.13	8.55	7.87	7.35	8.33	7.60	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																	*Omega Timing (2022) - diamond league race analysis*
date 06-Aug-22 time	6.82	12.48	18.27	24.28	30.32	36.61	43.14	50.31	50.31	5 / 4							
reaction time 0.149 interval		5.66	5.79	6.01	6.04	6.29	6.53	7.17		# of strides	12.48	11.80	12.33	13.70	24.28	26.03	1.75
velocity	7.33	8.83	8.64	8.32	8.28	7.95	7.66	6.97	7.95		8.01	8.47	8.11	7.30	8.24	7.68	

Cheeseborough, Chandra (USA) (195

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1984 Olympic Games (Los Angeles, CA)																	*Dunaway (1984) - another AR for Brisco-Hooks*
date 05-Aug-84 time				24.7				50.32	50.32	5 / 1							
reaction time interval								25.62		# of strides					24.70	25.62	0.92
velocity				8.10				7.81	7.95	193.0					8.10	7.81	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Meeting de Paris (Paris, FRA)																	*Omega Timing (2023) - diamond league race analysis*
date 09-Jun-23 time	6.46	11.84	17.45	23.38	29.64	36.17	42.89	50.32	50.32	7 / 5							
reaction time 0.132 interval		5.38	5.61	5.93	6.26	6.53	6.72	7.43		# of strides	11.84	11.54	12.79	14.15	23.38	26.94	3.56
velocity	7.74	9.29	8.91	8.43	7.99	7.66	7.44	6.73	7.95	183.7	8.45	8.67	7.82	7.07	8.55	7.42	

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Memorial van damme (Brussels, BEL)																	*Omega Timing (2024) - diamond league race analysis*
date 13-Sep-24 time	6.73	12.32	18.09	24.14	30.42	36.88	43.51	50.32	50.32	3 / 2							
reaction time 0.145 interval		5.59	5.77	6.05	6.28	6.46	6.63	6.81		# of strides	12.32	11.82	12.74	13.44	24.14	26.18	2.04
velocity	7.43	8.94	8.67	8.26	7.96	7.74	7.54	7.34	7.95		8.12	8.46	7.85	7.44	8.29	7.64	

McLaughlin-Levrone, Sydney (USA) (

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)																	*Grand Slam Track (2025) - results and splits by race*
date 06-Apr-25 time		12.47		24.10		36.58		50.32	50.32	6 / 1							
reaction time 0.220 interval				11.63		12.48		13.74		# of strides	12.47	11.63	12.48	13.74	24.10	26.22	2.12
velocity		8.02		8.60		8.01		7.28	7.95	185.2	8.02	8.60	8.01	7.28	8.30	7.63	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25 time		12.18		23.81		36.67		50.32	50.32	5 / 1							
reaction time 0.194 interval				11.63		12.86		13.65		# of strides	12.18	11.63	12.86	13.65	23.81	26.51	2.70
velocity		8.21		8.60		7.78		7.33	7.95		8.21	8.60	7.78	7.33	8.40	7.54	

Thiam, Amy Mbacké (SEN) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Sep-07 time		12.10		23.87		36.63		50.33	50.33	1 / 4							
reaction time 0.159 interval				11.77		12.76		13.70		# of strides	12.10	11.77	12.76	13.70	23.87	26.46	2.59
velocity		8.26		8.50		7.84		7.30	7.95		8.26	8.50	7.84	7.30	8.38	7.56	

Antyukh, Natalya (RUS) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)																	*Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics*
date 29-Aug-07 time	6.78	12.19	17.75	23.53	29.58	35.93	42.66	50.33	50.33	5 / 6							
reaction time 0.161 interval		5.41	5.56	5.78	6.05	6.35	6.73	7.67		# of strides	12.19	11.34	12.40	14.40	23.53	26.80	3.27
velocity	7.37	9.24	8.99	8.65	8.26	7.87	7.43	6.52	7.95	185.0	8.20	8.82	8.06	6.94	8.50	7.46	

McCorory, Francena (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 05-Aug-12 time		12.2		23.8		35.8		50.3	50.33	9 / ~~7~~ 6							
reaction time 0.196 interval				11.60		12.00		14.50		# of strides	12.20	11.60	12.00	14.50	23.80	26.50	2.70
velocity		8.20		8.62		8.33		6.90	7.95	189.7	8.20	8.62	8.33	6.90	8.40	7.55	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*

date	22-Jul-22	time	11.87	23.42	36.17	50.33	50.33	8 / 4									
reaction time	0.107	interval		11.55	12.75	14.16		# of strides	11.87	11.55	12.75	14.16	23.42	26.91	3.49		
		velocity	8.42	8.66	7.84	7.06	7.95	189.0	8.42	8.66	7.84	7.06	8.54	7.43			

Bolingo, Cynthia (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 23-Aug-23	time	12.19		23.66		36.30		50.33	50.33	2 / 5							
reaction time 0.190	interval			11.47		12.64		14.03		# of strides	12.19	11.47	12.64	14.03	23.66	26.67	3.01
	velocity	8.20		8.72		7.91		7.13	7.95	195.0	8.20	8.72	7.91	7.13	8.45	7.50	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 23-Aug-23	time	11.96		23.06		35.61		50.33	50.33	5 / 6							
reaction time 0.145	interval			11.10		12.55		14.72		# of strides	11.96	11.10	12.55	14.72	23.06	27.27	4.21
	velocity	8.36		9.01		7.97		6.79	7.95	187.0	8.36	9.01	7.97	6.79	8.67	7.33	

Ford, JaMeesia (USA) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 22-Jun-24	time	12.02		23.50		36.18		50.33	50.33	4 / 4							
reaction time	interval			11.48		12.68		14.15	PB	# of strides	12.02	11.48	12.68	14.15	23.50	26.83	3.33
	velocity	8.32		8.71		7.89		7.07	7.95	184.0	8.32	8.71	7.89	7.07	8.51	7.45	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Kamila Skolimowska Memorial (Chorzów, POL)																	*Omega Timing (2024) - diamond league race analysis*
date 25-Aug-24	time 6.66	12.15	17.84	23.84	30.01	36.48	43.28	50.33	50.33	2 / 6							
reaction time 0.139	interval	5.49	5.69	6.00	6.17	6.47	6.80	7.05		# of strides	12.15	11.69	12.64	13.85	23.84	26.49	2.65
	velocity 7.51	9.11	8.79	8.33	8.10	7.73	7.35	7.09	7.95		8.23	8.55	7.91	7.22	8.39	7.55	

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 USATF Championships (Eugene, OR)																	*USATF and Karmarush (2025) - USATF championships results and race analysis*
date 02-Aug-25	time	12.21		23.98		36.70		50.33	50.33	2 / 5							
reaction time	interval			11.77		12.72		13.63		# of strides	12.21	11.77	12.72	13.63	23.98	26.35	2.37
	velocity	8.19		8.50		7.86		7.34	7.95	187.7	8.19	8.50	7.86	7.34	8.34	7.59	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 15-Jul-04	time	11.99		23.86	30.65	36.67	43.21	50.34	50.34	3 / 1							
reaction time	interval			11.87	6.79	6.02	6.54	7.13		# of strides	11.99	11.87	12.81	13.67	23.86	26.48	2.62
	velocity	8.34		8.42	7.36	8.31	7.65	7.01	7.95	193.0	8.34	8.42	7.81	7.32	8.38	7.55	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time 6.68	12.22	17.93	23.86	30.07	36.63	43.42	50.34	50.34	5 / 1							
reaction time 0.169	interval	5.54	5.71	5.93	6.21	6.56	6.79	6.92		# of strides	12.22	11.64	12.77	13.71	23.86	26.48	2.62
	velocity 7.49	9.03	8.76	8.43	8.05	7.62	7.36	7.23	7.95	185.5	8.18	8.59	7.83	7.29	8.38	7.55	

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 15-Aug-16	time 6.37	11.57	17.05	22.99	29.25	35.71	42.67	50.34	50.34	6 / 4							
reaction time 0.161	interval	5.20	5.48	5.94	6.26	6.46	6.96	7.67		# of strides	11.57	11.42	12.72	14.63	22.99	27.35	4.36
	velocity 7.85	9.62	9.12	8.42	7.99	7.74	7.18	6.52	7.95	194.2	8.64	8.76	7.86	6.84	8.70	7.31	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, First Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 23-Jun-23	time	12.38		23.87		36.84		50.34	50.34	7 / 2							
reaction time 0.223	interval			11.49		12.97		13.50		# of strides	12.38	11.49	12.97	13.50	23.87	26.47	2.60
	velocity	8.08		8.70		7.71		7.41	7.95	192.0	8.08	8.70	7.71	7.41	8.38	7.56	

Ohuruogu, Christine (GBR) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 16-Aug-09	time	12.51		24.43		36.92		50.35	50.35	4 / 2							
reaction time 0.204	interval			11.92		12.49		13.43		# of strides	12.51	11.92	12.49	13.43	24.43	25.92	1.49
	velocity	7.99		8.39		8.01		7.45	7.94	186.0	7.99	8.39	8.01	7.45	8.19	7.72	

Dunn, Debbie (USA) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 18-Aug-09	time	12.19		23.94		36.49		50.35	50.35	1 / 6							
reaction time 0.275	interval			11.75		12.55		13.86		# of strides	12.19	11.75	12.55	13.86	23.94	26.41	2.47
	velocity	8.20		8.51		7.97		7.22	7.94	197.2	8.20	8.51	7.97	7.22	8.35	7.57	

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 USATF National Championships (Eugene, OR)																	*Track Newsletter (2022) - USATF championships women*
date 25-Jun-22	time	12.55		24.29		36.73		50.35	50.35	5 / 2							
reaction time	interval			11.74		12.44		13.62		# of strides	12.55	11.74	12.44	13.62	24.29	26.06	1.77
	velocity	7.97		8.52		8.04		7.34	7.94	190.0	7.97	8.52	8.04	7.34	8.23	7.67	

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time 6.58	11.99	17.65	23.63	29.96	36.44	43.16	50.35	50.35	7 / 2							
reaction time 0.144	interval	5.41	5.66	5.98	6.33	6.48	6.72	7.19		# of strides	11.99	11.64	12.81	13.91	23.63	26.72	3.09
	velocity 7.60	9.24	8.83	8.36	7.90	7.72	7.44	6.95	7.94	178.0	8.34	8.59	7.81	7.19	8.46	7.49	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2025) - diamond league race analysis*
date 15-Jun-25	time 6.70	12.16	17.83	23.69	29.87	36.38	43.12	50.35	50.35	8 / 4							
reaction time 0.200	interval	5.46	5.67	5.86	6.18	6.51	6.74	7.23		# of strides	12.16	11.53	12.69	13.97	23.69	26.66	2.97

		velocity	7.46	9.16	8.82	8.53	8.09	7.68	7.42	6.92	7.94		8.22	8.67	7.88	7.16	8.44	7.50	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2025 World Athletics Championships (Tokyo, JPN)																	
date 14-Sep-25 time		12.52		24.09		36.58		50.35	50.35	5 / 3							
reaction time 0.191 interval				11.57		12.49		13.77		# of strides	12.52	11.57	12.49	13.77	24.09	26.26	2.17
velocity		7.99		8.64		8.01		7.26	7.94		7.99	8.64	8.01	7.26	8.30	7.62	

Seiko Timing (2025) - 2025 World Championships race analysis

Arendt, Helga (FRG) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)																	
date 25-Sep-88 time		12.34		24.00		36.59		50.36	50.36	1 / 4							
reaction time interval				11.66		12.59		13.77	PB	# of strides	12.34	11.66	12.59	13.77	24.00	26.36	2.36
velocity		8.10		8.58		7.94		7.26	7.94		8.10	8.58	7.94	7.26	8.33	7.59	

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 NCAA Championships (Eugene, OR)																	
date 11-Jun-16 time				24.3		36.8		50.4	50.36	4 / 1							
reaction time interval						12.50		13.60		# of strides			12.50	13.60	24.30	26.10	1.80
velocity				8.23		8.00		7.35	7.94				8.00	7.35	8.23	7.66	

Track Newsletter (2016) - NCAA women's championships

Wimbley, Shakima (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championship (Sacramento, CA)																	
date 24-Jun-17 time		12.36		23.82		36.64		50.36	50.36	5 / 5							
reaction time interval				11.46		12.82		13.72	PB	# of strides	12.36	11.46	12.82	13.72	23.82	26.54	2.72
velocity		8.24		8.73		8.12		7.24	7.94		8.09	8.73	7.80	7.29	8.40	7.54	

Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/

Miller-Uibo, Shaunae (BAH) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	
date 07-Aug-17 time		11.93		23.58		36.12	42.85	50.20	50.36	5 / 1							
reaction time 0.161 interval				11.65		12.54	6.73	7.35		# of strides	11.93	11.65	12.54	14.08	23.58	26.62	3.04
velocity		8.38		8.58		7.97	7.43	6.80	7.94	180.2	8.38	8.58	7.97	7.10	8.48	7.51	

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 World Athletics Championships (Eugene, OR)																	
date 22-Jul-22 time		12.36		23.98		36.52		50.36	50.36	2 / 5							
reaction time 0.131 interval				11.62		12.54		13.84		# of strides	12.36	11.62	12.54	13.84	23.98	26.38	2.40
velocity		8.09		8.61		7.97		7.23	7.94		8.09	8.61	7.97	7.23	8.34	7.58	

Timing by Seiko (2022) - world athletics championships race analysis

Nielsen, Laviai (GBR) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 Olympic Games (Paris, FRA)																	
date 05-Aug-24 time	6.69	12.32	18.12	24.15	30.29	36.62	43.26	50.36	50.36	7 / 2							
reaction time 0.167 interval		5.63	5.80	6.03	6.14	6.33	6.64	7.10		# of strides	12.32	11.83	12.47	13.74	24.15	26.21	2.06
velocity	7.47	8.88	8.62	8.29	8.14	7.90	7.53	7.04	7.94	194.0	8.12	8.45	8.02	7.28	8.28	7.63	

Paris 2024 Olympic Games - Results Book (2024)

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)																	
date 02-May-25 time		12.12		24.00		36.74		50.36	50.36	5 / 3							
reaction time 0.180 interval				11.88		12.74		13.62		# of strides	12.12	11.88	12.74	13.62	24.00	26.36	2.36
velocity		8.25		8.42		7.85		7.34	7.94	187.0	8.25	8.42	7.85	7.34	8.33	7.59	

Grand Slam Track (2025) - results and splits by race

Hemida, Bassant (EGY) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2025 World Athletics Championships (Tokyo, JPN)																	
date 14-Sep-25 time		12.22		23.75		36.35		50.36	50.36	8 / 3							
reaction time 0.191 interval				11.53		12.60		14.01	NR PB	# of strides	12.22	11.53	12.60	14.01	23.75	26.61	2.86
velocity		8.18		8.67		7.94		7.14	7.94	194.0	8.18	8.67	7.94	7.14	8.42	7.52	

Seiko Timing (2025) - 2025 World Championships race analysis

Thimm, Ute (FRG) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)																	
date 06-Aug-84 time				24.9				50.37	50.37	1 / 6							
reaction time 0.215 interval								25.47		# of strides					24.90	25.47	0.57
velocity				8.03				7.85	7.94						8.03	7.85	

Adams (1984) - 1984 olympic games - 200m & 400m

Amertil, Christine (BAH) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 Olympic Games (Athens, GRE)																	
date 24-Aug-04 time		12.1		24.0		36.4		50.4	50.37	8 / 7							
reaction time 0.276 interval				11.9		12.4		14.0		# of strides	12.10	11.90	12.40	14.00	24.00	26.40	2.40
velocity		8.26		8.40		8.06		7.14	7.94		8.26	8.40	8.06	7.14	8.33	7.58	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

Răzor, Bianca (ROU) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2015 IAAF World Championships (Beijing, CHN)																	
date 24-Aug-15 time	6.94	12.63	18.47	24.46	30.55	36.81	43.37	50.37	50.37	9 / 1							
reaction time 0.194 interval		5.69	5.84	5.99	6.09	6.26	6.56	7.00	PB	# of strides	12.63	11.83	12.35	13.56	24.46	25.91	1.45
velocity	7.20	8.79	8.56	8.35	8.21	7.99	7.62	7.14	7.94	191.0	7.92	8.45	8.10	7.37	8.18	7.72	

Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims

McCorory, Francena (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	
date 03-Jul-16 time		12.30		23.9		36.1		50.4	50.37	5 / 5							
reaction time 0.368 interval				11.60		12.20		14.30		# of strides	12.30	11.60	12.20	14.30	23.90	26.50	2.60
velocity		8.13		8.62		8.20		6.99	7.94		8.13	8.62	8.20	6.99	8.37	7.55	

Track Newsletter (2016) - US olympic trials women

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	
date 07-Aug-17 time		11.91		23.19		35.96	42.94	50.18	50.37	5 / 1							
reaction time 0.187 interval				11.28		12.77	6.98	7.24		# of strides	11.91	11.28	12.77	14.22	23.19	26.99	3.80
velocity		8.40		8.87		7.83	7.16	6.91	7.94	179.2	8.40	8.87	7.83	7.03	8.62	7.41	

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 USATF National Championships (Des Moines, IA)																	*Track Newsletter (2018) - USATF championships women*
date 23-Jun-18 time				24.5		36.9		50.4	50.37	/ 3							
reaction time interval						12.40		13.50		# of strides			12.40	13.50	24.50	25.90	1.40
velocity				8.16		8.06		7.41	7.94				8.06	7.41	8.16	7.72	

McLeod, Candice (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		12.46		24.01		36.60		50.37	50.37	4 / 3							
reaction time 0.190 interval				11.55		12.59		13.77		# of strides	12.46	11.55	12.59	13.77	24.01	26.36	2.35
velocity		8.03		8.66		7.94		7.26	7.94	198.0	8.03	8.66	7.94	7.26	8.33	7.59	

Williams, Stacey-Ann (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Kingston (Kingston, JAM)																	*Grand Slam Track (2025) - results and splits by race*
date 05-Apr-25 time		12.50		24.12		36.41		50.37	50.37	8 / 5							
reaction time 0.200 interval				11.62		12.29		13.96		# of strides	12.50	11.62	12.29	13.96	24.12	26.25	2.13
velocity		8.00		8.61		8.14		7.16	7.94		8.00	8.61	8.14	7.16	8.29	7.62	

Breuer, Grit (GER) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 European Cup (Munich, GER)																	*Jung (2003) - http://www.fgs.uni-halle.de*
date 21-Jun-97 time		12.27		24.02		36.67		50.38	50.38	/ 1							
reaction time interval				11.75		12.65		13.71		# of strides	12.27	11.75	12.65	13.71	24.02	26.36	2.34
velocity		8.15		8.51		7.91		7.29	7.94		8.15	8.51	7.91	7.29	8.33	7.59	

Wiliams-Darling, Tonique (BAH) (197

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)																	*Bonvin (2003) - Compte-rendu 400m et relais 4x 400m*
date 27-Aug-03 time				23.5		36.2		50.38	50.38	4 / 5							
reaction time 0.151 interval						12.7		14.2		# of strides			12.70	14.18	23.50	26.88	3.38
velocity				8.51		7.87		7.05	7.94				7.87	7.05	8.51	7.44	

Robinson, Moushaumi (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Championship (Carson, CA)																	*USATF Women's Sprint Development (2005)*
date 25-Jun-05 time	12.42	18.39	24.58	30.69	36.80	43.33	50.38		50.38	7 / 4							
reaction time interval		5.97	6.19	6.11	6.11	6.53	7.05		PB	# of strides	12.42	12.16	12.22	13.58	24.58	25.80	1.22
velocity	8.05	8.38	8.08	8.18	8.18	7.66	7.09		7.94		8.05	8.22	8.18	7.36	8.14	7.75	

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 USATF National Championships (Des Moines, IA)																	*Track Newsletter (2019) - USATF championships women*
date 27-Jul-19 time				24.0		36.8		50.5	50.38	/ 2							
reaction time interval						12.80		13.70		# of strides			12.80	13.70	24.00	26.50	2.50
velocity				8.33		7.81		7.30	7.94				7.81	7.30	8.33	7.55	

Pryce, Nickisha (JAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		12.30		23.77		36.31		50.38	50.38	9 / 1							
reaction time 0.210 interval				11.47		12.54		14.07		# of strides	12.30	11.47	12.54	14.07	23.77	26.61	2.84
velocity		8.13		8.72		7.97		7.11	7.94	187.5	8.13	8.72	7.97	7.11	8.41	7.52	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																	*Omega Timing (2023) - diamond league race analysis*
date 17-Sep-23 time	6.84	12.51	18.22	24.32	30.58	36.97	43.51	50.38	50.38	6 / 2							
reaction time 0.160 interval		5.67	5.71	6.10	6.26	6.39	6.54	6.87		# of strides	12.51	11.81	12.65	13.41	24.32	26.06	1.74
velocity	7.31	8.82	8.76	8.20	7.99	7.82	7.65	7.28	7.94	193.0	7.99	8.47	7.91	7.46	8.22	7.67	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24 time	6.87	12.42	18.12	24.02	30.13	36.49	43.24	50.38	50.38	9 / 2							
reaction time 0.178 interval		5.55	5.70	5.90	6.11	6.36	6.75	7.14		# of strides	12.42	11.60	12.47	13.89	24.02	26.36	2.34
velocity	7.28	9.01	8.77	8.47	8.18	7.86	7.41	7.00	7.94	189.0	8.05	8.62	8.02	7.20	8.33	7.59	

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)																	*Grand Slam Track (2025) - results and splits by race*
date 02-May-25 time		12.39		24.44		37.24		50.38	50.38	1 / 4							
reaction time 0.530 interval				12.05		12.80		13.14		# of strides	12.39	12.05	12.80	13.14	24.44	25.94	1.50
velocity		8.07		8.30		7.81		7.61	7.94	188.0	8.07	8.30	7.81	7.61	8.18	7.71	

Emmelmann, Kirsten (GDR) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)																	*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*
date 25-Sep-88 time		12.15		23.64		36.45		50.39	50.39	3 / 5							
reaction time interval				11.49		12.81		13.94		# of strides	12.15	11.49	12.81	13.94	23.64	26.75	3.11
velocity		8.23		8.70		7.81		7.17	7.94		8.23	8.70	7.81	7.17	8.46	7.48	

Freeman, Cathy (AUS) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Atlanta Grand Prix (Atlanta, GA)																	*Track Newsletter (1996) - atlanta GP- hot debut for Olympic track*
date 18-May-96 time				24.9		37.3		50.4	50.39	5 / 2							
reaction time interval						12.40		13.10		# of strides			12.40	13.10	24.90	25.50	0.60
velocity				8.03		8.06		7.63	7.94	188.0			8.06	7.63	8.03	7.84	

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (2016) - US olympic trials women*
date 03-Jul-16 time		12.10		24.3		36.6		50.4	50.39	4 / 6							
reaction time 0.271 interval				12.20		12.30		13.80		# of strides	12.10	12.20	12.30	13.80	24.30	26.10	1.80
velocity		8.26		8.20		8.13		7.25	7.94		8.26	8.20	8.13	7.25	8.23	7.66	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Meeting de Paris (Paris, FRA)																	*Omega Timing (2018) - diamond league race analysis*

date	30-Jun-18	time		12.3		24.0		36.9		50.39	50.39	3 / 2						
reaction time	0.216	interval				11.7		12.9		13.5		# of strides	12.30	11.70	12.90	13.49	24.00	26.39	2.39
		velocity		8.13		8.55		7.75		7.41	7.94	186.7	8.13	8.55	7.75	7.41	8.33	7.58	

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2024) - diamond league race analysis*
date 12-Jul-24	time	6.86	12.40	18.06	23.96	30.20	36.61	43.28	50.39	50.39	4 / 3							
reaction time 0.224	interval		5.54	5.66	5.90	6.24	6.41	6.67	7.11		# of strides	12.40	11.56	12.65	13.78	23.96	26.43	2.47
	velocity	7.29	9.03	8.83	8.47	8.01	7.80	7.50	7.03	7.94		8.06	8.65	7.91	7.26	8.35	7.57	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time	6.67	12.11	17.79	23.73	29.87	36.23	43.06	50.39	50.39	2 / 3							
reaction time 0.176	interval		5.44	5.68	5.94	6.14	6.36	6.83	7.33		# of strides	12.11	11.62	12.50	14.16	23.73	26.66	2.93
	velocity	7.50	9.19	8.80	8.42	8.14	7.86	7.32	6.82	7.94		8.26	8.61	8.00	7.06	8.43	7.50	

Weil, Martina (CHI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2025) - diamond league race analysis*
date 15-Jun-25	time	6.58	12.44	18.30	24.33	30.51	36.88	43.43	50.39	50.39	3 / 5							
reaction time 0.162	interval		5.86	5.86	6.03	6.18	6.37	6.55	6.96	NR	# of strides	12.44	11.89	12.55	13.51	24.33	26.06	1.73
	velocity	7.60	8.53	8.53	8.29	8.09	7.85	7.63	7.18	7.94		8.04	8.41	7.97	7.40	8.22	7.67	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 16-Sep-25	time		12.17		23.57		36.10		50.39	50.39	3 / 4							
reaction time 0.185	interval				11.40		12.53		14.29		# of strides	12.17	11.40	12.53	14.29	23.57	26.82	3.25
	velocity		8.22		8.77		7.98		7.00	7.94	194.0	8.22	8.77	7.98	7.00	8.49	7.46	

Williams, Stacey-Ann (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 16-Sep-25	time		12.12		23.61		36.13		50.39	50.39	7 / 5							
reaction time 0.191	interval				11.49		12.52		14.26		# of strides	12.12	11.49	12.52	14.26	23.61	26.78	3.17
	velocity		8.25		8.70		7.99		7.01	7.94		8.25	8.70	7.99	7.01	8.47	7.47	

Howard, Sherri (USA) (1962)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 USA Olympic Trials (Los Angeles, CA)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 19-Jun-84	time				23.5				50.4	50.40	8 / 4							
reaction time	interval								26.9		# of strides					23.50	26.90	3.40
	velocity				8.51				7.43	7.94						8.51	7.43	

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championship (Indianapolis, IN)																	*USATF Women's Sprint Development (2006)*
date 24-Jun-06	time		12.12	17.58	24.07	30.01	36.24	43.01	50.40	50.40	6 / 2							
reaction time	interval			5.46	6.49	5.94	6.23	6.77	7.39		# of strides	12.12	11.95	12.17	14.16	24.07	26.33	2.26
	velocity		8.25	9.16	7.70	8.42	8.03	7.39	6.77	7.94	191.2	8.25	8.37	8.22	7.06	8.31	7.60	

Felix, Allyson (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 USATF National Championships (Eugene, OR)																	*Track Newsletter (2011) - USATF women's championships*
date 25-Jun-11	time		12.1		24.2		37.0		50.4	50.40	/ 1							
reaction time	interval				12.10		12.80		13.40		# of strides	12.10	12.10	12.80	13.40	24.20	26.20	2.00
	velocity		8.26		8.26		7.81		7.46	7.94		8.26	8.26	7.81	7.46	8.26	7.63	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21	time	6.9	12.5	18.2	24.2	30.2	36.6	43.3	50.40	50.40	6 / 1							
reaction time 0.189	interval		5.60	5.70	6.00	6.00	6.40	6.70	7.10		# of strides	12.50	11.70	12.40	13.80	24.20	26.20	2.00
	velocity	7.25	8.93	8.77	8.33	8.33	7.81	7.46	7.04	7.94	177.0	8.00	8.55	8.06	7.25	8.26	7.63	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 16-Aug-22	time		12.48		24.15		36.99		50.40	50.40	6 / 1							
reaction time 0.200	interval				11.67		12.84		13.41		# of strides	12.48	11.67	12.84	13.41	24.15	26.25	2.10
	velocity		8.01		8.57		7.79		7.46	7.94	194.2	8.01	8.57	7.79	7.46	8.28	7.62	

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bislett Games (Oslo, NOR)																	*Omega Timing (2024) - diamond league race analysis*
date 30-May-24	time	6.69	12.15	17.79	23.66	29.85	36.34	43.11	50.40	50.40	8 / 3							
reaction time 0.154	interval		5.46	5.64	5.87	6.19	6.49	6.77	7.29		# of strides	12.15	11.51	12.68	14.06	23.66	26.74	3.08
	velocity	7.47	9.16	8.87	8.52	8.08	7.70	7.39	6.86	7.94	185.2	8.23	8.69	7.89	7.11	8.45	7.48	

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 07-Aug-24	time	6.79	12.39	18.13	24.02	30.22	36.64	43.19	50.40	50.40	2 / 4							
reaction time 0.215	interval		5.60	5.74	5.89	6.20	6.42	6.55	7.21		# of strides	12.39	11.63	12.62	13.76	24.02	26.38	2.36
	velocity	7.36	8.93	8.71	8.49	8.06	7.79	7.63	6.93	7.94	183.2	8.07	8.60	7.92	7.27	8.33	7.58	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 14-Sep-08	time		12.44		24.64		37.16		50.41	50.41	5 / 1							
reaction time 0.173	interval				12.20		12.52		13.25		# of strides	12.44	12.20	12.52	13.25	24.64	25.77	1.13
	velocity		8.04		8.20		7.99		7.55	7.93		8.04	8.20	7.99	7.55	8.12	7.76	

Jackson, Shericka (JAM) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time	6.70	12.29	18.00	23.93	30.20	36.66	43.39	50.41	50.41	5 / 2							
reaction time 0.183	interval		5.59	5.71	5.93	6.27	6.46	6.73	7.02		# of strides	12.29	11.64	12.73	13.75	23.93	26.48	2.55

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.46	8.94	8.76	8.43	7.97	7.74	7.43	7.12	7.93	191.0	8.14	8.59	7.86	7.27	8.36	7.55	

Francis, Phyllis (USA) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																			
date	15-Aug-16	time	6.74	12.24	17.93	23.78	29.94	36.40	43.14	50.41	50.41	3 / 5							
reaction time	0.219	interval		5.50	5.69	5.85	6.16	6.46	6.74	7.27		# of strides	12.24	11.54	12.62	14.01	23.78	26.63	2.85
		velocity	7.42	9.09	8.79	8.55	8.12	7.74	7.42	6.88	7.93	176.2	8.17	8.67	7.92	7.14	8.41	7.51	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Kaczmarek, Natalia (POL) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)																			
date	02-Jun-23	time	6.74	12.33	19.97	23.93	30.12	36.60	43.35	50.41	50.41	4 / 1							
reaction time	0.142	interval		5.59	7.64	3.96	6.19	6.48	6.75	7.06		# of strides	12.33	11.60	12.67	13.81	23.93	26.48	2.55
		velocity	7.42	8.94	6.54	12.63	8.08	7.72	7.41	7.08	7.93	194.0	8.11	8.62	7.89	7.24	8.36	7.55	

Omega Timing (2023) - diamond league race analysis

Effiong, Rosey (USA) (2001)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)																			
date	08-Jul-23	time		12.20		23.81		36.44		50.41	50.41	6 / 5							
reaction time	0.197	interval				11.61		12.63		13.97		# of strides	12.20	11.61	12.63	13.97	23.81	26.60	2.79
		velocity		8.20		8.61		7.92		7.16	7.93	194.7	8.20	8.61	7.92	7.16	8.40	7.52	

Track Newsletter (2023) - USATF championships/WCT women

McPherson, Stephenie (JAM) (1988)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 IAAF World Championships (Beijing, CHN)																			
date	27-Aug-15	time	6.78	12.41	18.18	24.27	30.36	36.58	43.19	50.42	50.42	9 / 5							
reaction time	0.150	interval		5.63	5.77	6.09	6.09	6.22	6.61	7.23		# of strides	12.41	11.86	12.31	13.84	24.27	26.15	1.88
		velocity	7.37	8.88	8.67	8.21	8.21	8.04	7.56	6.92	7.93		8.06	8.43	8.12	7.23	8.24	7.65	

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

Holmes, Alexis (USA) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 USATF Championships (Eugene, OR)																			
date	01-Aug-25	time		12.31		24.23		36.93		50.42	50.42	7 / 3							
reaction time		interval				11.92		12.70		13.49		# of strides	12.31	11.92	12.70	13.49	24.23	26.19	1.96
		velocity		8.12		8.39		7.87		7.41	7.93		8.12	8.39	7.87	7.41	8.25	7.64	

USATF and Karmarush (2025) - USATF championships results and race analysis

McCorory, Francena (USA) (1988)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)																			
date	24-Jun-12	time				23.5		36.0		50.43	50.43	6 / 3							
reaction time	0.259	interval						12.50		14.43		# of strides			12.50	14.43	23.50	26.93	3.43
		velocity				8.51		8.00		6.93	7.93				8.00	6.93	8.51	7.43	

Hymans (2020) - history of the US olympic trials - track and field

Brossier, Amandine (FRA) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																			
date	12-Jul-24	time	6.81	12.35	18.07	24.03	30.20	36.51	43.20	50.43	50.43	7 / 4							
reaction time	0.197	interval		5.54	5.72	5.96	6.17	6.31	6.69	7.23	PB	# of strides	12.35	11.68	12.48	13.92	24.03	26.40	2.37
		velocity	7.34	9.03	8.74	8.39	8.10	7.92	7.47	6.92	7.93	203.0	8.10	8.56	8.01	7.18	8.32	7.58	

Omega Timing (2024) - diamond league race analysis

Richards, Sandie (JAM) (1968)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1993 IAAF World Championships (Stuttgart, GER)																			
date	17-Aug-93	time		12.23		23.77		36.51		50.44	50.44	4 / 3							
reaction time		interval				11.54		12.74		13.93		# of strides	12.23	11.54	12.74	13.93	23.77	26.67	2.90
		velocity		8.18		8.67		7.85		7.18	7.93		8.18	8.67	7.85	7.18	8.41	7.50	

Grgic (2019) - final result prediction in female 400m track event based on results achieved at certain race segments

Sanders, Nicola (GBR) (1982)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)																			
date	23-Sep-07	time		12.59		24.40		36.69		50.44	50.44	3 / 5							
reaction time	0.177	interval				11.81		12.29		13.75		# of strides	12.59	11.81	12.29	13.75	24.40	26.04	1.64
		velocity		7.94		8.47		8.14		7.27	7.93		7.94	8.47	8.14	7.27	8.20	7.68	

Graubner (2007) - http://www.fgs.uni-halle.de

Jonathas, Wadeline (USA) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 USATF National Championships (Des Moines, IA)																			
date	27-Jul-19	time				24.1		36.8		50.4	50.44	/ 3							
reaction time		interval						12.70		13.60	PB	# of strides			12.70	13.60	24.10	26.30	2.20
		velocity				8.30		7.87		7.35	7.93				7.87	7.35	8.30	7.60	

Track Newsletter (2019) - USATF championships women

McPherson, Stephenie (JAM) (1988)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																			
date	13-Jun-21	time	6.8	12.2	17.9	23.7	29.8	36.4	43.1	50.44	50.44	4 / 1							
reaction time	0.136	interval		5.40	5.70	5.80	6.10	6.60	6.70	7.34		# of strides	12.20	11.50	12.70	14.04	23.70	26.74	3.04
		velocity	7.35	9.26	8.77	8.62	8.20	7.58	7.46	6.81	7.93	188.0	8.20	8.70	7.87	7.12	8.44	7.48	

Omega Timing (2021) - diamond league race analysis

Butler, Aaliyah (USA) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)																			
date	21-Jun-24	time		12.05		23.59		36.48		50.44	50.44	3 / 1							
reaction time		interval				11.54		12.89		13.96		# of strides	12.05	11.54	12.89	13.96	23.59	26.85	3.26
		velocity		8.30		8.67		7.76		7.16	7.93	191.0	8.30	8.67	7.76	7.16	8.48	7.45	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Ellis, Kendall (USA) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 4 - 2024 Olympic Games (Paris, FRA)																			
date	06-Aug-24	time	6.79	12.33	18.12	24.09	30.28	36.66	43.22	50.44	50.44	8 / 1							
reaction time	0.203	interval		5.54	5.79	5.97	6.19	6.38	6.56	7.22		# of strides	12.33	11.76	12.57	13.78	24.09	26.35	2.26
		velocity	7.36	9.03	8.64	8.38	8.08	7.84	7.62	6.93	7.93	185.0	8.11	8.50	7.96	7.26	8.30	7.59	

Paris 2024 Olympic Games - Results Book (2024)

Klaver, Lieke (NED) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																			
date	07-Aug-24	time	6.62	12.01	17.53	23.33	29.45	35.96	42.86	50.44	50.44	6 / 4							
reaction time	0.151	interval		5.39	5.52	5.80	6.12	6.51	6.90	7.58		# of strides	12.01	11.32	12.63	14.48	23.33	27.11	3.78
		velocity	7.55	9.28	9.06	8.62	8.17	7.68	7.25	6.60	7.93	188.0	8.33	8.83	7.92	6.91	8.57	7.38	

Paris 2024 Olympic Games - Results Book (2024)

Butler, Aaliyah (USA) (2003)
Heat 2 - 2025 World Athletics Championships (Tokyo, JPN)
Seiko Timing (2025) - 2025 World Championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.03		23.70		36.24		50.44	50.44	6 / 3							
reaction time	0.186	interval				11.67		12.54		14.20		# of strides	12.03	11.67	12.54	14.20	23.70	26.74	3.04
		velocity		8.31		8.57		7.97		7.04	7.93		8.31	8.57	7.97	7.04	8.44	7.48	

Crooks, Charmaine (CAN) (1962)
FINAL - 1984 Olympic Games (Los Angeles, CA)
Adams (1984) - 1984 olympic games - 200m & 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-84	time				24.8				50.45	50.45	3 / 7							
reaction time	0.239	interval								25.65	PB	# of strides					24.80	25.65	0.85
		velocity				8.06				7.80	7.93						8.06	7.80	

Miles-Clark, Jearl (USA) (1966)
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)
USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		12.64		24.43		36.96	43.46	50.45	50.45	3 / 2							
reaction time		interval				11.79		12.53	6.50	6.99		# of strides	12.64	11.79	12.53	13.49	24.43	26.02	1.59
		velocity		7.91		8.48		7.98	7.69	7.15	7.93		7.91	8.48	7.98	7.41	8.19	7.69	

Richards, Sandie (JAM) (1968)
FINAL - 1996 Olympic Games (Atlanta, GA)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-96	time				23.64		36.1		50.45	50.45	7 / 7							
reaction time	0.341	interval						12.46		14.35		# of strides			12.46	14.35	23.64	26.81	3.17
		velocity				8.46		8.03		6.97	7.93				8.03	6.97	8.46	7.46	

Zykina, Olesya (RUS) (1980)
FINAL - 2002 European Championships (Munich, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-02	time		12.20		23.84		36.62		50.45	50.45	3 / 1							
reaction time	0.131	interval				11.64		12.78		13.83		# of strides	12.20	11.64	12.78	13.83	23.84	26.61	2.77
		velocity		8.20		8.59		7.82		7.23	7.93		8.20	8.59	7.82	7.23	8.39	7.52	

Sanders, Nicola (GBR) (1982)
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-09	time		12.13		23.79		36.19		50.45	50.45	6 / 4							
reaction time	0.160	interval				11.66		12.40		14.26		# of strides	12.13	11.66	12.40	14.26	23.79	26.66	2.87
		velocity		8.24		8.58		8.06		7.01	7.93	194.0	8.24	8.58	8.06	7.01	8.41	7.50	

McCorory, Francena (USA) (1988)
FINAL - 2011 IAAF World Championships (Daegu, KOR)
Butler (2013) - IAAF world athletic results 2008-2011 full results

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Aug-11	time				23.7		36.1		50.45	50.45	5 / 4							
reaction time	0.198	interval						12.4		14.4		# of strides			12.40	14.35	23.70	26.75	3.05
		velocity				8.44		8.06		6.97	7.93	185.0			8.06	6.97	8.44	7.48	

Kiełbasińska, Anna (POL) (1990)
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		12.17		23.90		36.72		50.45	50.45	3 / 1							
reaction time	0.203	interval				11.73		12.82		13.73		# of strides	12.17	11.73	12.82	13.73	23.90	26.55	2.65
		velocity		8.22		8.53		7.80		7.28	7.93	194.0	8.22	8.53	7.80	7.28	8.37	7.53	

Irby-Jackson, Lynna (USA) (1998)
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-23	time	6.60	12.16	18.17	24.33	30.53	36.84	43.36	50.45	50.45	3 / 3							
reaction time	0.155	interval		5.56	6.01	6.16	6.20	6.31	6.52	7.09		# of strides	12.16	12.17	12.51	13.61	24.33	26.12	1.79
		velocity	7.58	8.99	8.32	8.12	8.06	7.92	7.67	7.05	7.93	181.0	8.22	8.22	7.99	7.35	8.22	7.66	

Williams, Sada (BAR) (1997)
Heat 4 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.67	12.20	17.90	23.80	29.93	36.20	43.00	50.45	50.45	5 / 3							
reaction time	0.204	interval		5.53	5.70	5.90	6.13	6.27	6.80	7.45		# of strides	12.20	11.60	12.40	14.25	23.80	26.65	2.85
		velocity	7.50	9.04	8.77	8.47	8.16	7.97	7.35	6.71	7.93	191.0	8.20	8.62	8.06	7.02	8.40	7.50	

Jones, Marion (USA) (1975)
FINAL - 2002 Mt. SAC Relays (Walnut, CA)
Track Newsletter (2002) - Mt. SAC relays, invitational women

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Apr-02	time				23.8		36.5		50.5	50.46	/ 1							
reaction time		interval						12.70		14.00		# of strides			12.70	14.00	23.80	26.70	2.90
		velocity				8.40		7.87		7.14	7.93				7.87	7.14	8.40	7.49	

Hayes, Quanera (USA) (1992)
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-24	time		12.44		23.86		36.37		50.46	50.46	5 / 3							
reaction time		interval				11.42		12.51		14.09		# of strides	12.44	11.42	12.51	14.09	23.86	26.60	2.74
		velocity		8.04		8.76		7.99		7.10	7.93	184.0	8.04	8.76	7.99	7.10	8.38	7.52	

Klaver, Lieke (NED) (1998)
FINAL - 2024 Kamila Skolimowska Memorial (Chorzów, POL)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-24	time	6.66	12.11	17.80	23.78	29.98	36.46	43.21	50.46	50.46	8 / 7							
reaction time	0.135	interval		5.45	5.69	5.98	6.20	6.48	6.75	7.25		# of strides	12.11	11.67	12.68	14.00	23.78	26.68	2.90
		velocity	7.51	9.17	8.79	8.36	8.06	7.72	7.41	6.90	7.93		8.26	8.57	7.89	7.14	8.41	7.50	

Zykina, Olesya (RUS) (1980)
Heat 1 - 2002 European Championships (Munich, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-02	time		12.24		23.74		36.38		50.47	50.47	/ 1							
reaction time	0.134	interval				11.50		12.64		14.09		# of strides	12.24	11.50	12.64	14.09	23.74	26.73	2.99
		velocity		8.17		8.70		7.91		7.10	7.93		8.17	8.70	7.91	7.10	8.42	7.48	

Williams-Mills, Novlene (JAM) (1982)
FINAL - 2015 IAAF World Championships (Beijing, CHN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

date	27-Aug-15	time	6.79	12.37	18.02	23.96	30.13	36.57	43.37	50.47	50.47	2 / 6						
reaction time	0.313	interval		5.58	5.65	5.94	6.17	6.44	6.80	7.10		# of strides	12.37	11.59	12.61	13.90	23.96	26.51	2.55
		velocity	7.36	8.96	8.85	8.42	8.10	7.76	7.35	7.04	7.93		8.08	8.63	7.93	7.19	8.35	7.54	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bislett Games (Oslo, NOR)																	
																	Omega Timing (2018) - diamond league race analysis
date 07-Jun-18	time		12.3		23.8		36.4		50.47	50.47	4 / 2							
reaction time 0.205	interval				11.5		12.6		14.1		# of strides	12.30	11.50	12.60	14.07	23.80	26.67	2.87
	velocity		8.13		8.70		7.94		7.11	7.93	177.0	8.13	8.70	7.94	7.11	8.40	7.50	

Felix, Allyson (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Meeting de Paris (Paris, FRA)																	
																	Omega Timing (2021) - diamond league race analysis
date 28-Aug-21	time	6.5	11.9	17.9	24.0	30.3	36.6	43.2	50.47	50.47	6 / 3							
reaction time 0.171	interval		5.40	6.00	6.10	6.30	6.30	6.60	7.27		# of strides	11.90	12.10	12.60	13.87	24.00	26.47	2.47
	velocity	7.69	9.26	8.33	8.20	7.94	7.94	7.58	6.88	7.93	184.7	8.40	8.26	7.94	7.21	8.33	7.56	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																	
																	Omega Timing (2023) - diamond league race analysis
date 17-Sep-23	time	6.76	12.40	18.21	24.35	30.61	37.00	43.56	50.47	50.47	8 / 3							
reaction time 0.139	interval		5.64	5.81	6.14	6.26	6.39	6.56	6.91		# of strides	12.40	11.95	12.65	13.47	24.35	26.12	1.77
	velocity	7.40	8.87	8.61	8.14	7.99	7.82	7.62	7.24	7.93		8.06	8.37	7.91	7.42	8.21	7.66	

Szewinska, Irena (POL) (1946)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1976 Olympic Games (Montreal, CAN)																	
																	Lamare (1976) - les jeux de la XXI olympia, Montreal 1976
date 26-Jul-76	time		12.20		24.24		36.92		50.48	50.48	1 / 1							
reaction time	interval				12.04		12.68		13.56	OR	# of strides	12.20	12.04	12.68	13.56	24.24	26.24	2.00
	velocity		8.20		8.31		7.89		7.37	7.92		8.20	8.31	7.89	7.37	8.25	7.62	

Baskakova, Irina (URS) (1956)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1983 IAAF World Championships (Helsinki, FIN)																	
																	Butler (2013) - IAAF world championships statistics handbook- moscow 2013
date 10-Aug-83	time				24.1				50.5	50.48	8 / 6							
reaction time	interval								26.4		# of strides					24.10	26.40	2.30
	velocity				8.30				7.58	7.92						8.30	7.58	

Rübsam-Neubauer, Dagmar (GDR) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1983 IAAF World Championships (Helsinki, FIN)																	
																	Butler (2013) - IAAF world championships statistics handbook- moscow 2013
date 10-Aug-83	time				24.1				50.5	50.48	7 / 7							
reaction time	interval								26.4		# of strides					24.10	26.40	2.30
	velocity				8.30				7.58	7.92						8.30	7.58	

Miles, Jearl (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1997 USATF Championships (Indianapolis, IN)																	
																	Track Newsletter (1997) - USATF National Championships
date 13-Jun-97	time				24.1		37.1		50.5	50.48	/ 1							
reaction time	interval						13.00		13.40		# of strides			13.00	13.40	24.10	26.40	2.30
	velocity				8.30		7.69		7.46	7.92				7.69	7.46	8.30	7.58	

Botlogetswe, Christine (BOT) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																	
																	Omega Timing (2019) - diamond league race analysis
date 16-Jun-19	time		12.3		23.9		36.5		50.48	50.48	6 / 3							
reaction time 0.184	interval				11.6		12.6		14.0	PB	# of strides	12.30	11.60	12.60	13.98	23.90	26.58	2.68
	velocity		8.13		8.62		7.94		7.15	7.92	182.0	8.13	8.62	7.94	7.15	8.37	7.52	

Moraa, Mary (KEN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
																	Omega Timing (2023) - diamond league race analysis
date 21-Jul-23	time	7.04	12.73	18.58	24.63	30.83	37.21	43.71	50.48	50.48	3 / 6							
reaction time 0.180	interval		5.69	5.85	6.05	6.20	6.38	6.50	6.77		# of strides	12.73	11.90	12.58	13.27	24.63	25.85	1.22
	velocity	7.10	8.79	8.55	8.26	8.06	7.84	7.69	7.39	7.92		7.86	8.40	7.95	7.54	8.12	7.74	

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																	
																	USATF and Karmarush (2024) - USA Olympic trials results and race analysis
date 22-Jun-24	time		12.35		23.96		36.73		50.48	50.48	5 / 2							
reaction time	interval				11.61		12.77		13.75		# of strides	12.35	11.61	12.77	13.75	23.96	26.52	2.56
	velocity		8.10		8.61		7.83		7.27	7.92	187.0	8.10	8.61	7.83	7.27	8.35	7.54	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																	
																	Paris 2024 Olympic Games - Results Book (2024)
date 07-Aug-24	time	6.98	12.59	18.29	24.18	30.32	36.68	43.32	50.48	50.48	5 / 5							
reaction time 0.209	interval		5.61	5.70	5.89	6.14	6.36	6.64	7.16		# of strides	12.59	11.59	12.50	13.80	24.18	26.30	2.12
	velocity	7.16	8.91	8.77	8.49	8.14	7.86	7.53	6.98	7.92	191.0	7.94	8.63	8.00	7.25	8.27	7.60	

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Bauhaus Galan (Stockholm, SWE)																	
																	Omega Timing (2025) - diamond league race analysis
date 15-Jun-25	time	5.82	12.25	18.03	23.98	30.10	36.57	43.22	50.48	50.48	4 / 6							
reaction time 0.167	interval		6.43	5.78	5.95	6.12	6.47	6.65	7.26		# of strides	12.25	11.73	12.59	13.91	23.98	26.50	2.52
	velocity	8.59	7.78	8.65	8.40	8.17	7.73	7.52	6.89	7.92		8.16	8.53	7.94	7.19	8.34	7.55	

Breuer, Grit (GER) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 European Cup (Bremen, GER)																	
																	Graubner (2009) - http://www.fgs.uni-halle.de
date 23-Jun-01	time		12.33		24.18		37.02		50.49	50.49	/ 1							
reaction time	interval				11.85		12.84		13.47		# of strides	12.33	11.85	12.84	13.47	24.18	26.31	2.13
	velocity		8.11		8.44		7.79		7.42	7.92		8.11	8.44	7.79	7.42	8.27	7.60	

McCorory, Francena (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 USATF National Championships (Eugene, OR)																	
																	Track Newsletter (2011) - USATF women's championships
date 25-Jun-11	time		12.4		24.7		37.0		50.5	50.49	/ 2							
reaction time	interval				12.30		12.30		13.50	PB	# of strides	12.40	12.30	12.30	13.50	24.70	25.80	1.10

		velocity		8.06		8.13		8.13		7.41	7.92		8.06	8.13	8.13	7.41	8.10	7.75	

Miller-Uibo, Shaunae (BAH) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*							
date 09-Aug-17	time		11.46		22.74		35.20	41.93	50.33	50.49	7 / 4							
reaction time 0.160	interval				11.28		12.46	6.73	8.40		# of strides	11.46	11.28	12.46	15.13	22.74	27.59	4.85
	velocity		8.73		8.87		8.03	7.43	5.95	7.92	182.2	8.73	8.87	8.03	6.61	8.80	7.25	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)										*Omega Timing (2024) - diamond league race analysis*							
date 05-Sep-24	time	6.71	12.30	18.06	23.99	30.23	36.74	43.41	50.49	50.49	4 / 1							
reaction time 0.138	interval		5.59	5.76	5.93	6.24	6.51	6.67	7.08		# of strides	12.30	11.69	12.75	13.75	23.99	26.50	2.51
	velocity	7.45	8.94	8.68	8.43	8.01	7.68	7.50	7.06	7.92		8.13	8.55	7.84	7.27	8.34	7.55	

Miles, Jearl (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 IAAF World Championships (Tokyo, JPN)										*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*							
date 27-Aug-91	time				23.72				50.50	50.50	8 / 5							
reaction time	interval								26.78		# of strides					23.72	26.78	3.06
	velocity				8.43				7.47	7.92						8.43	7.47	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Meeting de Paris (Paris, FRA)										*Omega Timing (2018) - diamond league race analysis*							
date 30-Jun-18	time		12.3		24.2		36.9		50.50	50.50	6 / 3							
reaction time 0.198	interval				11.9		12.7		13.6		# of strides	12.30	11.90	12.70	13.60	24.20	26.30	2.10
	velocity		8.13		8.40		7.87		7.35	7.92	178.2	8.13	8.40	7.87	7.35	8.26	7.60	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)										*European Athletics (2022) - european athletics championships race analysis*							
date 16-Aug-22	time		12.50		24.29		36.93		50.50	50.50	5 / 2							
reaction time 0.243	interval				11.79		12.64		13.57	PB	# of strides	12.50	11.79	12.64	13.57	24.29	26.21	1.92
	velocity		8.00		8.48		7.91		7.37	7.92	192.0	8.00	8.48	7.91	7.37	8.23	7.63	

John, Yemi Mary (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U23 Championships (Bergen, NOR)										*European Athletics (2025) - 2025 european athletics U23 championships- results book*							
date 19-Jul-25	time	6.85	12.46	18.14	24.00	30.02	36.42	43.26	50.50	50.50	7 / 2							
reaction time 0.182	interval		5.61	5.68	5.86	6.02	6.40	6.84	7.24	PB	# of strides	12.46	11.54	12.42	14.08	24.00	26.50	2.50
	velocity	7.30	8.91	8.80	8.53	8.31	7.81	7.31	6.91	7.92	195.5	8.03	8.67	8.05	7.10	8.33	7.55	

Brehmer, Christina (GDR) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 Olympic Games (Montreal, CAN)										*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*							
date 29-Jul-76	time		11.78						50.51	50.51	2 / 2							
reaction time	interval								38.73		# of strides	11.78						
	velocity		8.49						7.75	7.92		8.49						

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 IAAF World Championships (Beijing, CHN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 27-Aug-15	time	6.74	12.28	17.93	23.94	30.23	36.64	43.34	50.51	50.51	3 / 7							
reaction time 0.183	interval		5.54	5.65	6.01	6.29	6.41	6.70	7.17		# of strides	12.28	11.66	12.70	13.87	23.94	26.57	2.63
	velocity	7.42	9.03	8.85	8.32	7.95	7.80	7.46	6.97	7.92		8.14	8.58	7.87	7.21	8.35	7.53	

Gordon, Chrisann (JAM) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)										*Track Newsletter (2017) - NCAA women's championships*							
date 10-Jun-17	time				23.6		36.6		50.5	50.51	4 / 1							
reaction time	interval						13.00		13.90		# of strides			13.00	13.90	23.60	26.90	3.30
	velocity				8.47		7.69		7.19	7.92	197.5			7.69	7.19	8.47	7.43	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 European Athletics Championships (Munich, GER)										*European Athletics (2022) - european athletics championships race analysis*							
date 17-Aug-22	time		12.51		24.43		37.04		50.51	50.51	3 / 4							
reaction time 0.269	interval				11.92		12.61		13.47		# of strides	12.51	11.92	12.61	13.47	24.43	26.08	1.65
	velocity		7.99		8.39		7.93		7.42	7.92	192.0	7.99	8.39	7.93	7.42	8.19	7.67	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)										*Omega Timing (2023) - diamond league race analysis*							
date 05-May-23	time	6.84	12.53	18.45	24.60	30.79	37.19	43.59	50.51	50.51	5 / 1							
reaction time 0.183	interval		5.69	5.92	6.15	6.19	6.40	6.40	6.92		# of strides	12.53	12.07	12.59	13.32	24.60	25.91	1.31
	velocity	7.31	8.79	8.45	8.13	8.08	7.81	7.81	7.23	7.92	174.7	7.98	8.29	7.94	7.51	8.13	7.72	

Alekseyeva, Tatyana (RUS) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1993 IAAF World Championships (Stuttgart, GER)										*Grgic (2019) - final result prediction in female 400m track event based on results achieved at certain race segments*							
date 17-Aug-93	time		12.07		23.48		36.10		50.52	50.52	5 / 4							
reaction time	interval				11.41		12.62		14.42		# of strides	12.07	11.41	12.62	14.42	23.48	27.04	3.56
	velocity		8.29		8.76		7.92		6.93	7.92		8.29	8.76	7.92	6.93	8.52	7.40	

Malone, Maicel (USA) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)										*USATF Women's Sprint Development (1996)*							
date 19-Jun-96	time		12.22		23.78		36.22	43.10	50.52	50.52	5 / 1							
reaction time	interval				11.56		12.44	6.88	7.42		# of strides	12.22	11.56	12.44	14.30	23.78	26.74	2.96
	velocity		8.18		8.65		8.04	7.27	6.74	7.92		8.18	8.65	8.04	6.99	8.41	7.48	

Merry, Katharine (GBR) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP)										*Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*							
date 26-Aug-99	time	6.68	12.24	17.95	23.91	30.04	36.37	43.12	50.52	50.52	1 / 5							
reaction time 0.193	interval		5.56	5.71	5.96	6.13	6.33	6.75	7.40		# of strides	12.24	11.67	12.46	14.15	23.91	26.61	2.70
	velocity	7.49	8.99	8.76	8.39	8.16	7.90	7.41	6.76	7.92		8.17	8.57	8.03	7.07	8.36	7.52	

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 12-Jul-04	time	12.51		24.10		36.80	43.44	50.52	50.52	4 / 1							
reaction time	interval			11.59		12.70	6.64	7.08		# of strides	12.51	11.59	12.70	13.72	24.10	26.42	2.32
	velocity	7.99		8.63		7.87	7.53	7.06	7.92		7.99	8.63	7.87	7.29	8.30	7.57	

Cox, Crystal (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 17-Jul-04	time	12.30		23.64	29.73	36.25	42.91	50.52	50.52	2 / 4							
reaction time	interval			11.34	6.09	6.52	6.66	7.61	PB	# of strides	12.30	11.34	12.61	14.27	23.64	26.88	3.24
	velocity	8.13		8.82	8.21	7.67	7.51	6.57	7.92		8.13	8.82	7.93	7.01	8.46	7.44	

Litvinova, Lyudmila (RUS) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 16-Aug-09	time	12.50		24.24		36.86		50.52	50.52	6 / 3							
reaction time 0.206	interval			11.74		12.62		13.66		# of strides	12.50	11.74	12.62	13.66	24.24	26.28	2.04
	velocity	8.00		8.52		7.92		7.32	7.92	184.7	8.00	8.52	7.92	7.32	8.25	7.61	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time 6.76	12.35	18.07	24.11	30.40	36.81	43.47	50.52	50.52	6 / 2							
reaction time 0.170	interval	5.59	5.72	6.04	6.29	6.41	6.66	7.05	PB	# of strides	12.35	11.76	12.70	13.71	24.11	26.41	2.30
	velocity 7.40	8.94	8.74	8.28	7.95	7.80	7.51	7.09	7.92	171.0	8.10	8.50	7.87	7.29	8.30	7.57	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2022) - diamond league race analysis*
date 10-Aug-22	time 6.82	12.45	18.27	24.29	30.47	36.89	43.59	50.52	50.52	6 / 4							
reaction time 0.138	interval	5.63	5.82	6.02	6.18	6.42	6.70	6.93		# of strides	12.45	11.84	12.60	13.63	24.29	26.23	1.94
	velocity 7.33	8.88	8.59	8.31	8.09	7.79	7.46	7.22	7.92	186.5	8.03	8.45	7.94	7.34	8.23	7.62	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time	12.20		23.76		36.71		50.52	50.52	6 / 1							
reaction time 0.203	interval			11.56		12.95		13.81		# of strides	12.20	11.56	12.95	13.81	23.76	26.76	3.00
	velocity	8.20		8.65		7.72		7.24	7.92	182.7	8.20	8.65	7.72	7.24	8.42	7.47	

Manuel, Lurdes Gloria (CZE) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 10-Jun-24	time	12.53		24.07		36.79		50.52	50.52	3 / 4							
reaction time 0.368	interval			11.54		12.72		13.73	NJR PB	# of strides	12.53	11.54	12.72	13.73	24.07	26.45	2.38
	velocity	7.98		8.67		7.86		7.28	7.92		7.98	8.67	7.86	7.28	8.31	7.56	

Butler, Aaliyah (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time 6.83	12.48	18.29	24.31	30.40	36.67	43.27	50.52	50.52	7 / 2							
reaction time 0.155	interval	5.65	5.81	6.02	6.09	6.27	6.60	7.25		# of strides	12.48	11.83	12.36	13.85	24.31	26.21	1.90
	velocity 7.32	8.85	8.61	8.31	8.21	7.97	7.58	6.90	7.92	190.0	8.01	8.45	8.09	7.22	8.23	7.63	

Scott, Gabby (PUR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24	time 6.63	12.02	17.61	23.52	29.76	36.20	43.06	50.52	50.52	4 / 1							
reaction time 0.159	interval	5.39	5.59	5.91	6.24	6.44	6.86	7.46	NR PB	# of strides	12.02	11.50	12.68	14.32	23.52	27.00	3.48
	velocity 7.54	9.28	8.94	8.46	8.01	7.76	7.29	6.70	7.92	185.0	8.32	8.70	7.89	6.98	8.50	7.41	

Emmelmann, Kirsten (GDR) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 1987 IAAF World Championships (Rome, ITA)																	*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*
date 30-Aug-87	time	12.39		24.15		36.78		50.53	50.53	3 / 1							
reaction time	interval			11.76		12.63		13.75		# of strides	12.39	11.76	12.63	13.75	24.15	26.38	2.23
	velocity	8.07		8.50		7.92		7.27	7.92	210.7	8.07	8.50	7.92	7.27	8.28	7.58	

Pinigina, Mariya (URS) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 IAAF World Championships (Rome, ITA)																	*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*
date 31-Aug-87	time	12.40		23.85		36.53		50.53	50.53	5 / 4							
reaction time	interval			11.45		12.68		14.00		# of strides	12.29	11.86	12.91	14.01	23.85	26.68	2.83
	velocity	8.06		8.73		7.89		7.14	7.92	195.0	8.14	8.43	7.75	7.14	8.39	7.50	

Pérec, Marie-José (FRA) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																	*Pascua (1990) - atletismo (I) carreras y marcha*
date 10-Sep-89	time	12.52		24.00		36.52		50.53	50.53	3 / ~~4~~							
reaction time	interval			11.48		12.52		14.01	DQ	# of strides	12.52	11.48	12.52	14.01	24.00	26.53	2.53
	velocity	7.99		8.71		7.99		7.14	7.92	176.5	7.99	8.71	7.99	7.14	8.33	7.54	

Graham, Kim (USA) (1971)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 17-Jun-96	time	12.36		23.93		36.34	43.18	50.53	50.53	4 / 1							
reaction time	interval			11.57		12.41	6.84	7.35	PB	# of strides	12.36	11.57	12.41	14.19	23.93	26.60	2.67
	velocity	8.09		8.64		8.06	7.31	6.80	7.92		8.09	8.64	8.06	7.05	8.36	7.52	

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 15-Jul-04	time	12.88		24.71	30.83	37.29	43.68	50.53	50.53	3 / 1							
reaction time	interval			11.83	6.12	6.46	6.39	6.85		# of strides	12.88	11.83	12.58	13.24	24.71	25.82	1.11
	velocity	7.76		8.45	8.17	7.74	7.82	7.30	7.92	188.0	7.76	8.45	7.95	7.55	8.09	7.75	

Henderson, Monique (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*

date	15-Jul-04	time		12.28		23.89	30.06	36.40	43.14	50.53	50.53	4 / 2						
reaction time		interval				11.61	6.17	6.34	6.74	7.39	PB	# of strides	12.28	11.61	12.51	14.13	23.89	26.64	2.75
		velocity		8.14		8.61	8.10	7.89	7.42	6.77	7.92	190.2	8.14	8.61	7.99	7.08	8.37	7.51	

Kapachinskaya, Anastasiya (RUS) (19

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

date	18-Aug-09	time		12.54		24.39		36.92		50.53	50.53	2 / 7						
reaction time	0.220	interval				11.85		12.53		13.61		# of strides	12.54	11.85	12.53	13.61	24.39	26.14	1.75
		velocity		7.97		8.44		7.98		7.35	7.92	194.0	7.97	8.44	7.98	7.35	8.20	7.65	

Hastings, Natasha (USA) (1986)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2014 USATF National Championships (Sacramento, CA)

Track Newsletter (2014) - USATF women's championships

date	28-Jun-14	time		12.2		24.2		36.6		50.5	50.53	/ 3						
reaction time		interval				12.0		12.4		13.9		# of strides	12.20	12.00	12.40	13.90	24.20	26.30	2.10
		velocity		8.20		8.33		8.06		7.19	7.92		8.20	8.33	8.06	7.19	8.26	7.60	

Miller-Uibo, Shaunae (BAH) (1994)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 6 - 2015 IAAF World Championships (Beijing, CHN)

Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims

date	24-Aug-15	time	6.76	12.30	18.05	24.11	30.28	36.64	43.28	50.53	50.53	5 / 1						
reaction time	0.181	interval		5.54	5.75	6.06	6.17	6.36	6.64	7.25		# of strides	12.30	11.81	12.53	13.89	24.11	26.42	2.31
		velocity	7.40	9.03	8.70	8.25	8.10	7.86	7.53	6.90	7.92	174.5	8.13	8.47	7.98	7.20	8.30	7.57	

Wimbley, Shakima (USA) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2018 Bislett Games (Oslo, NOR)

Omega Timing (2018) - diamond league race analysis

date	07-Jun-18	time		12.2		23.8		36.6		50.53	50.53	6 / 3						
reaction time	0.219	interval				11.6		12.8		13.9		# of strides	12.20	11.60	12.80	13.93	23.80	26.73	2.93
		velocity		8.20		8.62		7.81		7.18	7.92	180.2	8.20	8.62	7.81	7.18	8.40	7.48	

Adeleke, Rhasidat (IRL) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

date	17-Aug-22	time		12.32		23.94		36.60		50.53	50.53	1 / 5						
reaction time	0.199	interval				11.62		12.66		13.93	NR PB	# of strides	12.32	11.62	12.66	13.93	23.94	26.59	2.65
		velocity		8.12		8.61		7.90		7.18	7.92	183.0	8.12	8.61	7.90	7.18	8.35	7.52	

Williams, Stacey-Ann (JAM) (1999)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Invitational - 2024 Memorial van damme (Brussels, BEL)

Omega Timing (2024) - diamond league race analysis

date	13-Sep-24	time	6.63	12.22	18.16	24.28	30.38	36.71	43.35	50.53	50.53	6 / 2						
reaction time	0.158	interval		5.59	5.94	6.12	6.10	6.33	6.64	7.18		# of strides	12.22	12.06	12.43	13.82	24.28	26.25	1.97
		velocity	7.54	8.94	8.42	8.17	8.20	7.90	7.53	6.96	7.92	193.0	8.18	8.29	8.05	7.24	8.24	7.62	

Klaver, Lieke (NED) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2025 Kamila Skolimowska Memorial (Chorzów, POL)

Omega Timing (2025) - diamond league race analysis

date	16-Aug-25	time	6.70	12.18	17.80	23.72	29.88	36.49	43.28	50.53	50.53	3 / 8						
reaction time	0.173	interval		5.48	5.62	5.92	6.16	6.61	6.79	7.25		# of strides	12.18	11.54	12.77	14.04	23.72	26.81	3.09
		velocity	7.46	9.12	8.90	8.45	8.12	7.56	7.36	6.90	7.92		8.21	8.67	7.83	7.12	8.43	7.46	

Johnson, Printassia (BAH) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 4 - 2025 World Athletics Championships (Tokyo, JPN)

Seiko Timing (2025) - 2025 World Championships race analysis

date	14-Sep-25	time		12.53		24.64		36.78		50.53	50.53	9 / 4						
reaction time	0.186	interval				12.11		12.14		13.75	PB	# of strides	12.53	12.11	12.14	13.75	24.64	25.89	1.25
		velocity		7.98		8.26		8.24		7.27	7.92		7.98	8.26	8.24	7.27	8.12	7.72	

Usovich, Ilona (BLR) (1982)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2007 IAAF World Championships (Osaka, JPN)

Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics

date	29-Aug-07	time	6.90	12.54	18.35	24.45	30.62	36.97	43.53	50.54	50.54	3 / 7						
reaction time	0.192	interval		5.64	5.81	6.10	6.17	6.35	6.56	7.01		# of strides	12.54	11.91	12.52	13.57	24.45	26.09	1.64
		velocity	7.25	8.87	8.61	8.20	8.10	7.87	7.62	7.13	7.91	194.0	7.97	8.40	7.99	7.37	8.18	7.67	

Adeleke, Rhasidat (IRL) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

date	09-Jun-24	time		12.35		24.32		37.09		50.54	50.54	8 / 1						
reaction time	0.172	interval				11.97		12.77		13.45		# of strides	12.35	11.97	12.77	13.45	24.32	26.22	1.90
		velocity		8.10		8.35		7.83		7.43	7.91	186.7	8.10	8.35	7.83	7.43	8.22	7.63	

Miklós, Andrea (ROU) (1999)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

date	05-Aug-24	time	6.70	12.13	17.83	23.88	30.14	36.57	43.29	50.54	50.54	4 / 3						
reaction time	0.149	interval		5.43	5.70	6.05	6.26	6.43	6.72	7.25	PB	# of strides	12.13	11.75	12.69	13.97	23.88	26.66	2.78
		velocity	7.46	9.21	8.77	8.26	7.99	7.78	7.44	6.90	7.91	200.7	8.24	8.51	7.88	7.16	8.38	7.50	

Strophal, Ellen (GDR) (1952)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1976 Olympic Games (Montreal, CAN)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

date	29-Jul-76	time				23.7		35.7		50.6	50.55	8 / 3						
reaction time		interval						12.00		14.90		# of strides			12.00	14.90	23.70	26.90	3.20
		velocity				8.44		8.33		6.71	7.91				8.33	6.71	8.44	7.43	

Kocembová, Tatána (TCH) (1962)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1982 European Championships (Athens, GRE)

Heß (1985) - entwicklungsaspekte die leichtathletischen sprint-/hürdendisziplinen im olympiazyklus 1981/84

date	08-Sep-82	time		12.40		24.38		37.00		50.55	50.55	8 / 3						
reaction time		interval				11.98		12.62		13.55		# of strides	12.40	11.98	12.62	13.55	24.38	26.17	1.79
		velocity		8.06		8.35		7.92		7.38	7.91	196.7	8.06	8.35	7.92	7.38	8.20	7.64	

Beard, Jessica (USA) (1989)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2018 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2018) - diamond league race analysis

date	10-Jun-18	time		12.4		24.1		36.9		50.55	50.55	4 / 3						
reaction time	0.182	interval				11.7		12.8		13.7		# of strides	12.40	11.70	12.80	13.65	24.10	26.45	2.35

		velocity		8.06		8.55		7.81		7.33	7.91	192.2	8.06	8.55	7.81	7.33	8.30	7.56	

Cofil, Fiordaliza (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
Omega Timing (2022) - diamond league race analysis																	
date 10-Aug-22 time	6.74	12.43	18.25	24.31	30.51	36.80	43.39	50.55	50.55	3 / 5							
reaction time 0.166 interval		5.69	5.82	6.06	6.20	6.29	6.59	7.16		# of strides	12.43	11.88	12.49	13.75	24.31	26.24	1.93
velocity	7.42	8.79	8.59	8.25	8.06	7.95	7.59	6.98	7.91		8.05	8.42	8.01	7.27	8.23	7.62	

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)																	
USATF and Karmarush (2024) - USA Olympic trials results and race analysis																	
date 23-Jun-24 time		12.45		24.57		37.19		50.55	50.55	1 / 5							
reaction time interval				12.12		12.62		13.36		# of strides	12.45	12.12	12.62	13.36	24.57	25.98	1.41
velocity		8.03		8.25		7.92		7.49	7.91		8.03	8.25	7.92	7.49	8.14	7.70	

Häggman, Pirjo (FIN) (1951)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 Olympic Games (Montreal, CAN)																	
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016																	
date 29-Jul-76 time				24.0		35.9		50.6	50.56	1 / 4							
reaction time interval						11.90		14.70		# of strides			11.90	14.70	24.00	26.60	2.60
velocity				8.33		8.40		6.80	7.91				8.40	6.80	8.33	7.52	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	
Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m																	
date 07-Aug-17 time		12.18		23.73		36.47	43.16	50.40	50.56	7 / 2							
reaction time 0.159 interval				11.55		12.74	6.69	7.24		# of strides	12.18	11.55	12.74	13.93	23.73	26.67	2.94
velocity		8.21		8.66		7.85	7.47	6.91	7.91	188.3	8.21	8.66	7.85	7.18	8.43	7.50	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																	
Timing by Seiko (2022) - world athletics championships race analysis																	
date 20-Jul-22 time		12.38		24.07		36.72		50.56	50.56	3 / 3							
reaction time 0.133 interval				11.69		12.65		13.84		# of strides	12.38	11.69	12.65	13.84	24.07	26.49	2.42
velocity		8.08		8.55		7.91		7.23	7.91	187.7	8.08	8.55	7.91	7.23	8.31	7.55	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 European Athletics Championships (Munich, GER)																	
European Athletics (2022) - european athletics championships race analysis																	
date 17-Aug-22 time		12.08		23.36		36.26		50.56	50.56	8 / 6							
reaction time 0.195 interval				11.28		12.90		14.30		# of strides	12.08	11.28	12.90	14.30	23.36	27.20	3.84
velocity		8.28		8.87		7.75		6.99	7.91	187.0	8.28	8.87	7.75	6.99	8.56	7.35	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bislett Games (Oslo, NOR)																	
Omega Timing (2018) - diamond league race analysis																	
date 07-Jun-18 time		12.7		24.3		37.5		50.57	50.57	3 / 4							
reaction time 0.287 interval				11.6		13.2		13.1		# of strides	12.70	11.60	13.20	13.07	24.30	26.27	1.97
velocity		7.87		8.62		7.58		7.65	7.91	187.7	7.87	8.62	7.58	7.65	8.23	7.61	

Cofil, Fiordaliza (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 World Athletics Championships (Eugene, OR)																	
Timing by Seiko (2022) - world athletics championships race analysis																	
date 22-Jul-22 time		12.12		23.71		36.65		50.57	50.57	4 / 6							
reaction time 0.173 interval				11.59		12.94		13.92		# of strides	12.12	11.59	12.94	13.92	23.71	26.86	3.15
velocity		8.25		8.63		7.73		7.18	7.91	190.7	8.25	8.63	7.73	7.18	8.44	7.45	

Kielbasinska, Anna (POL) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																	
Omega Timing (2022) - diamond league race analysis																	
date 06-Aug-22 time	6.64	12.29	18.11	24.16	30.34	36.75	43.37	50.57	50.57	3 / 5							
reaction time 0.154 interval		5.65	5.82	6.05	6.18	6.41	6.62	7.20		# of strides	12.29	11.87	12.59	13.82	24.16	26.41	2.25
velocity	7.53	8.85	8.59	8.26	8.09	7.80	7.55	6.94	7.91		8.14	8.42	7.94	7.24	8.28	7.57	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																	
European Athletics (2024) - 2024 european athletics championships - results book																	
date 09-Jun-24 time		12.24		24.05		37.00		50.57	50.57	7 / 1							
reaction time 0.189 interval				11.81		12.95		13.57		# of strides	12.24	11.81	12.95	13.57	24.05	26.52	2.47
velocity		8.17		8.47		7.72		7.37	7.91	186.0	8.17	8.47	7.72	7.37	8.32	7.54	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 NCAA Championships (Sacramento, CA)																	
Track Newsletter (2003) - NCAA championships																	
date 14-Jun-03 time				23.3		36.0		50.6	50.58	/ 1							
reaction time interval						12.70		14.60	AJR	# of strides			12.70	14.60	23.30	27.30	4.00
velocity				8.58		7.87		6.85	7.91				7.87	6.85	8.58	7.33	

Day, Christine (JAM) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)																	
Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims																	
date 24-Aug-15 time	6.85	12.40	18.12	24.06	30.18	36.51	43.29	50.58	50.58	4 / 1							
reaction time 0.215 interval		5.55	5.72	5.94	6.12	6.33	6.78	7.29		# of strides	12.40	11.66	12.45	14.07	24.06	26.52	2.46
velocity	7.30	9.01	8.74	8.42	8.17	7.90	7.37	6.86	7.91	189.0	8.06	8.58	8.03	7.11	8.31	7.54	

Little, Shamier (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Memorial van Damme (Brussels, BEL)																	
Seiko Timing (2023) - world championship race analysis																	
date 08-Sep-23 time	6.59	11.99	17.56	23.46	29.64	36.14	43.01	50.58	50.58	5 / 3							
reaction time 0.152 interval		5.40	5.57	5.90	6.18	6.50	6.87	7.57		# of strides	11.99	11.47	12.68	14.44	23.46	27.12	3.66
velocity	7.59	9.26	8.98	8.47	8.09	7.69	7.28	6.61	7.91	190.0	8.34	8.72	7.89	6.93	8.53	7.37	

Zykina, Olesya (RUS) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)																	
Bonvin (2003) - Compte-rendu 400m et relais 4x 400m																	
date 27-Aug-03 time				23.9		36.3		50.59	50.59	8 / 6							
reaction time 0.107 interval						12.4		14.3		# of strides			12.40	14.29	23.90	26.69	2.79
velocity				8.37		8.06		7.00	7.91				8.06	7.00	8.37	7.49	

Hennagan, Monique (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 15-Jul-04	time	12.16		23.92	30.01	36.45	43.16	50.59	50.59	6 / 3							
reaction time	interval			11.76	6.09	6.44	6.71	7.43		# of strides	12.16	11.76	12.53	14.14	23.92	26.67	2.75
	velocity	8.22		8.50	8.21	7.76	7.45	6.73	7.91	188.2	8.22	8.50	7.98	7.07	8.36	7.50	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 NCAA Championships (Eugene, OR)																	*Track Newsletter (2014) - NCAA women's championships*
date 13-Jun-14	time			24.1		36.9		50.6	50.59	8 / 2							
reaction time	interval					12.80		13.70	PB	# of strides			12.80	13.70	24.10	26.50	2.40
	velocity			8.30		7.81		7.30	7.91				7.81	7.30	8.30	7.55	

Bol, Femke (NED) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Meeting de Paris (Paris, FRA)																	*Omega Timing (2021) - diamond league race analysis*
date 28-Aug-21	time	6.9	12.6	18.5	24.6	30.7	37.0	43.6	50.59	50.59	4 / 4						
reaction time 0.205	interval		5.70	5.90	6.10	6.10	6.30	6.60	6.99		# of strides	12.60	12.00	12.40	13.59	24.60	25.99	1.39
	velocity	7.25	8.77	8.47	8.20	8.20	7.94	7.58	7.15	7.91	189.7	7.94	8.33	8.06	7.36	8.13	7.70	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 16-Aug-22	time		12.12		23.73		36.74		50.59	50.59	6 / 2						
reaction time 0.198	interval				11.61		13.01		13.85		# of strides	12.12	11.61	13.01	13.85	23.73	26.86	3.13
	velocity		8.25		8.61		7.69		7.22	7.91	185.0	8.25	8.61	7.69	7.22	8.43	7.45	

Onojuvwevwo, Ella (NGR) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24	time	6.83	12.31	18.07	24.07	30.17	36.54	43.29	50.59	50.59	5 / 1						
reaction time 0.208	interval		5.48	5.76	6.00	6.10	6.37	6.75	7.30		# of strides	12.31	11.76	12.47	14.05	24.07	26.52	2.45
	velocity	7.32	9.12	8.68	8.33	8.20	7.85	7.41	6.85	7.91	192.0	8.12	8.50	8.02	7.12	8.31	7.54	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24	time	6.81	12.36	18.07	23.97	30.08	36.50	43.27	50.59	50.59	8 / 1						
reaction time 0.191	interval		5.55	5.71	5.90	6.11	6.42	6.77	7.32		# of strides	12.36	11.61	12.53	14.09	23.97	26.62	2.65
	velocity	7.34	9.01	8.76	8.47	8.18	7.79	7.39	6.83	7.91	194.0	8.09	8.61	7.98	7.10	8.34	7.51	

Irby-Jackson, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 USATF Championships (Eugene, OR)																	*USATF and Karmarush (2025) - USATF championships results and race analysis*
date 01-Aug-25	time		12.19		24.25		36.72		50.59	50.59	7 / 2						
reaction time	interval				12.06		12.47		13.87		# of strides	12.19	12.06	12.47	13.87	24.25	26.34	2.09
	velocity		8.20		8.29		8.02		7.21	7.91	183.0	8.20	8.29	8.02	7.21	8.25	7.59	

Quirot, Ana Fidelia (CUB) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																	*Pascua (1990) - atletismo (I) carreras y marcha*
date 10-Sep-89	time		12.88		23.40		36.28		50.60	50.60	2 / ~~2~~ 1						
reaction time	interval				10.52		12.88		14.32		# of strides	12.88	10.52	12.88	14.32	23.40	27.20	3.80
	velocity		7.76		9.51		7.76		6.98	7.91	193.0	7.76	9.51	7.76	6.98	8.55	7.35	

Freeman, Cathy (AUS) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 IAAF World Championships (Gothenburg, SWE)																	*Track Newsletter (1995) - World Championships V*
date 08-Aug-95	time		12.0		23.3		35.7		50.6	50.60	4 / 4						
reaction time	interval				11.30		12.40		14.90		# of strides	12.00	11.30	12.40	14.90	23.30	27.30	4.00
	velocity		8.33		8.85		8.06		6.71	7.91		8.33	8.85	8.06	6.71	8.58	7.33	

Felix, Allyson (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time	6.39	11.75	17.55	23.89	30.35	36.88	43.50	50.60	50.60	6 / 1						
reaction time 0.173	interval		5.36	5.80	6.34	6.46	6.53	6.62	7.10		# of strides	11.75	12.14	12.99	13.72	23.89	26.71	2.82
	velocity	7.82	9.33	8.62	7.89	7.74	7.66	7.55	7.04	7.91	179.2	8.51	8.24	7.70	7.29	8.37	7.49	

Mupopo, Kabange (ZAM) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*
date 07-Aug-17	time		12.09		23.74		36.32	43.04	50.40	50.60	4 / ~~2~~						
reaction time 0.204	interval				11.65		12.58	6.72	7.36	DV	# of strides	12.09	11.65	12.58	14.08	23.74	26.66	2.92
	velocity		8.27		8.58		7.95	7.44	6.79	7.91	194.2	8.27	8.58	7.95	7.10	8.42	7.50	

Jonathas, Wadeline (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)																	*Track Newsletter (2019) - NCAA women's championships*
date 07-Jun-19	time					37.0		50.6	50.60	/ 1							
reaction time 0.232	interval							13.60	PB	# of strides				13.60			
	velocity					5.41		7.35	7.91					7.35			

Muhammad, Dalilah (USA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Orlen Janusz Kosuciński Memorial (Chorzów, POL)																	*Vazel (2019) - statistical analysis and historical context of the new 400H world record*
date 16-Jun-19	time			24.3				50.60	50.60	/ 1							
reaction time	interval							26.3	PB	# of strides					24.30	26.30	2.00
	velocity			8.23				7.60	7.91						8.23	7.60	

Kielbasinska, Anna (POL) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2022) - diamond league race analysis*
date 30-Jun-22	time	6.63	12.25	17.96	23.91	30.15	36.60	43.35	50.60	50.60	6 / 1						
reaction time 0.155	interval		5.62	5.71	5.95	6.24	6.45	6.75	7.25		# of strides	12.25	11.66	12.69	14.00	23.91	26.69	2.78
	velocity	7.54	8.90	8.76	8.40	8.01	7.75	7.41	6.90	7.91		8.16	8.58	7.88	7.14	8.36	7.49	

Bol, Femke (NED) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*

WR = World Rec. AR = Area Rec. OR = Olympic Rec. CR = Championship Rec. NR = National Rec. PB = Personal Best DQ = Disqualified DV = Drug Violation

date	16-Aug-22	time	12.41	24.02	36.58	50.60	50.60	6 / 1									
reaction time	0.243	interval		11.61	12.56	14.02		# of strides	12.41	11.61	12.56	14.02	24.02	26.58	2.56		
		velocity	8.06	8.61	7.96	7.13	7.91	179.7	8.06	8.61	7.96	7.13	8.33	7.52			

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time	12.46		24.10		36.76		50.60	50.60	2 / 2							
reaction time 0.181	interval			11.64		12.66		13.84		# of strides	12.46	11.64	12.66	13.84	24.10	26.50	2.40
	velocity	8.03		8.59		7.90		7.23	7.91	192.0	8.03	8.59	7.90	7.23	8.30	7.55	

Gogl-Walli, Susanne (AUT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 05-Sep-24	time	6.82	12.40	18.14	24.06	30.26	36.77	43.49	50.60	50.60	5 / 2						
reaction time 0.166	interval		5.58	5.74	5.92	6.20	6.51	6.72	7.11	NR PB	# of strides	12.40	11.66	12.71	13.83	24.06	26.54	2.48
	velocity	7.33	8.96	8.71	8.45	8.06	7.68	7.44	7.03	7.91		8.06	8.58	7.87	7.23	8.31	7.54	

Miles-Clark, Jearl (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 19-Jun-96	time		12.28		24.05		36.60	43.33	50.61	50.61	4 / 2						
reaction time	interval				11.77		12.55	6.73	7.28		# of strides	12.28	11.77	12.55	14.01	24.05	26.56	2.51
	velocity		8.14		8.50		7.97	7.43	6.87	7.90		8.14	8.50	7.97	7.14	8.32	7.53	

Nazarova, Natalya (RUS) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Sevilla, ESP)																	*Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999*
date 26-Aug-99	time	6.70	12.29	18.04	24.09	30.47	36.91	43.53	50.61	50.61	2 / 6						
reaction time 0.176	interval		5.59	5.75	6.05	6.38	6.44	6.62	7.08		# of strides	12.29	11.80	12.82	13.70	24.09	26.52	2.43
	velocity	7.46	8.94	8.70	8.26	7.84	7.76	7.55	7.06	7.90		8.14	8.47	7.80	7.30	8.30	7.54	

Weil, Martina (CHI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25	time		12.26		24.10		36.65		50.61	50.61	7 / 2						
reaction time 0.185	interval				11.84		12.55		13.96		# of strides	12.26	11.84	12.55	13.96	24.10	26.51	2.41
	velocity		8.16		8.45		7.97		7.16	7.90	181.5	8.16	8.45	7.97	7.16	8.30	7.54	

Dixon, Diane (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 TAC National Championships (San Jose, CA)																	*Track Newsletter (1987) - TAC National Championships*
date 27-Jun-87	time				23.5				50.7	50.62	4 / 2						
reaction time	interval								27.20		# of strides					23.50	27.20	3.70
	velocity				8.51				7.35	7.90						8.51	7.35	

McLeod, Candice (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 21-Aug-23	time		12.56		24.15		36.90		50.62	50.62	9 / 4						
reaction time 0.206	interval				11.59		12.75		13.72		# of strides	12.56	11.59	12.75	13.72	24.15	26.47	2.32
	velocity		7.96		8.63		7.84		7.29	7.90	201.0	7.96	8.63	7.84	7.29	8.28	7.56	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bislett Games (Oslo, NOR)																	*Omega Timing (2024) - diamond league race analysis*
date 30-May-24	time	6.77	12.26	17.97	23.77	29.89	36.42	43.24	50.62	50.62	7 / 4						
reaction time 0.171	interval		5.49	5.71	5.80	6.12	6.53	6.82	7.38		# of strides	12.26	11.51	12.65	14.20	23.77	26.85	3.08
	velocity	7.39	9.11	8.76	8.62	8.17	7.66	7.33	6.78	7.90	186.5	8.16	8.69	7.91	7.04	8.41	7.45	

Ohuruogu, Christine (GBR) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 IAAF World Championships (Beijing, CHN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 27-Aug-15	time	6.68	12.10	17.77	23.76	29.92	36.29	43.07	50.63	50.63	7 / 8						
reaction time 0.189	interval		5.42	5.67	5.99	6.16	6.37	6.78	7.56		# of strides	12.10	11.66	12.53	14.34	23.76	26.87	3.11
	velocity	7.49	9.23	8.82	8.35	8.12	7.85	7.37	6.61	7.90		8.26	8.58	7.98	6.97	8.42	7.44	

Kiełbasińska, Anna (POL) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		12.22		24.18		37.11		50.63	50.63	7 / 1						
reaction time 0.151	interval				11.96		12.93		13.52		# of strides	12.22	11.96	12.93	13.52	24.18	26.45	2.27
	velocity		8.18		8.36		7.73		7.40	7.90	195.0	8.18	8.36	7.73	7.40	8.27	7.56	

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Athletissima (Lausanne, SUI)																	*Omega Timing (2025) - diamond league race analysis*
date 20-Aug-25	time	6.80	12.62	18.53	24.59	30.72	37.07	43.62	50.63	50.63	6 / 3						
reaction time 0.189	interval		5.82	5.91	6.06	6.13	6.35	6.55	7.01		# of strides	12.62	11.97	12.48	13.56	24.59	26.04	1.45
	velocity	7.35	8.59	8.46	8.25	8.16	7.87	7.63	7.13	7.90	186.0	7.92	8.35	8.01	7.37	8.13	7.68	

Butler, Aaliyah (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 16-Sep-25	time		11.97		23.37		36.05		50.63	50.63	4 / 5						
reaction time 0.161	interval				11.40		12.68		14.58		# of strides	11.97	11.40	12.68	14.58	23.37	27.26	3.89
	velocity		8.35		8.77		7.89		6.86	7.90	193.0	8.35	8.77	7.89	6.86	8.56	7.34	

Dimitrova, Mariyana (BUL) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 European Championships (Göteborg, SWE)																	*Behm (2006) - Championnats d'Europe Göteborg 2006… Le 400m avec ou sans obstacles*
date 10-Aug-06	time				24.6		36.8		50.64	50.64	/ 4						
reaction time	interval						12.20		13.84	PB	# of strides			12.20	13.84	24.60	26.04	1.44
	velocity				8.13		16.39		7.23	7.90				8.20	7.23	8.13	7.68	

Williams, Shericka (JAM) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Sep-07	time		12.67		24.51		36.73		50.64	50.64	7 / 6						
reaction time 0.201	interval				11.84		12.22		13.91		# of strides	12.67	11.84	12.22	13.91	24.51	26.13	1.62

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.89		8.45		8.18		7.19	7.90		7.89	8.45	8.18	7.19	8.16	7.65	

Harper, Daina (USA) (1995)
FINAL - 2017 USATF National Championship (Sacramento, CA) — *Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time		12.26		23.77		36.38		50.64	50.64	8 / 6							
reaction time		interval				11.51		12.61		14.26	PB	# of strides	12.26	11.51	12.61	14.26	23.77	26.87	3.10
		velocity		8.24		8.73		8.12		7.24	7.90		8.16	8.69	7.93	7.01	8.41	7.44	

Naser, Salwa Eid (BRN) (1998)
FINAL - 2024 Memorial van damme (Brussels, BEL) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-24	time	6.75	12.17	17.83	23.79	29.96	36.38	43.11	50.64	50.64	6 / ~~3~~							
reaction time	0.193	interval		5.42	5.66	5.96	6.17	6.42	6.73	7.53	DQ	# of strides	12.17	11.62	12.59	14.26	23.79	26.85	3.06
		velocity	7.41	9.23	8.83	8.39	8.10	7.79	7.43	6.64	7.90	188.0	8.22	8.61	7.94	7.01	8.41	7.45	

Bryant, Rosalyn (USA) (1956)
FINAL - 1976 Olympic Games (Montreal, CAN) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-76	time				23.3		35.8		50.7	50.65	7 / 5							
reaction time		interval						12.50		14.90		# of strides			12.50	14.90	23.30	27.40	4.10
		velocity				8.58		8.00		6.71	7.90				8.00	6.71	8.58	7.30	

Stevens, Rochelle (USA) (1966)
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		12.42		24.13		36.88	43.45	50.65	50.65	6 / 3							
reaction time		interval				11.71		12.75	6.57	7.20		# of strides	12.42	11.71	12.75	13.77	24.13	26.52	2.39
		velocity		8.05		8.54		7.84	7.61	6.94	7.90		8.05	8.54	7.84	7.26	8.29	7.54	

Nazarova, Natalya (RUS) (1979)
FINAL - 2004 Olympic Games (Athens, GRE) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-04	time		12.2		23.8		36.3		50.7	50.65	7 / 8							
reaction time	0.251	interval				11.6		12.5		14.4		# of strides	12.20	11.60	12.50	14.40	23.80	26.90	3.10
		velocity		8.20		8.62		8.00		6.94	7.90		8.20	8.62	8.00	6.94	8.40	7.43	

Montsho, Amantle (BOT) (1983)
Heat 3 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-09	time		12.31		23.86		36.68		50.65	50.65	8 / 1							
reaction time	0.219	interval				11.55		12.82		13.97		# of strides	12.31	11.55	12.82	13.97	23.86	26.79	2.93
		velocity		8.12		8.66		7.80		7.16	7.90		8.12	8.66	7.80	7.16	8.38	7.47	

Montsho, Amantle (BOT) (1983)
FINAL - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Aug-09	time		12.38		24.47		37.05		50.65	50.65	8 / 8							
reaction time	0.212	interval				12.09		12.58		13.60		# of strides	12.38	12.09	12.58	13.60	24.47	26.18	1.71
		velocity		8.08		8.27		7.95		7.35	7.90	178.0	8.08	8.27	7.95	7.35	8.17	7.64	

Naser, Salwa Eid (BRN) (1998)
FINAL - 2019 Shanghai (Shanghai, CHN) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-May-19	time		12.3		24.1		36.9		50.65	50.65	4 / 1							
reaction time	0.182	interval				11.8		12.8		13.8		# of strides	12.30	11.80	12.80	13.75	24.10	26.55	2.45
		velocity		8.13		8.47		7.81		7.27	7.90	187.5	8.13	8.47	7.81	7.27	8.30	7.53	

Kiełbasińska, Anna (POL) (1990)
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		12.19		23.93		36.57		50.65	50.65	4 / 3							
reaction time	0.158	interval				11.74		12.64		14.08		# of strides	12.19	11.74	12.64	14.08	23.93	26.72	2.79
		velocity		8.20		8.52		7.91		7.10	7.90	196.2	8.20	8.52	7.91	7.10	8.36	7.49	

Williams, Sada (BAR) (1997)
FINAL - 2025 Kamila Skolimowska Memorial (Chorzów, POL) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-25	time	6.67	12.23	17.99	23.92	29.97	36.42	43.31	50.65	50.65	1 / 9							
reaction time	0.157	interval		5.56	5.76	5.93	6.05	6.45	6.89	7.34		# of strides	12.23	11.69	12.50	14.23	23.92	26.73	2.81
		velocity	7.50	8.99	8.68	8.43	8.26	7.75	7.26	6.81	7.90		8.18	8.55	8.00	7.03	8.36	7.48	

Bryant, Rosalyn (USA) (1956)
FINAL - 1983 IAAF World Championships (Helsinki, FIN) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-83	time				24.9				50.7	50.66	7 / 8							
reaction time		interval								25.8		# of strides					24.90	25.80	0.90
		velocity				8.03				7.75	7.90						8.03	7.75	

Fuchsová, Helena (CZE) (1965)
FINAL - 1997 IAAF World Championships (Sevilla, ESP) — *Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-97	time	6.62	12.18	17.70	23.66	29.90	36.38	43.14	50.50	50.66	8 / 6							
reaction time	0.159	interval		5.56	5.52	5.96	6.24	6.48	6.76	7.36		# of strides	12.18	11.48	12.72	14.12	23.66	26.84	3.18
		velocity	7.55	8.99	9.06	8.39	8.01	7.72	7.40	6.79	7.90		8.21	8.71	7.86	7.08	8.45	7.45	

Krivoshapka, Antonina (RUS) (1987)
FINAL - 2011 IAAF World Championships (Daegu, KOR) — *Butler (2013) - IAAF world athletic results 2008-2011 full results*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Aug-11	time				23.7		36.6		50.66	50.66	2 / 5							
reaction time	0.163	interval						12.9		14.1		# of strides			12.90	14.06	23.70	26.96	3.26
		velocity				8.44		7.75		7.11	7.90	199.0			7.75	7.11	8.44	7.42	

Coetzee, Miranda (RSA) (1997)
Repechage 2 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.71	12.35	18.05	24.00	30.20	36.52	43.22	50.66	50.66	8 / 2							
reaction time	0.164	interval		5.64	5.70	5.95	6.20	6.32	6.70	7.44	PB	# of strides	12.35	11.65	12.52	14.14	24.00	26.66	2.66
		velocity	7.45	8.87	8.77	8.40	8.06	7.91	7.46	6.72	7.90	191.0	8.10	8.58	7.99	7.07	8.33	7.50	

Breuer, Grit (GDR) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																	
date 10-Sep-89 time		12.87		24.50		36.87		50.67	50.67	6 / ~~3~~ 2							
reaction time interval				11.63		12.37		13.80		# of strides	12.87	11.63	12.37	13.80	24.50	26.17	1.67
velocity		7.77		8.60		8.08		7.25	7.89		7.77	8.60	8.08	7.25	8.16	7.64	

Pascua (1990) - atletismo (I) carreras y marcha

Breuer, Grit (GER) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 IAAF World Championships (Seville, ESP)																	
date 26-Aug-99 time	6.81	12.39	18.09	24.08	30.28	36.51	43.18	50.67	50.67	6 / 7							
reaction time 0.176 interval		5.58	5.70	5.99	6.20	6.23	6.67	7.49		# of strides	12.39	11.69	12.43	14.16	24.08	26.59	2.51
velocity	7.34	8.96	8.77	8.35	8.06	8.03	7.50	6.68	7.89		8.07	8.55	8.05	7.06	8.31	7.52	

Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999

Hennegan, Monique (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Reebok (New York, NY)																	
date 11-Jun-05 time				23.9				50.7	50.67	5 / 1							
reaction time interval								26.80		# of strides					23.90	26.80	2.90
velocity				8.37				7.46	7.89	189.0					8.37	7.46	

Track Newsletter (2005) - US invitationals- reebok women

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 USATF National Championships (Eugene, OR)																	
date 27-Jun-15 time				24.7		37.7		50.7	50.67	/ 3							
reaction time interval						13.0		13.0		# of strides			13.00	13.00	24.70	26.00	1.30
velocity				8.10		7.69		7.69	7.89				7.69	7.69	8.10	7.69	

Track Newsletter (2015) - USATF women's championships

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)																	
date 07-Aug-17 time		12.12		23.75		36.43	43.11	50.40	50.67	9 / 3							
reaction time 0.266 interval				11.63		12.68	6.68	7.29		# of strides	12.12	11.63	12.68	13.97	23.75	26.65	2.90
velocity		8.25		8.60		7.89	7.49	6.86	7.89	201.0	8.25	8.60	7.89	7.16	8.42	7.50	

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

Irby, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 USATF National Championships (Eugene, OR)																	
date 25-Jun-22 time		12.13		24.09		36.52		50.67	50.67	7 / 3							
reaction time interval				11.96		12.43		14.15		# of strides	12.13	11.96	12.43	14.15	24.09	26.58	2.49
velocity		8.24		8.36		8.05		7.07	7.89	184.5	8.24	8.36	8.05	7.07	8.30	7.52	

Track Newsletter (2022) - USATF championships women

Moraa, Mary (KEN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Memorial van Damme (Brussels, BEL)																	
date 02-Sep-22 time	7.10	12.92	18.68	24.63	30.81	37.25	43.83	50.67	50.67	3 / 4							
reaction time 0.168 interval		5.82	5.76	5.95	6.18	6.44	6.58	6.84	NR PB	# of strides	12.92	11.71	12.62	13.42	24.63	26.04	1.41
velocity	7.04	8.59	8.68	8.40	8.09	7.76	7.60	7.31	7.89	190.0	7.74	8.54	7.92	7.45	8.12	7.68	

Omega Timing (2022) - diamond league race analysis

Miklós, Andrea (ROU) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																	
date 20-Jun-23 time		12.33		24.09		37.17		50.67	50.67	7 / 1							
reaction time 0.190 interval				11.76		13.08		13.50	PB	# of strides	12.33	11.76	13.08	13.50	24.09	26.58	2.49
velocity		8.11		8.50		7.65		7.41	7.89	200.5	8.11	8.50	7.65	7.41	8.30	7.52	

European Athletics (2023) - 3rd european games, athletics - results book

Nielsen, Laviai (GBR) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Meeting de Paris (Paris, FRA)																	
date 07-Jul-24 time	6.66	12.29	18.16	24.19	30.34	36.67	43.39	50.67	50.67	8 / 5							
reaction time 0.165 interval		5.63	5.87	6.03	6.15	6.33	6.72	7.28	PB	# of strides	12.29	11.90	12.48	14.00	24.19	26.48	2.29
velocity	7.51	8.88	8.52	8.29	8.13	7.90	7.44	6.87	7.89	192.0	8.14	8.40	8.01	7.14	8.27	7.55	

Omega Timing (2024) - diamond league race analysis

Gogl-Walli, Susanne (AUT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)																	
date 05-Aug-24 time	6.82	12.34	18.08	24.13	30.36	36.84	43.60	50.67	50.67	6 / 3							
reaction time 0.168 interval		5.52	5.74	6.05	6.23	6.48	6.76	7.07	PB	# of strides	12.34	11.79	12.71	13.83	24.13	26.54	2.41
velocity	7.33	9.06	8.71	8.26	8.03	7.72	7.40	7.07	7.89	191.0	8.10	8.48	7.87	7.23	8.29	7.54	

Paris 2024 Olympic Games - Results Book (2024)

Joseph, Rachel (USA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 USATF Championships (Eugene, OR)																	
date 01-Aug-25 time		12.42		24.22		36.81		50.67	50.67	6 / 4							
reaction time interval				11.80		12.59		13.86		# of strides	12.42	11.80	12.59	13.86	24.22	26.45	2.23
velocity		8.05		8.47		7.94		7.22	7.89		8.05	8.47	7.94	7.22	8.26	7.56	

USATF and Karmarush (2025) - USATF championships results and race analysis

Venlogh, Wadeline (HAI) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 World Athletics Championships (Tokyo, JPN)																	
date 16-Sep-25 time		11.99		23.55		36.19		50.67	50.67	8 / 6							
reaction time 0.202 interval				11.56		12.64		14.48		# of strides	11.99	11.56	12.64	14.48	23.55	27.12	3.57
velocity		8.34		8.65		7.91		6.91	7.89	181.0	8.34	8.65	7.91	6.91	8.49	7.37	

Seiko Timing (2025) - 2025 World Championships race analysis

Davis-Thompson, Pauline (BAH) (196

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 IAAF World Championships (Athens, GRE)																	
date 04-Aug-97 time	6.58	12.30	18.18	24.18	30.38	36.79	43.39	50.55	50.68	7 / 7							
reaction time 0.120 interval		5.72	5.88	6.00	6.20	6.41	6.60	7.16		# of strides	12.30	11.88	12.61	13.76	24.18	26.37	2.19
velocity	7.60	8.74	8.50	8.33	8.06	7.80	7.58	6.98	7.89		8.13	8.42	7.93	7.27	8.27	7.58	

Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997

Amertil, Christine (BAH) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																	
date 24-Sep-06 time	6.7	12.3	18.1	24.0	30.3	36.7	43.5	50.68	50.68	6 / 1							
reaction time interval		5.60	5.80	5.90	6.30	6.40	6.80	7.18		# of strides	12.30	11.70	12.70	13.98	24.00	26.68	2.68
velocity	7.46	8.93	8.62	8.47	7.94	7.81	7.35	6.96	7.89		8.13	8.55	7.87	7.15	8.33	7.50	

Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)																	

Vazel (2011) - speed reserve in the 400m

date	23-Jun-07	time	11.85		23.40		35.90		50.68	50.68	4 / 4							
reaction time		interval			11.55		12.50		14.78		# of strides	11.85	11.55	12.50	14.78	23.40	27.28	3.88
		velocity	8.44		8.66		8.00		6.77	7.89	193.5	8.44	8.66	8.00	6.77	8.55	7.33	

Whyte, Rosemarie (JAM) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN)																	
date	19-Aug-08		12.4		24.2		36.6		50.7	50.68	2 / 7							
reaction time	0.181	interval			11.80		12.40		14.10		# of strides	12.40	11.80	12.40	14.10	24.20	26.50	2.30
		velocity	8.06		8.47		8.06		7.09	7.89	180.7	8.06	8.47	8.06	7.09	8.26	7.55	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

McCorory, Francena (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 IAAF World Championships (Moscow, RUS)																	
date	12-Aug-13	time	12.0		23.3		35.7		50.7	50.68	6 / 6							
reaction time	0.241	interval			11.3		12.4		15.0		# of strides	12.00	11.30	12.40	15.00	23.30	27.40	4.10
		velocity	8.33		8.85		8.06		6.67	7.89		8.33	8.85	8.06	6.67	8.58	7.30	

Track Newsletter (2013) - world championships women

Wimbley, Shakima (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)																	
date	10-Jun-17	time			24.0		36.7		50.7	50.68	5 / 2							
reaction time		interval					12.70		14.00		# of strides			12.70	14.00	24.00	26.70	2.70
		velocity			8.33		7.87		7.14	7.89	179.2			7.87	7.14	8.33	7.49	

Track Newsletter (2017) - NCAA women's championships

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)																	
date	23-Jun-24	time	12.32		24.31		37.10		50.68	50.68	9 / 6							
reaction time		interval			11.99		12.79		13.58		# of strides	12.32	11.99	12.79	13.58	24.31	26.37	2.06
		velocity	8.12		8.34		7.82		7.36	7.89		8.12	8.34	7.82	7.36	8.23	7.58	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Graham, Kim (USA) (1971)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1998 USATF National Championship (New Orleans, LA)																	
date	21-Jun-98	time			24.5				50.7	50.69	/ 1							
reaction time		interval							26.20		# of strides					24.50	26.20	1.70
		velocity			8.16				7.63	7.89						8.16	7.63	

Track Newsletter (1998) - USATF National Championships

Usovich, Ilona (BLR) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 European Championships (Göteborg, SWE)																	
date	10-Aug-06	time			23.8		36.4		50.69	50.69	/ 5							
reaction time		interval					12.60		14.29	NR	# of strides			12.60	14.29	23.80	26.89	3.09
		velocity			8.40		15.87		7.00	7.89				7.94	7.00	8.40	7.44	

Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles

McCorory, Francena (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 NCAA Championships (Eugene, OR)																	
date	11-Jun-10	time			23.9		36.6		50.7	50.69	/ 1							
reaction time		interval					12.7		14.1		# of strides			12.70	14.10	23.90	26.80	2.90
		velocity			8.37		7.87		7.09	7.89				7.87	7.09	8.37	7.46	

Track Newsletter (2010) - NCAA women's championships

Nielsen, Laviai (GBR) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																	
date	07-Aug-24	time	6.63	12.13	17.73	23.63	29.84	36.39	43.25	50.69	50.69	7 / 3						
reaction time	0.158	interval		5.50	5.60	5.90	6.21	6.55	6.86	7.44		# of strides	12.13	11.50	12.76	14.30	23.63	27.06	3.43
		velocity	7.54	9.09	8.93	8.47	8.05	7.63	7.29	6.72	7.89	194.0	8.24	8.70	7.84	6.99	8.46	7.39	

Paris 2024 Olympic Games - Results Book (2024)

Sevilla, Paula (ESP) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2025 World Athletics Championships (Tokyo, JPN)																	
date	14-Sep-25	time		12.46		24.00		36.51		50.69	50.69	7 / 4						
reaction time	0.172	interval				11.54		12.51		14.18	PB	# of strides	12.46	11.54	12.51	14.18	24.00	26.69	2.69
		velocity		8.03		8.67		7.99		7.05	7.89	201.0	8.03	8.67	7.99	7.05	8.33	7.49	

Seiko Timing (2025) - 2025 World Championships race analysis

Hemida, Bassant (EGY) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2025 World Athletics Championships (Tokyo, JPN)																	
date	16-Sep-25	time		12.33		23.84		36.43		50.69	50.69	9 / 5						
reaction time	0.196	interval				11.51		12.59		14.26		# of strides	12.33	11.51	12.59	14.26	23.84	26.85	3.01
		velocity		8.11		8.69		7.94		7.01	7.89	199.0	8.11	8.69	7.94	7.01	8.39	7.45	

Seiko Timing (2025) - 2025 World Championships race analysis

Breuer, Grit (GER) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	
date	08-Aug-02	time		12.49		24.22		36.96		50.70	50.70	4 / 2						
reaction time	0.161	interval				11.73		12.74		13.74		# of strides	12.49	11.73	12.74	13.74	24.22	26.48	2.26
		velocity		8.01		8.53		7.85		7.28	7.89		8.01	8.53	7.85	7.28	8.26	7.55	

Graubner (2009) - http://www.fgs.uni-halle.de

Dunn, Debbie (USA) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 USATF National Championships (Eugene, OR)																	
date	25-Jun-11	time		12.2		24.3		37.0		50.7	50.70	/ 3						
reaction time		interval				12.10		12.70		13.70		# of strides	12.20	12.10	12.70	13.70	24.30	26.40	2.10
		velocity		8.20		8.26		7.87		7.30	7.89		8.20	8.26	7.87	7.30	8.23	7.58	

Track Newsletter (2011) - USATF women's championships

Jackson, Shericka (JAM) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)																	
date	07-Aug-17	time		12.09		23.59		36.40	43.21	50.51	50.70	5 / 4						
reaction time	0.191	interval				11.50		12.81	6.81	7.30		# of strides	12.09	11.50	12.81	14.11	23.59	26.92	3.33
		velocity		8.27		8.70		7.81	7.34	6.85	7.89	198.5	8.27	8.70	7.81	7.09	8.48	7.43	

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT)																	
date	01-Oct-19	time	6.71	12.28	17.91	23.81	29.94	36.38	43.16	50.70	50.70	6 / 1						
reaction time	0.134	interval		5.57	5.63	5.90	6.13	6.44	6.78	7.54		# of strides	12.28	11.53	12.57	14.32	23.81	26.89	3.08

Yamanaka (2019) - race analysis of men and women 400m competition

		velocity	7.45	8.98	8.88	8.47	8.16	7.76	7.37	6.63	7.89	187.5	8.14	8.67	7.96	6.98	8.40	7.44	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																	
										European Athletics (2024) - 2024 european athletics championships - results book							
date 09-Jun-24	time		12.30		24.31		37.08		50.70	50.70	8 / 1							
reaction time 0.187	interval				12.01		12.77		13.62		# of strides	12.30	12.01	12.77	13.62	24.31	26.39	2.08
	velocity		8.13		8.33		7.83		7.34	7.89	192.0	8.13	8.33	7.83	7.34	8.23	7.58	

Sevilla, Paula (ESP) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	
										European Athletics (2025) - 2025 european team championships, first division - results book							
date 27-Jun-25	time	6.84	12.66	18.74	25.03	31.13	37.38	43.83	50.70	50.70	4 / 3							
reaction time 0.148	interval		5.82	6.08	6.29	6.10	6.25	6.45	6.87	PB	# of strides	12.66	12.37	12.35	13.32	25.03	25.67	0.64
	velocity	7.31	8.59	8.22	7.95	8.20	8.00	7.75	7.28	7.89	197.0	7.90	8.08	8.10	7.51	7.99	7.79	

Breuer, Grit (GER) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 Olympic Games (Atlanta, GA)																	
										Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016							
date 29-Jul-96	time				23.76		36.3		50.71	50.71	1 / 8							
reaction time 0.219	interval						12.54		14.41		# of strides			12.54	14.41	23.76	26.95	3.19
	velocity				8.42		7.97		6.94	7.89				7.97	6.94	8.42	7.42	

Henderson, Monique (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championship (Indianapolis, IN)																	
										USATF Women's Sprint Development (2006)							
date 24-Jun-06	time		11.76	17.83	23.84	29.95	36.48	43.22	50.71	50.71	3 / 3							
reaction time	interval			6.07	6.01	6.11	6.53	6.74	7.49		# of strides	11.76	12.08	12.64	14.23	23.84	26.87	3.03
	velocity		8.50	8.24	8.32	8.18	7.66	7.42	6.68	7.89	191.5	8.50	8.28	7.91	7.03	8.39	7.44	

Pompey, Aliann (GUY) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																	
										Graubner (2009) - biomechanical analyses at the 12th IAAF world championships							
date 16-Aug-09	time		12.25		24.05		36.70		50.71	50.71	8 / 4							
reaction time 0.178	interval				11.80		12.65		14.01	NR	# of strides	12.25	11.80	12.65	14.01	24.05	26.66	2.61
	velocity		8.16		8.47		7.91		7.14	7.89	185.0	8.16	8.47	7.91	7.14	8.32	7.50	

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	
										Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m							
date 07-Aug-17	time		12.37		24.67		37.02	43.61	50.52	50.71	6 / 3							
reaction time 0.191	interval				12.30		12.35	6.59	6.91		# of strides	12.37	12.30	12.35	13.50	24.67	25.85	1.18
	velocity		8.08		8.13		8.10	7.59	7.24	7.89	175.6	8.08	8.13	8.10	7.41	8.11	7.74	

Irby-Jackson, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)																	
										Seiko Timing (2023) - world championship race analysis							
date 21-Aug-23	time		12.10		23.91		36.84		50.71	50.71	4 / 3							
reaction time 0.173	interval				11.81		12.93		13.87		# of strides	12.10	11.81	12.93	13.87	23.91	26.80	2.89
	velocity		8.26		8.47		7.73		7.21	7.89	183.7	8.26	8.47	7.73	7.21	8.36	7.46	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bislett Games (Oslo, NOR)																	
										Omega Timing (2024) - diamond league race analysis							
date 30-May-24	time	6.72	12.28	17.99	23.77	29.81	36.37	43.24	50.71	50.71	3 / 5							
reaction time 0.182	interval		5.56	5.71	5.78	6.04	6.56	6.87	7.47		# of strides	12.28	11.49	12.60	14.34	23.77	26.94	3.17
	velocity	7.44	8.99	8.76	8.65	8.28	7.62	7.28	6.69	7.89	192.2	8.14	8.70	7.94	6.97	8.41	7.42	

Miklós, Andrea (ROU) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)																	
										European Athletics (2024) - 2024 european athletics championships - results book							
date 10-Jun-24	time		12.30		23.84		36.41		50.71	50.71	9 / 5							
reaction time 0.285	interval				11.54		12.57		14.30		# of strides	12.30	11.54	12.57	14.30	23.84	26.87	3.03
	velocity		8.13		8.67		7.96		6.99	7.89		8.13	8.67	7.96	6.99	8.39	7.44	

Nielsen, Laviai (GBR) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)																	
										European Athletics (2024) - 2024 european athletics championships - results book							
date 10-Jun-24	time		12.44		24.29		36.86		50.71	50.71	5 / 6							
reaction time 0.171	interval				11.85		12.57		13.85	PB	# of strides	12.44	11.85	12.57	13.85	24.29	26.42	2.13
	velocity		8.04		8.44		7.96		7.22	7.89		8.04	8.44	7.96	7.22	8.23	7.57	

Irby-Jackson, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 London Athletics Meet (London, GBR)																	
										Omega Timing (2024) - diamond league race analysis							
date 20-Jul-24	time	6.64	12.14	17.82	23.67	29.78	36.15	42.98	50.71	50.71	2 / 6							
reaction time 0.173	interval		5.50	5.68	5.85	6.11	6.37	6.83	7.73		# of strides	12.14	11.53	12.48	14.56	23.67	27.04	3.37
	velocity	7.53	9.09	8.80	8.55	8.18	7.85	7.32	6.47	7.89		8.24	8.67	8.01	6.87	8.45	7.40	

Mawdsley, Sharlene (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)																	
										Paris 2024 Olympic Games - Results Book (2024)							
date 05-Aug-24	time	6.77	12.42	18.22	24.26	30.48	36.87	43.50	50.71	50.71	8 / 4							
reaction time 0.147	interval		5.65	5.80	6.04	6.22	6.39	6.63	7.21	PB	# of strides	12.42	11.84	12.61	13.84	24.26	26.45	2.19
	velocity	7.39	8.85	8.62	8.28	8.04	7.82	7.54	6.93	7.89	194.0	8.05	8.45	7.93	7.23	8.24	7.56	

Pryce, Nickisha (JAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)																	
										Grand Slam Track (2025) - results and splits by race							
date 02-May-25	time		12.42		24.63		37.43		50.71	50.71	4 / 5							
reaction time 0.540	interval				12.21		12.80		13.28		# of strides	12.42	12.21	12.80	13.28	24.63	26.08	1.45
	velocity		8.05		8.19		7.81		7.53	7.89		8.05	8.19	7.81	7.53	8.12	7.67	

John, Yemi Mary (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2025 World Athletics Championships (Tokyo, JPN)																	
										Seiko Timing (2025) - 2025 World Championships race analysis							
date 14-Sep-25	time		12.73		24.71		37.23		50.71	50.71	8 / 5							
reaction time 0.202	interval				11.98		12.52		13.48		# of strides	12.73	11.98	12.52	13.48	24.71	26.00	1.29
	velocity		7.86		8.35		7.99		7.42	7.89		7.86	8.35	7.99	7.42	8.09	7.69	

Dixon, Diane (USA) (1964)
FINAL - 1988 Olympic Games (Seoul, KOR)
Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Sep-88	time		12.29		23.93		36.58		50.72	50.72	5 / 5							
reaction time	0.197	interval				11.64		12.65		14.14		# of strides	12.29	11.64	12.65	14.14	23.93	26.79	2.86
		velocity		8.14		8.59		7.91		7.07	7.89		8.14	8.59	7.91	7.07	8.36	7.47	

Kotlyarova, Olga (RUS) (1976)
FINAL - 1999 IAAF World Championships (Sevilla, ESP)
Ferro (2001) - biomechanical analysis of the 7th world championships in athletics seville 1999

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-99	time	6.86	12.51	18.23	24.26	30.57	36.85	43.41	50.72	50.72	7 / 8							
reaction time	0.185	interval		5.65	5.72	6.03	6.31	6.28	6.56	7.31		# of strides	12.51	11.75	12.59	13.87	24.26	26.46	2.20
		velocity	7.29	8.85	8.74	8.29	7.92	7.96	7.62	6.84	7.89		7.99	8.51	7.94	7.21	8.24	7.56	

Ohuruogu, Victoria (GBR) (1993)
FINAL - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-22	time	6.8	12.5	18.3	24.4	30.6	37.1	43.7	50.72	50.72	4 / 2							
reaction time	0.147	interval		5.70	5.80	6.10	6.20	6.50	6.60	7.02	PB	# of strides	12.50	11.90	12.70	13.62	24.40	26.32	1.92
		velocity	7.35	8.77	8.62	8.20	8.06	7.69	7.58	7.12	7.89	195.5	8.00	8.40	7.87	7.34	8.20	7.60	

Manuel, Lurdes Gloria (CZE) (2005)
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jul-24	time	7.05	12.67	18.25	24.08	30.24	36.63	43.37	50.72	50.72	6 / 5							
reaction time	0.196	interval		5.62	5.58	5.83	6.16	6.39	6.74	7.35		# of strides	12.67	11.41	12.55	14.09	24.08	26.64	2.56
		velocity	7.09	8.90	8.96	8.58	8.12	7.82	7.42	6.80	7.89	189.0	7.89	8.76	7.97	7.10	8.31	7.51	

Wineberg, Mary (USA) (1980)
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)
Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Sep-07	time		12.43		24.19		36.90		50.73	50.73	2 / 7							
reaction time	0.146	interval				11.76		12.71		13.83		# of strides	12.43	11.76	12.71	13.83	24.19	26.54	2.35
		velocity		8.05		8.50		7.87		7.23	7.88		8.05	8.50	7.87	7.23	8.27	7.54	

Nielsen, Laviai (GBR) (1988)
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		12.25		23.95		36.90		50.73	50.73	5 / 2							
reaction time	0.160	interval				11.70		12.95		13.83	PB	# of strides	12.25	11.70	12.95	13.83	23.95	26.78	2.83
		velocity		8.16		8.55		7.72		7.23	7.88	194.0	8.16	8.55	7.72	7.23	8.35	7.47	

Morán, Paola (MEX) (1997)
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-24	time	6.71	12.39	18.22	24.27	30.51	36.92	43.59	50.73	50.73	9 / 6							
reaction time	0.183	interval		5.68	5.83	6.05	6.24	6.41	6.67	7.14		# of strides	12.39	11.88	12.65	13.81	24.27	26.46	2.19
		velocity	7.45	8.80	8.58	8.26	8.01	7.80	7.50	7.00	7.88	188.7	8.07	8.42	7.91	7.24	8.24	7.56	

Holmes, Alexis (USA) (2000)
FINAL - 2025 Athletissima (Lausanne, SUI)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-25	time	6.70	12.27	18.03	24.04	30.31	36.89	43.67	50.73	50.73	3 / 4							
reaction time	0.157	interval		5.57	5.76	6.01	6.27	6.58	6.78	7.06		# of strides	12.27	11.77	12.85	13.84	24.04	26.69	2.65
		velocity	7.46	8.98	8.68	8.32	7.97	7.60	7.37	7.08	7.88		8.15	8.50	7.78	7.23	8.32	7.49	

Malone, Maicel (USA) (1969)
FINAL - 1997 USATF Championships (Indianapolis, IN)
Track Newsletter (1997) - USATF National Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-97	time				24.1		36.3		50.7	50.74	/ 3							
reaction time		interval						12.20		14.40		# of strides			12.20	14.40	24.10	26.60	2.50
		velocity				8.30		8.20		6.94	7.88				8.20	6.94	8.30	7.52	

Williams, Sada (BAR) (1997)
FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-22	time	6.73	12.44	18.26	24.27	30.40	36.89	43.56	50.74	50.74	7 / 2							
reaction time	0.182	interval		5.71	5.82	6.01	6.13	6.49	6.67	7.18		# of strides	12.44	11.83	12.62	13.85	24.27	26.47	2.20
		velocity	7.43	8.76	8.59	8.32	8.16	7.70	7.50	6.96	7.88	193.5	8.04	8.45	7.92	7.22	8.24	7.56	

Kaczmarek, Natalia (POL) (1998)
FINAL - 2022 Weltklasse (Zürich, SUI)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.84	12.50	18.34	24.32	30.51	37.05	43.84	50.74	50.74	3 / 5							
reaction time	0.143	interval		5.66	5.84	5.98	6.19	6.54	6.79	6.90		# of strides	12.50	11.82	12.73	13.69	24.32	26.42	2.10
		velocity	7.31	8.83	8.56	8.36	8.08	7.65	7.36	7.25	7.88		8.00	8.46	7.86	7.30	8.22	7.57	

Ohuruogu, Victoria (GBR) (1993)
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-23	time		12.39		24.21		36.91		50.74	50.74	8 / 4							
reaction time	0.238	interval				11.82		12.70		13.83		# of strides	12.39	11.82	12.70	13.83	24.21	26.53	2.32
		velocity		8.07		8.46		7.87		7.23	7.88	192.0	8.07	8.46	7.87	7.23	8.26	7.54	

Joseph, Rachel (USA) (2004)
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-24	time		12.37		23.99		36.64		50.74	50.74	8 / 3							
reaction time		interval				11.62		12.65		14.10	PB	# of strides	12.37	11.62	12.65	14.10	23.99	26.75	2.76
		velocity		8.08		8.61		7.91		7.09	7.88		8.08	8.61	7.91	7.09	8.34	7.48	

Irby-Jackson, Lynna (USA) (1998)
FINAL - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-24	time		11.84		23.88		36.48		50.74	50.74	6 / 7							
reaction time		interval				12.04		12.60		14.26		# of strides	11.84	12.04	12.60	14.26	23.88	26.86	2.98
		velocity		8.45		8.31		7.94		7.01	7.88	183.0	8.45	8.31	7.94	7.01	8.38	7.45	

Scott, Gabby (PUR) (1997)
Heat 1 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	05-Aug-24	time	6.82	12.39	18.20	24.34	30.66	37.05	43.69	50.74	50.74	2 / 4						
reaction time	0.170	interval		5.57	5.81	6.14	6.32	6.39	6.64	7.05	NR PB	# of strides	12.39	11.95	12.71	13.69	24.34	26.40	2.06
		velocity	7.33	8.98	8.61	8.14	7.91	7.82	7.53	7.09	7.88		8.07	8.37	7.87	7.30	8.22	7.58	

Henderson, Monique (USA) (1983) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2004 USA Olympic Trials (Sacramento, CA) — *USATF Women's Sprint Development (2004)*

date	17-Jul-04	time		12.06		23.89	30.18	36.59	43.08	50.75	50.75	6 / 5						
reaction time		interval				11.83	6.29	6.41	6.49	7.67		# of strides	12.06	11.83	12.70	14.16	23.89	26.86	2.97
		velocity		8.29		8.45	7.95	7.80	7.70	6.52	7.88		8.29	8.45	7.87	7.06	8.37	7.45	

Klaver, Lieke (NED) (1998) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) — *Omega Timing (2023) - diamond league race analysis*

date	02-Jun-23	time	6.62	12.16	17.90	23.92	30.20	36.73	43.52	50.75	50.75	6 / 2						
reaction time	0.137	interval		5.54	5.74	6.02	6.28	6.53	6.79	7.23		# of strides	12.16	11.76	12.81	14.02	23.92	26.83	2.91
		velocity	7.55	9.03	8.71	8.31	7.96	7.66	7.36	6.92	7.88		8.22	8.50	7.81	7.13	8.36	7.45	

Hennagan, Monique (USA) (1976) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2005 USATF National Championship (Carson, CA) — *USATF Women's Sprint Development (2005)*

date	25-Jun-05	time		12.04	17.72	23.72	29.83	36.28	43.18	50.76	50.76	3 / 5						
reaction time		interval			5.68	6.00	6.11	6.45	6.90	7.58		# of strides	12.04	11.68	12.56	14.48	23.72	27.04	3.32
		velocity		8.31	8.80	8.33	8.18	7.75	7.25	6.60	7.88		8.31	8.56	7.96	6.91	8.43	7.40	

Jackson, Shericka (JAM) (1994) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2017 IAAF World Championships (London, GBR) — *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*

date	09-Aug-17	time		11.91		23.43		36.28	43.10	50.57	50.76	2 / 5						
reaction time	0.194	interval				11.52		12.85	6.82	7.47		# of strides	11.91	11.52	12.85	14.29	23.43	27.14	3.71
		velocity		8.40		8.68		7.78	7.33	6.69	7.88	198.6	8.40	8.68	7.78	7.00	8.54	7.37	

Francis, Phyllis (USA) (1992) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) — *Omega Timing (2019) - diamond league race analysis*

date	16-Jun-19	time		12.3		24.1		36.8		50.76	50.76	5 / 4						
reaction time	0.203	interval				11.8		12.7		14.0		# of strides	12.30	11.80	12.70	13.96	24.10	26.66	2.56
		velocity		8.13		8.47		7.87		7.16	7.88	177.0	8.13	8.47	7.87	7.16	8.30	7.50	

Cofil, Fiordaliza (DOM) (2000) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2022 Meeting de Paris (Paris, FRA) — *Omega Timing (2022) - diamond league race analysis*

date	18-Jun-22	time	6.77	12.39	18.19	24.23	30.51	37.01	43.69	50.76	50.76	7 / 4						
reaction time	0.191	interval		5.62	5.80	6.04	6.28	6.50	6.68	7.07		# of strides	12.39	11.84	12.78	13.75	24.23	26.53	2.30
		velocity	7.39	8.90	8.62	8.28	7.96	7.69	7.49	7.07	7.88	193.2	8.07	8.45	7.82	7.27	8.25	7.54	

Paulino, Marileidy (DOM) (1996) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 4 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time		12.14		23.74		36.39		50.76	50.76	4 / 1						
reaction time	0.173	interval				11.60		12.65		14.37		# of strides	12.14	11.60	12.65	14.37	23.74	27.02	3.28
		velocity		8.24		8.62		7.91		6.96	7.88	173.7	8.24	8.62	7.91	6.96	8.42	7.40	

McLeod, Candice (JAM) (1996) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 6 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time		12.24		24.11		36.82		50.76	50.76	1 / 2						
reaction time	0.160	interval				11.87		12.71		13.94		# of strides	12.24	11.87	12.71	13.94	24.11	26.65	2.54
		velocity		8.17		8.42		7.87		7.17	7.88		8.17	8.42	7.87	7.17	8.30	7.50	

McLeod, Candice (JAM) (1996) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2022 Memorial van Damme (Brussels, BEL) — *Omega Timing (2022) - diamond league race analysis*

date	02-Sep-22	time	7.02	12.71	18.40	24.28	30.39	36.79	43.46	50.76	50.76	8 / 5						
reaction time	0.214	interval		5.69	5.69	5.88	6.11	6.40	6.67	7.30		# of strides	12.71	11.57	12.51	13.97	24.28	26.48	2.20
		velocity	7.12	8.79	8.79	8.50	8.18	7.81	7.50	6.85	7.88	201.5	7.87	8.64	7.99	7.16	8.24	7.55	

McLeod, Candice (JAM) (1996) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2023 Prefontaine Classic (Eugene, OR) — *Omega Timing (2023) - diamond league race analysis*

date	17-Sep-23	time	6.79	12.37	18.04	23.98	30.13	36.53	43.34	50.76	50.76	4 / 4						
reaction time	0.157	interval		5.58	5.67	5.94	6.15	6.40	6.81	7.42		# of strides	12.37	11.61	12.55	14.23	23.98	26.78	2.80
		velocity	7.36	8.96	8.82	8.42	8.13	7.81	7.34	6.74	7.88	200.5	8.08	8.61	7.97	7.03	8.34	7.47	

Ohuruogu, Victoria (GBR) (1993) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2024 London Athletics Meet (London, GBR) — *Omega Timing (2024) - diamond league race analysis*

date	20-Jul-24	time	6.96	12.52	18.25	24.19	30.44	36.85	43.59	50.76	50.76	1 / 7						
reaction time	0.163	interval		5.56	5.73	5.94	6.25	6.41	6.74	7.17		# of strides	12.52	11.67	12.66	13.91	24.19	26.57	2.38
		velocity	7.18	8.99	8.73	8.42	8.00	7.80	7.42	6.97	7.88		7.99	8.57	7.90	7.19	8.27	7.53	

Williams, Stacey-Ann (JAM) (1999) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL) — *Grand Slam Track (2025) - results and splits by race*

date	02-May-25	time		12.31		24.60		37.40		50.76	50.76	2 / 6						
reaction time	0.510	interval				12.29		12.80		13.36		# of strides	12.31	12.29	12.80	13.36	24.60	26.16	1.56
		velocity		8.12		8.14		7.81		7.49	7.88		8.12	8.14	7.81	7.49	8.13	7.65	

Polinari, Anna (ITA) (1999) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

A FINAL - 2025 European Team Championships, First Division (Madrid, ESP) — *European Athletics (2025) - 2025 european team championships, first division - results book*

date	27-Jun-25	time	6.64	12.39	18.36	24.38	30.55	37.01	43.57	50.76	50.76	5 / 4						
reaction time	0.132	interval		5.75	5.97	6.02	6.17	6.46	6.56	7.19	PB	# of strides	12.39	11.99	12.63	13.75	24.38	26.38	2.00
		velocity	7.53	8.70	8.38	8.31	8.10	7.74	7.62	6.95	7.88	192.0	8.07	8.34	7.92	7.27	8.20	7.58	

Hayes, Quanera (USA) (1992) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 1 - 2025 USATF Championships (Eugene, OR) — *USATF and Karmarush (2025) - USATF championships results and race analysis*

date	01-Aug-25	time		12.34		24.30		36.96		50.76	50.76	9 / 1						
reaction time		interval				11.96		12.66		13.80		# of strides	12.34	11.96	12.66	13.80	24.30	26.46	2.16

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.10		8.36		7.90		7.25	7.88		8.10	8.36	7.90	7.25	8.23	7.56	

Oketch, Mercy (KEN) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 World Athletics Championships (Tokyo, JPN)																			*Seiko Timing (2025) - 2025 World Championships race analysis*
date	14-Sep-25	time		12.34		24.36		36.82		50.76	50.76	8 / 3							
reaction time	0.202	interval				12.02		12.46		13.94		# of strides	12.34	12.02	12.46	13.94	24.36	26.40	2.04
		velocity		8.10		8.32		8.03		7.17	7.88	185.2	8.10	8.32	8.03	7.17	8.21	7.58	

Williams, Sada (BAR) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																			*Omega Timing (2021) - diamond league race analysis*
date	26-Aug-21	time	6.7	12.4	18.2	24.2	30.3	36.8	43.6	50.77	50.77	7 / 2							
reaction time	0.162	interval		5.70	5.80	6.00	6.10	6.50	6.80	7.17		# of strides	12.40	11.80	12.60	13.97	24.20	26.57	2.37
		velocity	7.46	8.77	8.62	8.33	8.20	7.69	7.35	6.97	7.88		8.06	8.47	7.94	7.16	8.26	7.53	

Miklós, Andrea (ROU) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	21-Aug-23	time		12.43		24.09		36.98		50.77	50.77	6 / 5							
reaction time	0.178	interval				11.66		12.89		13.79		# of strides	12.43	11.66	12.89	13.79	24.09	26.68	2.59
		velocity		8.05		8.58		7.76		7.25	7.88	203.0	8.05	8.58	7.76	7.25	8.30	7.50	

Pryce, Nickisha (JAM) (2001)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	07-Aug-24	time	6.59	11.98	17.57	23.47	29.65	36.15	43.07	50.77	50.77	8 / 4							
reaction time	0.160	interval		5.39	5.59	5.90	6.18	6.50	6.92	7.70		# of strides	11.98	11.49	12.68	14.62	23.47	27.30	3.83
		velocity	7.59	9.28	8.94	8.47	8.09	7.69	7.23	6.49	7.88	189.0	8.35	8.70	7.89	6.84	8.52	7.33	

Butler, Aaliyah (USA) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2025 USATF Championships (Eugene, OR)																			*USATF and Karmarush (2025) - USATF championships results and race analysis*
date	01-Aug-25	time		12.12		23.91		36.56		50.77	50.77	8 / 2							
reaction time		interval				11.79		12.65		14.21		# of strides	12.12	11.79	12.65	14.21	23.91	26.86	2.95
		velocity		8.25		8.48		7.91		7.04	7.88		8.25	8.48	7.91	7.04	8.36	7.45	

Breuer, Grit (GER) (1972)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 ISTAF (Berlin, GER)																			*Graubner (2007) - http://www.fgs.uni-halle.de*
date	31-Aug-01	time		12.45		24.28		37.22		50.78	50.78	/ 1							
reaction time	0.217	interval				11.83		12.94		13.56		# of strides	12.45	11.83	12.94	13.56	24.28	26.50	2.22
		velocity		8.03		8.45		7.73		7.37	7.88		8.03	8.45	7.73	7.37	8.24	7.55	

Dunn, Debbie (USA) (1978)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)																			*Hymans (2020) - history of the US olympic trials - track and field*
date	24-Jun-12	time				23.7		36.3		50.78	50.78	4 / ~~4~~							
reaction time	0.198	interval						12.60		14.48	DV	# of strides			12.60	14.48	23.70	27.08	3.38
		velocity				8.44		7.94		6.91	7.88				7.94	6.91	8.44	7.39	

Stepter, Jaide (USA) (1994)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bislett Games (Oslo, NOR)																			*Omega Timing (2018) - diamond league race analysis*
date	07-Jun-18	time		12.3		23.9		36.9		50.78	50.78	2 / 5							
reaction time	0.166	interval				11.6		13.0		13.9		# of strides	12.30	11.60	13.00	13.88	23.90	26.88	2.98
		velocity		8.13		8.62		7.69		7.20	7.88	188.5	8.13	8.62	7.69	7.20	8.37	7.44	

Thomas, Brionna (USA) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)																			*Track Newsletter (2018) - NCAA women's championships*
date	09-Jun-18	time						37.2		50.8	50.78	/ 3							
reaction time		interval								13.60	PB	# of strides				13.60			
		velocity						5.38		7.35	7.88					7.35			

McLaughlin, Sydney (USA) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)																			*Omega Timing (2019) - diamond league race analysis*
date	18-May-19	time		12.7		24.9		37.2		50.78	50.78	6 / 2							
reaction time	0.147	interval				12.2		12.3		13.6		# of strides	12.70	12.20	12.30	13.58	24.90	25.88	0.98
		velocity		7.87		8.20		8.13		7.36	7.88	184.5	7.87	8.20	8.13	7.36	8.03	7.73	

McLeod, Candice (JAM) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	22-Jul-22	time		12.30		24.17		36.65		50.78	50.78	5 / 7							
reaction time	0.159	interval				11.87		12.48		14.13		# of strides	12.30	11.87	12.48	14.13	24.17	26.61	2.44
		velocity		8.13		8.42		8.01		7.08	7.88	200.2	8.13	8.42	8.01	7.08	8.27	7.52	

Williams, Sada (BAR) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time		12.00		23.30		35.97		50.78	50.78	9 / 1							
reaction time	0.172	interval				11.30		12.67		14.81		# of strides	12.00	11.30	12.67	14.81	23.30	27.48	4.18
		velocity		8.33		8.85		7.89		6.75	7.88	189.5	8.33	8.85	7.89	6.75	8.58	7.28	

Diggs, Talitha (USA) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	22-Jun-24	time		12.10		23.66		36.63		50.78	50.78	9 / 4							
reaction time		interval				11.56		12.97		14.15		# of strides	12.10	11.56	12.97	14.15	23.66	27.12	3.46
		velocity		8.26		8.65		7.71		7.07	7.88		8.26	8.65	7.71	7.07	8.45	7.37	

Miklós, Andrea (ROU) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	07-Aug-24	time	6.76	12.28	17.98	23.95	30.20	36.76	43.52	50.78	50.78	9 / 5							
reaction time	0.158	interval		5.52	5.70	5.97	6.25	6.56	6.76	7.26		# of strides	12.28	11.67	12.81	14.02	23.95	26.83	2.88
		velocity	7.40	9.06	8.77	8.38	8.00	7.62	7.40	6.89	7.88	203.0	8.14	8.57	7.81	7.13	8.35	7.45	

Restrepo, Ximena (COL) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1991 IAAF World Championships (Tokyo, JPN)																	*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date 27-Aug-91	time			24.08				50.79	50.79	2 / 6							
reaction time	interval							26.71		# of strides					24.08	26.71	2.63
	velocity			8.31				7.49	7.88						8.31	7.49	

Jones, Marion (USA) (1975)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 Mt. SAC Relays (Walnut, CA)																	*Track Newsletter (1999) - Mt. SAC relays, invitational women*
date 18-Apr-99	time			24.1		36.7		50.8	50.79	/ 1							
reaction time	interval					12.60		14.10		# of strides			12.60	14.10	24.10	26.70	2.60
	velocity			8.30		7.94		7.09	7.88				7.94	7.09	8.30	7.49	

Williams, Shericka (JAM) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 IAAF World Championships (Daegu, KOR)																	*Butler (2013) - IAAF world athletic results 2008-2011 full results*
date 29-Aug-11	time			24.3		36.7		50.79	50.79	7 / 6							
reaction time 0.241	interval					12.4		14.1		# of strides			12.40	14.09	24.30	26.49	2.19
	velocity			8.23		8.06		7.10	7.88				8.06	7.10	8.23	7.55	

Whyte, Rosemarie (JAM) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Olympic Games (London, GBR)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 05-Aug-12	time	12.1		23.9		36.9		50.8	50.79	3 / ~~8~~ 7							
reaction time 0.184	interval			11.80		13.00		13.90		# of strides	12.10	11.80	13.00	13.90	23.90	26.90	3.00
	velocity	8.26		8.47		7.69		7.19	7.88	187.0	8.26	8.47	7.69	7.19	8.37	7.43	

Das, Hima (IND) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Asian Games (Jakarta, INA)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 26-Aug-18	time 6.82	12.58	18.49	24.52	30.84	37.39	43.99	50.79	50.79	3 / 2							
reaction time 0.161	interval	5.76	5.91	6.03	6.32	6.55	6.60	6.80	NJR PB	# of strides	12.58	11.94	12.87	13.40	24.52	26.27	1.75
	velocity 7.33	8.68	8.46	8.29	7.91	7.63	7.58	7.35	7.88	197.0	7.95	8.38	7.77	7.46	8.16	7.61	

Williams, Stacey-Ann (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 07-Aug-24	time 6.77	12.27	18.06	24.02	30.17	36.62	43.41	50.79	50.79	8 / 7							
reaction time 0.153	interval	5.50	5.79	5.96	6.15	6.45	6.79	7.38		# of strides	12.27	11.75	12.60	14.17	24.02	26.77	2.75
	velocity 7.39	9.09	8.64	8.39	8.13	7.75	7.36	6.78	7.88	192.5	8.15	8.51	7.94	7.06	8.33	7.47	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																	*Track Newsletter (2014) - USATF women's championships*
date 28-Jun-14	time	12.7		24.8		37.8		50.8	50.80	/ ~~4~~							
reaction time	interval			12.1		13.0		13.0	DQ	# of strides	12.70	12.10	13.00	13.00	24.80	26.00	1.20
	velocity	7.87		8.26		7.69		7.69	7.87		7.87	8.26	7.69	7.69	8.06	7.69	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting de Paris (Paris, FRA)																	*Omega Timing (2022) - diamond league race analysis*
date 18-Jun-22	time 6.55	11.92	17.47	23.34	29.59	36.16	43.12	50.80	50.80	8 / 5							
reaction time 0.157	interval	5.37	5.55	5.87	6.25	6.57	6.96	7.68	PB	# of strides	11.92	11.42	12.82	14.64	23.34	27.46	4.12
	velocity 7.63	9.31	9.01	8.52	8.00	7.61	7.18	6.51	7.87	189.7	8.39	8.76	7.80	6.83	8.57	7.28	

McLeod, Candice (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Athletissima (Lausanne, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 26-Aug-22	time 6.71	12.21	17.86	23.78	29.94	36.43	43.26	50.80	50.80	7 / 4							
reaction time 0.162	interval	5.50	5.65	5.92	6.16	6.49	6.83	7.54		# of strides	12.21	11.57	12.65	14.37	23.78	27.02	3.24
	velocity 7.45	9.09	8.85	8.45	8.12	7.70	7.32	6.63	7.87	200.7	8.19	8.64	7.91	6.96	8.41	7.40	

McLeod, Candice (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Meeting de Paris (Paris, FRA)																	*Omega Timing (2023) - diamond league race analysis*
date 09-Jun-23	time 6.76	12.40	18.19	24.18	30.40	36.82	43.49	50.80	50.80	2 / 6							
reaction time 0.173	interval	5.64	5.79	5.99	6.22	6.42	6.67	7.31		# of strides	12.40	11.78	12.64	13.98	24.18	26.62	2.44
	velocity 7.40	8.87	8.64	8.35	8.04	7.79	7.50	6.84	7.87		8.06	8.49	7.91	7.15	8.27	7.51	

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time	12.90							50.80	5 / 1							
reaction time 0.163	interval									# of strides	12.90						
	velocity	7.75							7.87	185.5	7.75						

Ford, JaMeesia (USA) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 23-Jun-24	time	12.20		24.03		36.89		50.80	50.80	2 / 8							
reaction time	interval			11.83		12.86		13.91		# of strides	12.20	11.83	12.86	13.91	24.03	26.77	2.74
	velocity	8.20		8.45		7.78		7.19	7.87	187.0	8.20	8.45	7.78	7.19	8.32	7.47	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																	*Track Newsletter (2014) - USATF women's championships*
date 28-Jun-14	time	12.6		24.4		37.3		50.8	50.81	/ ~~5~~ 4							
reaction time	interval			11.8		12.9		13.5		# of strides	12.60	11.80	12.90	13.50	24.40	26.40	2.00
	velocity	7.94		8.47		7.75		7.41	7.87		7.94	8.47	7.75	7.41	8.20	7.58	

Wimbley, Shakima (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Meeting de Paris (Paris, FRA)																	*Omega Timing (2018) - diamond league race analysis*
date 30-Jun-18	time	12.3		24.1		36.9		50.81	50.81	4 / 4							
reaction time 0.142	interval			11.8		12.8		13.9		# of strides	12.30	11.80	12.80	13.91	24.10	26.71	2.61
	velocity	8.13		8.47		7.81		7.19	7.87	183.7	8.13	8.47	7.81	7.19	8.30	7.49	

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Meeting de Paris (Paris, FRA)																	*Omega Timing (2021) - diamond league race analysis*

date	28-Aug-21	time	6.6	12.3	18.5	24.6	30.7	37.0	43.6	50.81	50.81	7 / 5						
reaction time	0.167	interval		5.70	6.20	6.10	6.10	6.30	6.60	7.21		# of strides	12.30	12.30	12.40	13.81	24.60	26.21	1.61
		velocity	7.58	8.77	8.06	8.20	8.20	7.94	7.58	6.93	7.87	178.5	8.13	8.13	8.06	7.24	8.13	7.63	

Adeleke, Rhasidat (IRL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 20-Jul-22	time	12.33		24.15		36.68		50.81	50.81	5 / 4							
reaction time 0.178	interval			11.82		12.53		14.13		# of strides	12.33	11.82	12.53	14.13	24.15	26.66	2.51
	velocity	8.11		8.46		7.98		7.08	7.87	183.0	8.11	8.46	7.98	7.08	8.28	7.50	

Kielbasinska, Anna (POL) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 22-Jul-22	time	12.28		24.12		36.89		50.81	50.81	1 / 8							
reaction time 0.147	interval			11.84		12.77		13.92		# of strides	12.28	11.84	12.77	13.92	24.12	26.69	2.57
	velocity	8.14		8.45		7.83		7.18	7.87		8.14	8.45	7.83	7.18	8.29	7.49	

Pipi, Ama (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 20-Aug-23	time	12.37		24.11		37.02		50.81	50.81	9 / 2							
reaction time 0.168	interval			11.74		12.91		13.79		# of strides	12.37	11.74	12.91	13.79	24.11	26.70	2.59
	velocity	8.08		8.52		7.75		7.25	7.87	192.0	8.08	8.52	7.75	7.25	8.30	7.49	

Irby-Jackson, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 20-Aug-23	time	12.06		23.83		36.57		50.81	50.81	7 / 3							
reaction time 0.187	interval			11.77		12.74		14.24		# of strides	12.06	11.77	12.74	14.24	23.83	26.98	3.15
	velocity	8.29		8.50		7.85		7.02	7.87	183.0	8.29	8.50	7.85	7.02	8.39	7.41	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Memorial van Damme (Brussels, BEL)										*Seiko Timing (2023) - world championship race analysis*							
date 08-Sep-23	time	6.92	12.66	18.47	24.45	30.60	37.02	43.73	50.81	50.81	8 / 4							
reaction time 0.218	interval		5.74	5.81	5.98	6.15	6.42	6.71	7.08		# of strides	12.66	11.79	12.57	13.79	24.45	26.36	1.91
	velocity	7.23	8.71	8.61	8.36	8.13	7.79	7.45	7.06	7.87		7.90	8.48	7.96	7.25	8.18	7.59	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bislett Games (Oslo, NOR)										*Omega Timing (2024) - diamond league race analysis*							
date 30-May-24	time	6.76	12.34	18.06	24.03	30.16	36.73	43.58	50.81	50.81	4 / 6							
reaction time 0.154	interval		5.58	5.72	5.97	6.13	6.57	6.85	7.23	NR PB	# of strides	12.34	11.69	12.70	14.08	24.03	26.78	2.75
	velocity	7.40	8.96	8.74	8.38	8.16	7.61	7.30	6.92	7.87	196.2	8.10	8.55	7.87	7.10	8.32	7.47	

Manuel, Lurdes Gloria (CZE) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 2 - 2024 Olympic Games (Paris, FRA)										*Paris 2024 Olympic Games - Results Book (2024)*							
date 06-Aug-24	time	6.98	12.67	18.34	24.20	30.37	36.81	43.60	50.81	50.81	5 / 3							
reaction time 0.178	interval		5.69	5.67	5.86	6.17	6.44	6.79	7.21		# of strides	12.67	11.53	12.61	14.00	24.20	26.61	2.41
	velocity	7.16	8.79	8.82	8.53	8.10	7.76	7.36	6.93	7.87	192.0	7.89	8.67	7.93	7.14	8.26	7.52	

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Prefontaine Classic (Eugene, OR)										*Omega Timing (2025) - diamond league race analysis*							
date 05-Jul-25	time	6.81	12.71	18.54	24.51	30.74	37.11	43.71	50.81	50.81	4 / 3							
reaction time 0.173	interval		5.90	5.83	5.97	6.23	6.37	6.60	7.10		# of strides	12.71	11.80	12.60	13.70	24.51	26.30	1.79
	velocity	7.34	8.47	8.58	8.38	8.03	7.85	7.58	7.04	7.87	185.7	7.87	8.47	7.94	7.30	8.16	7.60	

Johnson, Printassia (BAH) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 World Athletics Championships (Tokyo, JPN)										*Seiko Timing (2025) - 2025 World Championships race analysis*							
date 16-Sep-25	time		12.59		24.51		37.07		50.81	50.81	3 / 6							
reaction time 0.184	interval				11.92		12.56		13.74		# of strides	12.59	11.92	12.56	13.74	24.51	26.30	1.79
	velocity		7.94		8.39		7.96		7.28	7.87		7.94	8.39	7.96	7.28	8.16	7.60	

Stamenova, Rositsa (BUL) (1955)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Women's Friendship Games (Praha, TCH)										*Bondarchuk (2007) - transfer of training in sports*							
date 16-Aug-84	time		11.3		23.64				50.82	50.82	/ 6							
reaction time	interval				12.34				27.18	PB	# of strides	11.30	12.34			23.64	27.18	3.54
	velocity		8.85		8.10				7.36	7.87		8.85	8.10			8.46	7.36	

Leatherwood, Lillie (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 IAAF World Championships (Rome, ITA)										*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*							
date 31-Aug-87	time		12.70		24.37		37.07		50.82	50.82	7 / 5							
reaction time	interval				11.67		12.70		13.75		# of strides	12.70	11.67	12.70	13.75	24.37	26.45	2.08
	velocity		7.87		8.57		7.87		7.27	7.87		7.87	8.57	7.87	7.27	8.21	7.56	

Rattray-Williams, Cathy (JAM) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)										*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*							
date 25-Sep-88	time		12.59		24.41		36.97		50.82	50.82	7 / 6							
reaction time	interval				11.82		12.56		13.85	PB	# of strides	12.59	11.82	12.56	13.85	24.41	26.41	2.00
	velocity		7.94		8.46		7.96		7.22	7.87		7.94	8.46	7.96	7.22	8.19	7.57	

Hennagan, Monique (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 USA Olympic Trials (Sacramento, CA)										*Hymans (2008) - history of the US olympic trials - track and field*							
date 16-Jul-00	time		12.5		24.0		36.6		50.82	50.82	3 / 4							
reaction time	interval				11.5		12.6		14.2	PB	# of strides	12.50	11.50	12.60	14.22	24.00	26.82	2.82
	velocity		8.00		8.70		7.94		7.03	7.87		8.00	8.70	7.94	7.03	8.33	7.46	

Henderson, Monique (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)										*Track Newsletter (2007) - USATF women's championships*							
date 23-Jun-07	time				23.9		36.3		50.8	50.82	8 / 5							
reaction time	interval						12.40		14.50		# of strides			12.40	14.50	23.90	26.90	3.00

WR = World Rec. AR = Area Rec. OR = Olympic Rec. CR = Championship Rec. NR = National Rec. PB = Personal Best DQ = Disqualified DV = Drug Violation

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity				8.37		8.06		6.90	7.87	189.0			8.06	6.90	8.37	7.43	

Little, Shamier (USA) (1995)
FINAL - 2018 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2018) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-18	time		12.5		24.5		37.3		50.82	50.82	7 / 4							
reaction time	0.203	interval				12.0		12.8		13.5		# of strides	12.50	12.00	12.80	13.52	24.50	26.32	1.82
		velocity		8.00		8.33		7.81		7.40	7.87	185.0	8.00	8.33	7.81	7.40	8.16	7.60	

Hall, Anna (USA) (2001)
FINAL - 2023 Meeting de Paris (Paris, FRA) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-23	time	6.54	12.02	17.76	23.72	29.89	36.45	43.35	50.82	50.82	8 / 7							
reaction time	0.179	interval		5.48	5.74	5.96	6.17	6.56	6.90	7.47	PB	# of strides	12.02	11.70	12.73	14.37	23.72	27.10	3.38
		velocity	7.65	9.12	8.71	8.39	8.10	7.62	7.25	6.69	7.87	182.0	8.32	8.55	7.86	6.96	8.43	7.38	

McLeod, Candice (JAM) (1996)
FINAL - 2023 Memorial van Damme (Brussels, BEL) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	6.78	12.25	17.93	23.87	30.10	36.57	43.41	50.82	50.82	7 / 5							
reaction time	0.175	interval		5.47	5.68	5.94	6.23	6.47	6.84	7.41		# of strides	12.25	11.62	12.70	14.25	23.87	26.95	3.08
		velocity	7.37	9.14	8.80	8.42	8.03	7.73	7.31	6.75	7.87	199.2	8.16	8.61	7.87	7.02	8.38	7.42	

Williams, Sada (BAR) (1997)
FINAL - 2024 Kamila Skolimowska Memorial (Chorzów, POL) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Aug-24	time	6.71	12.42	18.29	24.29	30.60	36.96	43.61	50.82	50.82	9 / 8							
reaction time	0.168	interval		5.71	5.87	6.00	6.31	6.36	6.65	7.21		# of strides	12.42	11.87	12.67	13.86	24.29	26.53	2.24
		velocity	7.45	8.76	8.52	8.33	7.92	7.86	7.52	6.93	7.87		8.05	8.42	7.89	7.22	8.23	7.54	

Whittaker, Isabella (USA) (2002)
Heat 1 - 2025 World Athletics Championships (Tokyo, JPN) — *Seiko Timing (2025) - 2025 World Championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.30		24.34		37.13		50.82	50.82	8 / 2							
reaction time	0.185	interval				12.04		12.79		13.69		# of strides	12.30	12.04	12.79	13.69	24.34	26.48	2.14
		velocity		8.13		8.31		7.82		7.30	7.87		8.13	8.31	7.82	7.30	8.22	7.55	

Beckford, Allison (JAM) (1979)
FINAL - 2002 NCAA Championships (Baton Rouge, LA) — *Track Newsletter (2002) - NCAA championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-02	time				24.2		36.8		50.8	50.83	/ 1							
reaction time		interval						12.60		14.00	PB	# of strides			12.60	14.00	24.20	26.60	2.40
		velocity				8.26		7.94		7.14	7.87				7.94	7.14	8.26	7.52	

Ponteen, Tiandra (SKN) (1984)
FINAL - 2005 NCAA Championships (Sacramento, CA) — *Track Newsletter (2005) - NCAA women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-05	time						36.8		50.8	50.83	4 / 2							
reaction time		interval								14.00	NR	# of strides				14.00			
		velocity						8.15		7.14	7.87	185.7				7.14			

Ohuruogu, Christine (GBR) (1984)
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-08	time		12.75		24.85		37.72		50.83	50.83	4 / 2							
reaction time	0.234	interval				12.10		12.87		13.11		# of strides	12.75	12.10	12.87	13.11	24.85	25.98	1.13
		velocity		7.84		8.26		7.77		7.63	7.87		7.84	8.26	7.77	7.63	8.05	7.70	

Bolingo, Cynthia (BEL) (1993)
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		12.35		24.39		37.15		50.83	50.83	8 / 2							
reaction time	0.217	interval				12.04		12.76		13.68		# of strides	12.35	12.04	12.76	13.68	24.39	26.44	2.05
		velocity		8.10		8.31		7.84		7.31	7.87	189.7	8.10	8.31	7.84	7.31	8.20	7.56	

Jonathas, Wadeline (USA) (1998)
FINAL - 2022 USATF National Championships (Eugene, OR) — *Track Newsletter (2022) - USATF championships women*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-22	time		12.52		24.52		37.13		50.84	50.84	3 / 4							
reaction time		interval				12.00		12.61		13.71		# of strides	12.52	12.00	12.61	13.71	24.52	26.32	1.80
		velocity		7.99		8.33		7.93		7.29	7.87		7.99	8.33	7.93	7.29	8.16	7.60	

Diggs, Talitha (USA) (2002)
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		12.38		24.48		37.05		50.84	50.84	6 / 3							
reaction time	0.147	interval				12.10		12.57		13.79		# of strides	12.38	12.10	12.57	13.79	24.48	26.36	1.88
		velocity		8.08		8.26		7.96		7.25	7.87	195.0	8.08	8.26	7.96	7.25	8.17	7.59	

Little, Shamier (USA) (1995)
FINAL - 2023 Doha Diamond League (Doha, QAT) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-May-23	time	6.65	12.11	18.04	24.30	30.73	37.26	43.82	50.84	50.84	6 / 2							
reaction time	0.177	interval		5.46	5.93	6.26	6.43	6.53	6.56	7.02		# of strides	12.11	12.19	12.96	13.58	24.30	26.54	2.24
		velocity	7.52	9.16	8.43	7.99	7.78	7.66	7.62	7.12	7.87	191.0	8.26	8.20	7.72	7.36	8.23	7.54	

Irby-Jackson, Lynna (USA) (1998)
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-23	time	6.66	12.28	18.26	24.43	30.55	36.85	43.54	50.84	50.84	8 / 3							
reaction time	0.183	interval		5.62	5.98	6.17	6.12	6.30	6.69	7.30		# of strides	12.28	12.15	12.42	13.99	24.43	26.41	1.98
		velocity	7.51	8.90	8.36	8.10	8.17	7.94	7.47	6.85	7.87		8.14	8.23	8.05	7.15	8.19	7.57	

Nielsen, Laviai (GBR) (1988)
FINAL - 2023 Memorial van Damme (Brussels, BEL) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	6.69	12.18	17.92	23.92	30.16	36.67	43.47	50.84	50.84	3 / 6							
reaction time	0.174	interval		5.49	5.74	6.00	6.24	6.51	6.80	7.37		# of strides	12.18	11.74	12.75	14.17	23.92	26.92	3.00
		velocity	7.47	9.11	8.71	8.33	8.01	7.68	7.35	6.78	7.87		8.21	8.52	7.84	7.06	8.36	7.43	

Newnham, Emily (GBR) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2025 European Team Championships, First Division (Madrid, ESP)										*European Athletics (2025) - 2025 european team championships, first division - results book*							
date 27-Jun-25	time	6.71	12.49	18.52	24.71	30.89	37.29	43.84	50.84	50.84	3 / 5							
reaction time 0.176	interval		5.78	6.03	6.19	6.18	6.40	6.55	7.00	PB	# of strides	12.49	12.22	12.58	13.55	24.71	26.13	1.42
	velocity	7.45	8.65	8.29	8.08	8.09	7.81	7.63	7.14	7.87	191.0	8.01	8.18	7.95	7.38	8.09	7.65	

Wineberg, Mary (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 USA Olympic Trials (Eugene, OR)										*USATF Women's Sprint Development with HPC (2008)*							
date 03-Jul-08	time		11.96	17.08	23.69	29.96	36.50	43.22	50.85	50.85	4 / 2							
reaction time	interval			5.12	6.61	6.27	6.54	6.72	7.63		# of strides	11.96	11.73	12.81	14.35	23.69	27.16	3.47
	velocity		8.36	9.77	7.56	7.97	7.65	7.44	6.55	7.87		8.36	8.53	7.81	6.97	8.44	7.36	

Grenot, Libania (ITA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)										*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date 16-Aug-09	time		12.82		25.02		37.37		50.85	50.85	5 / 4							
reaction time 0.178	interval				12.20		12.35		13.48		# of strides	12.82	12.20	12.35	13.48	25.02	25.83	0.81
	velocity		7.80		8.20		8.10		7.42	7.87	185.7	7.80	8.20	8.10	7.42	7.99	7.74	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 USATF National Championship (Sacramento, CA)										*Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*							
date 24-Jun-17	time		12.43		23.99		36.88		50.85	50.85	2 / 7							
reaction time	interval				11.56		12.89		13.97		# of strides	12.43	11.56	12.89	13.97	23.99	26.86	2.87
	velocity		8.24		8.73		8.12		7.24	7.87		8.05	8.65	7.76	7.16	8.34	7.45	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Meeting de Paris (Paris, FRA)										*Omega Timing (2018) - diamond league race analysis*							
date 30-Jun-18	time		12.4		24.4		37.1		50.85	50.85	2 / 5							
reaction time 0.139	interval				12.0		12.7		13.8		# of strides	12.40	12.00	12.70	13.75	24.40	26.45	2.05
	velocity		8.06		8.33		7.87		7.27	7.87	186.7	8.06	8.33	7.87	7.27	8.20	7.56	

Le-Roy, Anastasia (JAM) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Anniversary Games (London, GBR)										*Omega Timing (2018) - diamond league race analysis*							
date 22-Jul-18	time		12.3		24.0		36.8		50.85	50.85	4 / 2							
reaction time 0.154	interval				11.7		12.8		14.1		# of strides	12.30	11.70	12.80	14.05	24.00	26.85	2.85
	velocity		8.13		8.55		7.81		7.12	7.87	197.0	8.13	8.55	7.81	7.12	8.33	7.45	

Anning, Amber (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)										*Grand Slam Track (2025) - results and splits by race*							
date 02-May-25	time		12.18		24.38		37.44		50.85	50.85	3 / 7							
reaction time 0.170	interval				12.20		13.06		13.41		# of strides	12.18	12.20	13.06	13.41	24.38	26.47	2.09
	velocity		8.21		8.20		7.66		7.46	7.87		8.21	8.20	7.66	7.46	8.20	7.56	

Brehmer, Christina (GDR) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1976 Olympic Games (Montreal, CAN)										*Lamare (1976) - les jeux de la XXI olympia, Montreal 1976*							
date 26-Jul-76	time		12.32		24.00		36.58		50.86	50.86	4 / 2							
reaction time	interval				11.68		12.58		14.28		# of strides	12.32	11.68	12.58	14.28	24.00	26.86	2.86
	velocity		8.12		8.56		7.95		7.00	7.86		8.12	8.56	7.95	7.00	8.33	7.45	

Quirot, Ana Fidelia (CUB) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1985 IAAF World Cup (Canberra, AUS)										*Vazel (2011) - speed reserve in the 400m*							
date 06-Oct-85				24.9				50.9	50.86	6 / 4							
reaction time	interval							26.00	PB	# of strides					24.90	26.00	1.10
	velocity			8.03				7.69	7.86						8.03	7.69	

Ellis-Watson, Taylor (USA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 NCAA Championships (Eugene, OR)										*Track Newsletter (2016) - NCAA women's championships*							
date 11-Jun-16	time			24.3		37.3		50.9	50.86	5 / 2							
reaction time	interval					13.00		13.60		# of strides			13.00	13.60	24.30	26.60	2.30
	velocity			8.23		7.69		7.35	7.86				7.69	7.35	8.23	7.52	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*							
date 09-Aug-17	time		12.05		23.54		36.33	43.20	50.70	50.86	8 / 6							
reaction time 0.162	interval				11.49		12.79	6.87	7.50		# of strides	12.05	11.49	12.79	14.37	23.54	27.16	3.62
	velocity		8.30		8.70		7.82	7.28	6.67	7.86	188.0	8.30	8.70	7.82	6.96	8.50	7.36	

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 USATF National Championships (Des Moines, IA)										*Track Newsletter (2019) - USATF championships women*							
date 27-Jul-19	time			24.2		36.8		50.9	50.86	/ 4							
reaction time	interval					12.60		14.10		# of strides			12.60	14.10	24.20	26.70	2.50
	velocity			8.26		7.94		7.09	7.86				7.94	7.09	8.26	7.49	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 20-Aug-23	time		12.56		24.10		36.81		50.86	50.86	6 / 2							
reaction time 0.207	interval				11.54		12.71		14.05		# of strides	12.56	11.54	12.71	14.05	24.10	26.76	2.66
	velocity		7.96		8.67		7.87		7.12	7.86	190.2	7.96	8.67	7.87	7.12	8.30	7.47	

Diggs, Talitha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 21-Aug-23	time		12.29		23.97		36.72		50.86	50.86	9 / 2							
reaction time 0.174	interval				11.68		12.75		14.14		# of strides	12.29	11.68	12.75	14.14	23.97	26.89	2.92
	velocity		8.14		8.56		7.84		7.07	7.86	200.5	8.14	8.56	7.84	7.07	8.34	7.44	

Smith, Phylis (GBR) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1992 Olympic Games (Barcelona, ESP)										*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*							

date	05-Aug-92	time			24.1		36.4		50.9	50.87	7 / 8								
reaction time		interval					12.30		14.50		# of strides			12.30	14.50	24.10	26.80	2.70	
		velocity			8.30		8.13		6.90	7.86				8.13	6.90	8.30	7.46		

Graham, Kim (USA) (1971)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 19-Jun-96	time		12.55		24.34		36.84	43.63	50.87	50.87	6 / 3								
reaction time	interval				11.79		12.50	6.79	7.24		# of strides	12.55	11.79	12.50	14.03	24.34	26.53	2.19	
	velocity		7.97		8.48		8.00	7.36	6.91	7.86		7.97	8.48	8.00	7.13	8.22	7.54		

Sanders, Nicola (GBR) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 European Championships (Göteborg, SWE)																	*Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles*
date 10-Aug-06	time				24.4		37.0		50.87	50.87	/ 6								
reaction time	interval						12.60		13.87		# of strides			12.60	13.87	24.40	26.47	2.07	
	velocity				8.20		15.87		7.21	7.86				7.94	7.21	8.20	7.56		

George, Patience (NGR) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time	6.71	12.18	17.87	23.83	30.00	36.53	43.47	50.87	50.87	3 / 3								
reaction time 0.249	interval		5.47	5.69	5.96	6.17	6.53	6.94	7.40		# of strides	12.18	11.65	12.70	14.34	23.83	27.04	3.21	
	velocity	7.45	9.14	8.79	8.39	8.10	7.66	7.20	6.76	7.86	194.0	8.21	8.58	7.87	6.97	8.39	7.40		

Gordon, Chrisann (JAM) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*
date 07-Aug-17	time		12.24		23.83		36.44	43.32	50.70	50.87	7 / ~~3~~ 2								
reaction time 0.172	interval				11.59		12.61	6.88	7.38		# of strides	12.24	11.59	12.61	14.26	23.83	26.87	3.04	
	velocity		8.17		8.63		7.93	7.27	6.78	7.86	201.7	8.17	8.63	7.93	7.01	8.39	7.44		

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2022) - diamond league race analysis*
date 02-Sep-22	time	6.69	12.26	17.94	23.87	30.16	36.76	43.58	50.87	50.87	7 / 6								
reaction time 0.182	interval		5.57	5.68	5.93	6.29	6.60	6.82	7.29		# of strides	12.26	11.61	12.89	14.11	23.87	27.00	3.13	
	velocity	7.47	8.98	8.80	8.43	7.95	7.58	7.33	6.86	7.86	183.2	8.16	8.61	7.76	7.09	8.38	7.41		

Diggs, Talitha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time		12.34		24.20		37.04		50.87	50.87	9 / 3								
reaction time 0.175	interval				11.86		12.84		13.83		# of strides	12.34	11.86	12.84	13.83	24.20	26.67	2.47	
	velocity		8.10		8.43		7.79		7.23	7.86	199.0	8.10	8.43	7.79	7.23	8.26	7.50		

Bryzgina, Olga (URS) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1987 IAAF World Championships (Rome, ITA)																	*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*
date 30-Aug-87	time		12.21		24.09		36.74		50.88	50.88	4 / 2								
reaction time	interval				11.88		12.65		14.14		# of strides	12.21	11.88	12.65	14.14	24.09	26.79	2.70	
	velocity		8.19		8.42		7.91		7.07	7.86	192.2	8.19	8.42	7.91	7.07	8.30	7.47		

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 03-Jul-08	time		12.79	17.89	24.62	30.72	37.15	43.61	50.88	50.88	7 / 3								
reaction time	interval			5.10	6.73	6.10	6.43	6.46	7.27		# of strides	12.79	11.83	12.53	13.73	24.62	26.26	1.64	
	velocity		7.82	9.80	7.43	8.20	7.78	7.74	6.88	7.86		7.82	8.45	7.98	7.28	8.12	7.62		

Dixon, Diamond (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)																	*Hymans (2020) - history of the US olympic trials - track and field*
date 24-Jun-12	time				24.3		36.9		50.88	50.88	8 / ~~5~~ 4								
reaction time 0.340	interval						12.60		13.98	PB	# of strides			12.60	13.98	24.30	26.58	2.28	
	velocity				8.23		7.94		7.15	7.86				7.94	7.15	8.23	7.52		

McCorory, Francena (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 USATF National Championships (Eugene, OR)																	*Track Newsletter (2015) - USATF women's championships*
date 27-Jun-15	time				24.4		36.8		50.9	50.88	/ 4								
reaction time	interval						12.4		14.1		# of strides			12.40	14.10	24.40	26.50	2.10	
	velocity				8.20		8.06		7.09	7.86				8.06	7.09	8.20	7.55		

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Athletissima (Lausanne, SUI)																	*Omega Timing (2019) - diamond league race analysis*
date 05-Jul-19	time		12.6		24.3		36.8		50.88	50.88	7 / 3								
reaction time 0.140	interval				11.7		12.5		14.1		# of strides	12.60	11.70	12.50	14.08	24.30	26.58	2.28	
	velocity		7.94		8.55		8.00		7.10	7.86		7.94	8.55	8.00	7.10	8.23	7.52		

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Olympic Games (Tokyo, JPN)																	*Omega Timing (2022) - Tokyo 2020 - race analysis - women's 400m final*
date 06-Aug-21	time	6.71	12.54	18.57	24.87	31.09	37.47	43.98	50.89	50.88	2 / 7								
reaction time 0.176	interval		5.83	6.03	6.30	6.22	6.38	6.51	6.91		# of strides	12.54	12.33	12.60	13.42	24.87	26.02	1.15	
	velocity	7.45	8.58	8.29	7.94	8.04	7.84	7.68	7.24	7.86		7.97	8.11	7.94	7.45	8.04	7.69		

Wilson, Britton (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 USATF Championships (Eugene, OR)																	*USATF and Karmarush (2025) - USATF championships results and race analysis*
date 02-Aug-25	time		12.25		24.00		36.62		50.88	50.88	7 / 6								
reaction time	interval				11.75		12.62		14.26		# of strides	12.25	11.75	12.62	14.26	24.00	26.88	2.88	
	velocity		8.16		8.51		7.92		7.01	7.86	181.0	8.16	8.51	7.92	7.01	8.33	7.44		

Guei, Floria (FRA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time	6.93	12.56	18.47	24.61	30.84	37.21	43.85	50.89	50.89	7 / 2								
reaction time 0.203	interval		5.63	5.91	6.14	6.23	6.37	6.64	7.04	PB	# of strides	12.56	12.05	12.60	13.68	24.61	26.28	1.67	

		velocity	7.22	8.88	8.46	8.14	8.03	7.85	7.53	7.10	7.86	192.0	7.96	8.30	7.94	7.31	8.13	7.61	

Irby-Jackson, Lynna (USA) (1998)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		11.96		23.74		36.38		50.89	50.89	3 / 1							
reaction time		interval				11.78		12.64		14.51		# of strides	11.96	11.78	12.64	14.51	23.74	27.15	3.41
		velocity		8.36		8.49		7.91		6.89	7.86	182.0	8.36	8.49	7.91	6.89	8.42	7.37	

Klaver, Lieke (NED) (1998)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 Meeting de Paris (Paris, FRA)																			*Omega Timing (2024) - diamond league race analysis*
date	07-Jul-24	time	6.76	12.28	18.07	24.04	30.20	36.58	43.42	50.89	50.89	7 / 6							
reaction time	0.202	interval		5.52	5.79	5.97	6.16	6.38	6.84	7.47		# of strides	12.28	11.76	12.54	14.31	24.04	26.85	2.81
		velocity	7.40	9.06	8.64	8.38	8.12	7.84	7.31	6.69	7.86	186.2	8.14	8.50	7.97	6.99	8.32	7.45	

Święty-Ersetic, Justyna (POL) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Repechage 1 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	06-Aug-24	time	7.01	12.63	18.42	24.40	30.61	37.01	43.58	50.89	50.89	4 / 2							
reaction time	0.229	interval		5.62	5.79	5.98	6.21	6.40	6.57	7.31		# of strides	12.63	11.77	12.61	13.88	24.40	26.49	2.09
		velocity	7.13	8.90	8.64	8.36	8.05	7.81	7.61	6.84	7.86	201.7	7.92	8.50	7.93	7.20	8.20	7.55	

Ingram, Sheila (USA) (1957)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1976 Olympic Games (Montreal, CAN)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	29-Jul-76	time				24.4		35.8		50.9	50.90	3 / 6							
reaction time		interval						11.40		15.10		# of strides			11.40	15.10	24.40	26.50	2.10
		velocity				8.20		8.77		6.62	7.86				8.77	6.62	8.20	7.55	

Leatherwood, Lillie (USA) (1964)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1987 NCAA Championships (Baton Rouge, LA)																			*Track Newsletter (1987) - NCAA Championships*
date	06-Jun-87	time				24.6				50.9	50.90	5 / 1							
reaction time		interval								26.30		# of strides					24.60	26.30	1.70
		velocity				8.13				7.60	7.86						8.13	7.60	

Miles, Jearl (USA) (1966)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1995 USATF National Championships (Sacramento, CA)																			*Track Newsletter (1995) - USATF National Championships*
date	17-Jun-95	time		12.8		25.6		38.2		50.9	50.90	/ 1							
reaction time		interval				12.80		12.60		12.70		# of strides	12.80	12.80	12.60	12.70	25.60	25.30	-0.30
		velocity		7.81		7.81		7.94		7.87	7.86		7.81	7.81	7.94	7.87	7.81	7.91	

Warren, Youlanda (USA) (1972)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																			*USATF Women's Sprint Development (1996)*
date	17-Jun-96	time		12.08		23.70		36.44	43.44	50.90	50.90	1 / 2							
reaction time		interval				11.62		12.74	7.00	7.46	**PB**	# of strides	12.08	11.62	12.74	14.46	23.70	27.20	3.50
		velocity		8.28		8.61		7.85	7.14	6.70	7.86		8.28	8.61	7.85	6.92	8.44	7.35	

Pospelova, Svetlana (RUS) (1979			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2006 European Championships (Göteborg, SWE)																			*Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles*
date	10-Aug-06	time				24.9		37.1		50.90	50.90	/ 7							
reaction time		interval						12.20		13.80		# of strides			12.20	13.80	24.90	26.00	1.10
		velocity				8.03		16.39		7.25	7.86				8.20	7.25	8.03	7.69	

Simon, Kennedy (USA) (2000)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 USATF National Championships (Eugene, OR)																			*Track Newsletter (2022) - USATF championships women*
date	25-Jun-22	time		12.36		24.49		37.01		50.90	50.90	/ 5							
reaction time		interval				12.13		12.52		13.89		# of strides	12.36	12.13	12.52	13.89	24.49	26.41	1.92
		velocity		8.09		8.24		7.99		7.20	7.86		8.09	8.24	7.99	7.20	8.17	7.57	

Miklós, Andrea (ROU) (1999)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 3 - 2025 World Athletics Championships (Tokyo, JPN)																			*Seiko Timing (2025) - 2025 World Championships race analysis*
date	16-Sep-25	time		12.33		23.96		36.83		50.90	50.90	4 / 6							
reaction time	0.167	interval				11.63		12.87		14.07		# of strides	12.33	11.63	12.87	14.07	23.96	26.94	2.98
		velocity		8.11		8.60		7.77		7.11	7.86	201.7	8.11	8.60	7.77	7.11	8.35	7.42	

Restrepo, Ximena (COL) (1969)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1993 IAAF World Championships (Stuttgart, GER)																			*Grgic (2019) - final result prediction in female 400m track event based on results achieved at certain race segments*
date	17-Aug-93	time		12.18		23.71		36.24		50.91	50.91	2 / 5							
reaction time		interval				11.53		12.53		14.67		# of strides	12.18	11.53	12.53	14.67	23.71	27.20	3.49
		velocity		8.21		8.67		7.98		6.82	7.86		8.21	8.67	7.98	6.82	8.44	7.35	

Okolo, Courtney (USA) (1994)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Memorial van Damme (Brussels, BEL)																			*Omega Timing (2017) - diamond league race analysis*
date	01-Sep-17	time		12.5	18.4	24.4	30.7	37.2	43.9	50.91	50.91	4 / 3							
reaction time	0.259	interval			5.90	6.00	6.30	6.50	6.70	7.01		# of strides	12.50	11.90	12.80	13.71	24.40	26.51	2.11
		velocity		8.00	8.47	8.33	7.94	7.69	7.46	7.13	7.86	192.7	8.00	8.40	7.81	7.29	8.20	7.54	

Neubauer, Dagmar (GDR) (1962)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 1988 Olympic Games (Seoul, KOR)																			*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*
date	25-Sep-88	time		12.31		24.18		37.01		50.92	50.92	2 / 8							
reaction time		interval				11.87		12.83		13.91		# of strides	12.31	11.87	12.83	13.91	24.18	26.74	2.56
		velocity		8.12		8.42		7.79		7.19	7.86		8.12	8.42	7.79	7.19	8.27	7.48	

Vondrová, Lada (CZE) (1999)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time		12.57		24.57		37.23		50.92	50.92	3 / 4							
reaction time	0.232	interval				12.00		12.66		13.69	**PB**	# of strides	12.57	12.00	12.66	13.69	24.57	26.35	1.78
		velocity		7.96		8.33		7.90		7.30	7.86	194.0	7.96	8.33	7.90	7.30	8.14	7.59	

Joseph, Rachel (USA) (2004)
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		12.44		24.28		37.09		50.92	50.92	4 / 1							
reaction time		interval				11.84		12.81		13.83	PB	# of strides	12.44	11.84	12.81	13.83	24.28	26.64	2.36
		velocity		8.04		8.45		7.81		7.23	7.86	182.5	8.04	8.45	7.81	7.23	8.24	7.51	

Effiong, Rosey (USA) (2001)
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-24	time		12.22		23.81		36.50		50.92	50.92	6 / 5							
reaction time		interval				11.59		12.69		14.42		# of strides	12.22	11.59	12.69	14.42	23.81	27.11	3.30
		velocity		8.18		8.63		7.88		6.93	7.86	193.0	8.18	8.63	7.88	6.93	8.40	7.38	

Pryce, Nickisha (JAM) (2001)
Long Sprints - 2025 Grand Slam Track Kingston (Kingston, JAM)
Grand Slam Track (2025) - results and splits by race

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Apr-25	time		12.30		23.97		36.52		50.92	50.92	5 / 6							
reaction time	0.210	interval				11.67		12.55		14.40		# of strides	12.30	11.67	12.55	14.40	23.97	26.95	2.98
		velocity		8.13		8.57		7.97		6.94	7.86	189.0	8.13	8.57	7.97	6.94	8.34	7.42	

Bukowiecka, Natalia (POL) (1998)
FINAL - 2025 Jetour Doha Meeting (Doha, QAT)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	6.83	12.07	18.48	24.73	31.08	37.55	43.99	50.92	50.92	6 / 2							
reaction time	0.200	interval		5.24	6.41	6.25	6.35	6.47	6.44	6.93		# of strides	12.07	12.66	12.82	13.37	24.73	26.19	1.46
		velocity	7.32	9.54	7.80	8.00	7.87	7.73	7.76	7.22	7.86	197.0	8.29	7.90	7.80	7.48	8.09	7.64	

Smith, Stephanie (USA) (1985)
FINAL - 2005 NCAA Championships (Sacramento, CA)
Track Newsletter (2005) - NCAA women's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-05	time				24.4		37.2		50.9	50.93	6 / 3							
reaction time		interval						12.80		13.70	PB	# of strides			12.80	13.70	24.40	26.50	2.10
		velocity				8.20		7.81		7.30	7.85	185.0			7.81	7.30	8.20	7.55	

Okolo, Courtney (USA) (1994)
FINAL - 2018 Müller Anniversary Games (London, GBR)
Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-18	time		12.7		24.8		37.4		50.93	50.93	6 / 3							
reaction time	0.223	interval				12.1		12.6		13.5		# of strides	12.70	12.10	12.60	13.53	24.80	26.13	1.33
		velocity		7.87		8.26		7.94		7.39	7.85	192.0	7.87	8.26	7.94	7.39	8.06	7.65	

Bromfield, Junelle (JAM) (1998)
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Aug-22	time	6.75	12.30	18.07	24.07	30.25	36.73	43.59	50.93	50.93	2 / 6							
reaction time	0.194	interval		5.55	5.77	6.00	6.18	6.48	6.86	7.34		# of strides	12.30	11.77	12.66	14.20	24.07	26.86	2.79
		velocity	7.41	9.01	8.67	8.33	8.09	7.72	7.29	6.81	7.85		8.13	8.50	7.90	7.04	8.31	7.45	

Kielbasinska, Anna (POL) (1990)
FINAL - 2022 Weltklasse (Zürich, SUI)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.59	12.27	18.16	24.17	30.45	36.97	43.74	50.93	50.93	8 / 6							
reaction time	0.158	interval		5.68	5.89	6.01	6.28	6.52	6.77	7.19		# of strides	12.27	11.90	12.80	13.96	24.17	26.76	2.59
		velocity	7.59	8.80	8.49	8.32	7.96	7.67	7.39	6.95	7.85		8.15	8.40	7.81	7.16	8.27	7.47	

Ohuruogu, Victoria (GBR) (1993)
Heat 4 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.85	12.38	18.06	24.04	30.22	36.64	43.50	50.93	50.93	6 / 4							
reaction time	0.196	interval		5.53	5.68	5.98	6.18	6.42	6.86	7.43		# of strides	12.38	11.66	12.60	14.29	24.04	26.89	2.85
		velocity	7.30	9.04	8.80	8.36	8.09	7.79	7.29	6.73	7.85	193.2	8.08	8.58	7.94	7.00	8.32	7.44	

Vaičule, Gunta (LAT) (1995)
Repechage 3 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	7.02	12.72	18.51	24.48	30.75	37.17	43.75	50.93	50.93	2 / 2							
reaction time	0.192	interval		5.70	5.79	5.97	6.27	6.42	6.58	7.18		# of strides	12.72	11.76	12.69	13.76	24.48	26.45	1.97
		velocity	7.12	8.77	8.64	8.38	7.97	7.79	7.60	6.96	7.85	196.0	7.86	8.50	7.88	7.27	8.17	7.56	

Williams, Sada (BAR) (1997)
Heat 2 - 2025 World Athletics Championships (Tokyo, JPN)
Seiko Timing (2025) - 2025 World Championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.26		23.86		36.41		50.93	50.93	7 / 4							
reaction time	0.216	interval				11.60		12.55		14.52		# of strides	12.26	11.60	12.55	14.52	23.86	27.07	3.21
		velocity		8.16		8.62		7.97		6.89	7.85		8.16	8.62	7.97	6.89	8.38	7.39	

Graham, Kim (USA) (1971)
Semi-Final 1 - 1997 USATF Championships (Indianapolis, IN)
Track Newsletter (1997) - USATF National Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-97	time				24.5		36.9		50.9	50.94	/ 1							
reaction time		interval						12.40		14.00		# of strides			12.40	14.00	24.50	26.40	1.90
		velocity				8.16		8.06		7.14	7.85				8.06	7.14	8.16	7.58	

Montsho, Amantle (BOT) (1983)
FINAL - 2009 ISTAF (Berlin, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		12.56		24.73		37.42		50.94	50.94	/ 2							
reaction time	0.572	interval				12.17		12.69		13.52		# of strides	12.56	12.17	12.69	13.52	24.73	26.21	1.48
		velocity		7.96		8.22		7.88		7.40	7.85		7.96	8.22	7.88	7.40	8.09	7.63	

Williams, Jodie (GBR) (1993)
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-21	time	6.8	12.4	18.4	24.5	30.7	37.3	44.0	50.94	50.94	7 / 2							
reaction time	0.136	interval		5.60	6.00	6.10	6.20	6.60	6.70	6.94	PB	# of strides	12.40	12.10	12.80	13.64	24.50	26.44	1.94
		velocity	7.35	8.93	8.33	8.20	8.06	7.58	7.46	7.20	7.85	186.7	8.06	8.26	7.81	7.33	8.16	7.56	

Bolingo, Cynthia (BEL) (1993)
FINAL - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

date	17-Aug-22	time		12.18		24.05		36.98		50.94	50.94	7 / 7						
reaction time	0.227	interval				11.87		12.93		13.96		# of strides	12.18	11.87	12.93	13.96	24.05	26.89	2.84
		velocity		8.21		8.42		7.73		7.16	7.85	189.0	8.21	8.42	7.73	7.16	8.32	7.44	

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)																	
date	21-Jun-24	time		12.35		24.18		37.26		50.94	50.94	7 / 2							
reaction time		interval				11.83		13.08		13.68		# of strides	12.35	11.83	13.08	13.68	24.18	26.76	2.58
		velocity		8.10		8.45		7.65		7.31	7.85	183.0	8.10	8.45	7.65	7.31	8.27	7.47	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Lear, Bailey (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																	
date	22-Jun-24	time		12.33		24.12		36.74		50.94	50.94	7 / 5							
reaction time		interval				11.79		12.62		14.20	PB	# of strides	12.33	11.79	12.62	14.20	24.12	26.82	2.70
		velocity		8.11		8.48		7.92		7.04	7.85		8.11	8.48	7.92	7.04	8.29	7.46	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Bauhaus Galan (Stockholm, SWE)																	
date	15-Jun-25	time	6.63	12.42	18.25	24.20	30.34	36.82	43.62	50.94	50.94	2 / 7							
reaction time	0.159	interval		5.79	5.83	5.95	6.14	6.48	6.80	7.32		# of strides	12.42	11.78	12.62	14.12	24.20	26.74	2.54
		velocity	7.54	8.64	8.58	8.40	8.14	7.72	7.35	6.83	7.85		8.05	8.49	7.92	7.08	8.26	7.48	

Omega Timing (2025) - diamond league race analysis

Deau, Alexe (FRA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U23 Championships (Bergen, NOR)																	
date	19-Jul-25	time	6.71	12.23	17.99	23.95	30.18	36.74	43.64	50.94	50.94	4 / 3							
reaction time	0.174	interval		5.52	5.76	5.96	6.23	6.56	6.90	7.30	PB	# of strides	12.23	11.72	12.79	14.20	23.95	26.99	3.04
		velocity	7.45	9.06	8.68	8.39	8.03	7.62	7.25	6.85	7.85		8.18	8.53	7.82	7.04	8.35	7.41	

European Athletics (2025) - 2025 european athletics U23 championships- results book

Naser, Salwa Eid (BRN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Athlos (Randalls Island, NY)																	
date	10-Oct-25	time		12.15		23.88		36.61		50.94	50.94	5 / 2							
reaction time		interval				11.73		12.73		14.33		# of strides	12.15	11.73	12.73	14.33	23.88	27.06	3.18
		velocity		8.23		8.53		7.86		6.98	7.85	189.0	8.23	8.53	7.86	6.98	8.38	7.39	

Athlos and Karmarush (2025). Athlos results and race analysis

Howard, Sherri (USA) (1962)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1985 NCAA Championships (Austin, TX)																	
date	01-Jun-85	time				23.6				51.0	50.95	5 / 1							
reaction time		interval								27.40		# of strides					23.60	27.40	3.80
		velocity				8.47				7.30	7.85						8.47	7.30	

Track Newsletter (1985) - NCAA Championships

Bolingo, Cynthia (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, First Division (Chorzów, POL)																	
date	23-Jun-23	time		12.28		24.14		37.17		50.95	50.95	8 / 3							
reaction time	0.207	interval				11.86		13.03		13.78		# of strides	12.28	11.86	13.03	13.78	24.14	26.81	2.67
		velocity		8.14		8.43		7.67		7.26	7.85	189.7	8.14	8.43	7.67	7.26	8.29	7.46	

European Athletics (2023) - 3rd european games, athletics - results book

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																	
date	02-Sep-23	time	6.65	12.27	18.07	24.07	30.22	36.68	43.44	50.95	50.95	4 / 4							
reaction time	0.198	interval		5.62	5.80	6.00	6.15	6.46	6.76	7.51		# of strides	12.27	11.80	12.61	14.27	24.07	26.88	2.81
		velocity	7.52	8.90	8.62	8.33	8.13	7.74	7.40	6.66	7.85		8.15	8.47	7.93	7.01	8.31	7.44	

Omega Timing (2023) - diamond league race analysis

Święty-Ersetic, Justyna (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 Olympic Games (Paris, FRA)																	
date	05-Aug-24	time	6.94	12.51	18.33	24.47	30.71	37.06	43.73	50.95	50.95	4 / 4							
reaction time	0.192	interval		5.57	5.82	6.14	6.24	6.35	6.67	7.22		# of strides	12.51	11.96	12.59	13.89	24.47	26.48	2.01
		velocity	7.20	8.98	8.59	8.14	8.01	7.87	7.50	6.93	7.85	200.0	7.99	8.36	7.94	7.20	8.17	7.55	

Paris 2024 Olympic Games - Results Book (2024)

Wineberg, Mary (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 IAAF World Championships (Osaka, JPN)																	
date	29-Aug-07	time	6.60	12.20	18.03	24.22	30.42	36.94	43.69	50.96	50.96	2 / 8							
reaction time	0.159	interval		5.60	5.83	6.19	6.20	6.52	6.75	7.27		# of strides	12.20	12.02	12.72	14.02	24.22	26.74	2.52
		velocity	7.58	8.93	8.58	8.08	8.06	7.67	7.41	6.88	7.85	185.0	8.20	8.32	7.86	7.13	8.26	7.48	

Mochida (2008) - biomechancial analysis of the 400m final race at ehe 2007 world championships in athletics

Święty-Ersetic, Justyna (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2019 IAAF World Championships (Doha, QAT)																	
date	01-Oct-19	time	6.91	12.65	18.45	24.41	30.58	36.99	43.71	50.96	50.96	5 / 2							
reaction time	0.213	interval		5.74	5.80	5.96	6.17	6.41	6.72	7.25		# of strides	12.65	11.76	12.58	13.97	24.41	26.55	2.14
		velocity	7.24	8.71	8.62	8.39	8.10	7.80	7.44	6.90	7.85	204.0	7.91	8.50	7.95	7.16	8.19	7.53	

Yamanaka (2019) - race analysis of men and women 400m competition

McLeod, Candice (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)																	
date	09-Sep-21	time	7.0	12.9	19.0	25.1	31.3	37.6	44.1	50.96	50.96	8 / 5							
reaction time	0.152	interval		5.90	6.10	6.10	6.20	6.30	6.50	6.86		# of strides	12.90	12.20	12.50	13.36	25.10	25.86	0.76
		velocity	7.14	8.47	8.20	8.20	8.06	7.94	7.69	7.29	7.85		7.75	8.20	8.00	7.49	7.97	7.73	

Omega Timing (2021) - diamond league race analysis

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)																	
date	30-Jun-22	time	6.75	12.24	17.83	23.74	29.99	36.53	43.39	50.96	50.96	7 / 2							
reaction time	0.165	interval		5.49	5.59	5.91	6.25	6.54	6.86	7.57		# of strides	12.24	11.50	12.79	14.43	23.74	27.22	3.48
		velocity	7.41	9.11	8.94	8.46	8.00	7.65	7.29	6.61	7.85		8.17	8.70	7.82	6.93	8.42	7.35	

Omega Timing (2022) - diamond league race analysis

Dunmore, Makenzie (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)																	
date	08-Jul-23	time		12.34		23.83		36.43		50.96	50.96	2 / 6							
reaction time	0.186	interval				11.49		12.60		14.53		# of strides	12.34	11.49	12.60	14.53	23.83	27.13	3.30

Track Newsletter (2023) - USATF championships/WCT women

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.10		8.70		7.94		6.88	7.85		8.10	8.70	7.94	6.88	8.39	7.37	

Little, Shamier (USA) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	23-Jun-24	time		12.02		23.69		36.28		50.96	50.96	4 / 9							
reaction time		interval				11.67		12.59		14.68		# of strides	12.02	11.67	12.59	14.68	23.69	27.27	3.58
		velocity		8.32		8.57		7.94		6.81	7.85	190.0	8.32	8.57	7.94	6.81	8.44	7.33	

Adeleke, Rhasidat (IRL) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Memorial van damme (Brussels, BEL)																			*Omega Timing (2024) - diamond league race analysis*
date	13-Sep-24	time	6.75	12.22	17.83	23.78	29.93	36.40	43.24	50.96	50.96	4 / ~~4~~ 3							
reaction time	0.155	interval		5.47	5.61	5.95	6.15	6.47	6.84	7.72		# of strides	12.22	11.56	12.62	14.56	23.78	27.18	3.40
		velocity	7.41	9.14	8.91	8.40	8.13	7.73	7.31	6.48	7.85		8.18	8.65	7.92	6.87	8.41	7.36	

Miklós, Andrea (ROU) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2025 World Athletics Championships (Tokyo, JPN)																			*Seiko Timing (2025) - 2025 World Championships race analysis*
date	14-Sep-25	time		12.42		24.25		37.13		50.96	50.96	4 / 3							
reaction time	0.175	interval				11.83		12.88		13.83		# of strides	12.42	11.83	12.88	13.83	24.25	26.71	2.46
		velocity		8.05		8.45		7.76		7.23	7.85	199.0	8.05	8.45	7.76	7.23	8.25	7.49	

McPherson, Stephenie (JAM) (1988)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																			*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date	15-Aug-16	time	6.79	12.36	18.03	23.85	29.94	36.36	43.26	50.97	50.97	8 / 6							
reaction time	0.133	interval		5.57	5.67	5.82	6.09	6.42	6.90	7.71		# of strides	12.36	11.49	12.51	14.61	23.85	27.12	3.27
		velocity	7.36	8.98	8.82	8.59	8.21	7.79	7.25	6.49	7.85	187.2	8.09	8.70	7.99	6.84	8.39	7.37	

Sevilla, Paula (ESP) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2025 World Athletics Championships (Tokyo, JPN)																			*Seiko Timing (2025) - 2025 World Championships race analysis*
date	16-Sep-25	time		12.46		24.17		37.01		50.97	50.97	2 / 7							
reaction time	0.180	interval				11.71		12.84		13.96		# of strides	12.46	11.71	12.84	13.96	24.17	26.80	2.63
		velocity		8.03		8.54		7.79		7.16	7.85	200.7	8.03	8.54	7.79	7.16	8.27	7.46	

Breuer, Grit (GER) (1972)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2002 European Championships (Munich, GER)																			*Graubner (2009) - http://www.fgs.uni-halle.de*
date	07-Aug-02	time		12.38		23.90		37.01		50.98	50.98	/ 1							
reaction time	0.150	interval				11.52		13.11		13.97		# of strides	12.38	11.52	13.11	13.97	23.90	27.08	3.18
		velocity		8.08		8.68		7.63		7.16	7.85		8.08	8.68	7.63	7.16	8.37	7.39	

Henderson, Monique (USA) (1983)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 USA Olympic Trials (Eugene, OR)																			*USATF Women's Sprint Development with HPC (2008)*
date	03-Jul-08	time		12.23	17.63	24.51	30.68	37.23	43.72	50.98	50.98	8 / 4							
reaction time		interval			5.40	6.88	6.17	6.55	6.49	7.26		# of strides	12.23	12.28	12.72	13.75	24.51	26.47	1.96
		velocity		8.18	9.26	7.27	8.10	7.63	7.70	6.89	7.85		8.18	8.14	7.86	7.27	8.16	7.56	

Ryzhova, Kseniya (RUS) (1987)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 IAAF World Championships (Moscow, RUS)																			*Track Newsletter (2013) - world championships women*
date	12-Aug-13	time		12.1		23.6		36.3		51.0	50.98	7 / 7							
reaction time	0.195	interval				11.5		12.7		14.7		# of strides	12.10	11.50	12.70	14.70	23.60	27.40	3.80
		velocity		8.26		8.70		7.87		6.80	7.85		8.26	8.70	7.87	6.80	8.47	7.30	

Hastings, Natasha (USA) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Memorial van Damme (Brussels, BEL)																			*Omega Timing (2017) - diamond league race analysis*
date	01-Sep-17	time		12.2	18.2	24.6	31.0	37.3	43.9	50.98	50.98	9 / 4							
reaction time	0.197	interval			6.00	6.40	6.40	6.30	6.60	7.08		# of strides	12.20	12.40	12.70	13.68	24.60	26.38	1.78
		velocity		8.20	8.33	7.81	7.81	7.94	7.58	7.06	7.85	194.0	8.20	8.06	7.87	7.31	8.13	7.58	

Abbott, Chloe (USA) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)																			*Track Newsletter (2019) - NCAA women's championships*
date	07-Jun-19	time						37.1		51.0	50.98	/ 2							
reaction time	0.234	interval								13.90	**PB**	# of strides				13.90			
		velocity						5.39		7.19	7.85					7.19			

Klaver, Lieke (NED) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)																			*Omega Timing (2020) - diamond league race analysis*
date	17-Sep-20	time	6.7	12.2	17.9	23.9	30.1	36.8	43.7	50.98	50.98	4 / 1							
reaction time	0.200	interval		5.50	5.70	6.00	6.20	6.70	6.90	7.28	**NUR PB**	# of strides	12.20	11.70	12.90	14.18	23.90	27.08	3.18
		velocity	7.46	9.09	8.77	8.33	8.06	7.46	7.25	6.87	7.85	189.5	8.20	8.55	7.75	7.05	8.37	7.39	

Malone, Maicel (USA) (1969)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 IAAF World Championships (Gothenburg, SWE)																			*Track Newsletter (1995) - World Championships V*
date	08-Aug-95	time		12.6		24.2		36.6		51	50.99	7 / 7							
reaction time		interval				11.60		12.40		14.40		# of strides	12.60	11.60	12.40	14.40	24.20	26.80	2.60
		velocity		7.94		8.62		8.06		6.94	7.84		7.94	8.62	8.06	6.94	8.26	7.46	

Stepter, Jaide (USA) (1994)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)																			*Omega Timing (2018) - diamond league race analysis*
date	10-Jun-18	time		12.4		24.2		36.9		50.99	50.99	3 / 5							
reaction time	0.149	interval				11.8		12.7		14.1		# of strides	12.40	11.80	12.70	14.09	24.20	26.79	2.59
		velocity		8.06		8.47		7.87		7.10	7.84	190.2	8.06	8.47	7.87	7.10	8.26	7.47	

Ohuruogu, Victoria (GBR) (1993)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	20-Jul-22	time		12.55		24.55		37.29		50.99	50.99	8 / 5							
reaction time	0.178	interval				12.00		12.74		13.70	**PB**	# of strides	12.55	12.00	12.74	13.70	24.55	26.44	1.89
		velocity		7.97		8.33		7.85		7.30	7.84	193.2	7.97	8.33	7.85	7.30	8.15	7.56	

Mawdsley, Sharlene (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																	
date 09-Jun-24 time		12.43		24.38		37.17		50.99	50.99	8 / 2							
reaction time 0.200 interval				11.95		12.79		13.82		# of strides	12.43	11.95	12.79	13.82	24.38	26.61	2.23
velocity		8.05		8.37		7.82		7.24	7.84	192.5	8.05	8.37	7.82	7.24	8.20	7.52	

European Athletics (2024) - 2024 european athletics championships - results book

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Reebok (New York, NY)																	
date 11-Jun-05 time				24.5				51.0	51.00	4 / 2							
reaction time interval								26.50		# of strides					24.50	26.50	2.00
velocity				8.16				7.55	7.84	190.2					8.16	7.55	

Track Newsletter (2005) - US invitationals- reebok women

Barnett, Sharrika (JAM) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)																	
date 07-Jun-19 time						36.6		51.0	51.00	/ 3							
reaction time 0.220 interval								14.40		# of strides				14.40			
velocity						5.46		6.94	7.84					6.94			

Track Newsletter (2019) - NCAA women's championships

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)																	
date 09-Sep-21 time	7.0	12.8	18.6	24.6	30.7	37.2	44.0	51.00	51.00	3 / 6							
reaction time 0.186 interval		5.80	5.80	6.00	6.10	6.50	6.80	7.00		# of strides	12.80	11.80	12.60	13.80	24.60	26.40	1.80
velocity	7.14	8.62	8.62	8.33	8.20	7.69	7.35	7.14	7.84		7.81	8.47	7.94	7.25	8.13	7.58	

Omega Timing (2021) - diamond league race analysis

Irby, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)																	
date 20-Jul-22 time		12.07		24.24		36.80		51.00	51.00	7 / 6							
reaction time 0.184 interval				12.17		12.56		14.20		# of strides	12.07	12.17	12.56	14.20	24.24	26.76	2.52
velocity		8.29		8.22		7.96		7.04	7.84	183.0	8.29	8.22	7.96	7.04	8.25	7.47	

Timing by Seiko (2022) - world athletics championships race analysis

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																	
date 05-Aug-22 time	6.7	12.3	18.1	24.2	30.5	37.0	43.7	51.00	51.00	5 / 1							
reaction time 0.160 interval		5.60	5.80	6.10	6.30	6.50	6.70	7.30		# of strides	12.30	11.90	12.80	14.00	24.20	26.80	2.60
velocity	7.46	8.93	8.62	8.20	7.94	7.69	7.46	6.85	7.84	195.0	8.13	8.40	7.81	7.14	8.26	7.46	

Longines Timing (2022) - commonwealth games race analysis

Gogl-Walli, Susanne (AUT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																	
date 20-Aug-23 time		12.48		24.27		37.18		51.00	51.00	4 / 4							
reaction time 0.173 interval				11.79		12.91		13.82		# of strides	12.48	11.79	12.91	13.82	24.27	26.73	2.46
velocity		8.01		8.48		7.75		7.24	7.84		8.01	8.48	7.75	7.24	8.24	7.48	

Seiko Timing (2023) - world championship race analysis

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Championship (Palo Alto, CA)																	
date 21-Jun-03 time				23.79		36.96	43.63	51.01	51.01	4 / 1							
reaction time interval						13.17	6.67	7.38		# of strides			13.17	14.05	23.79	27.22	3.43
velocity				8.41		7.59	7.50	6.78	7.84				7.59	7.12	8.41	7.35	

USATF Women's Sprint Development (2003)

Ohuruogu, Christine (GBR) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)																	
date 24-Aug-15 time	6.88	12.60	18.55	24.77	31.05	37.30	43.90	51.01	51.01	3 / 1							
reaction time 0.177 interval		5.72	5.95	6.22	6.28	6.25	6.60	7.11		# of strides	12.60	12.17	12.53	13.71	24.77	26.24	1.47
velocity	7.27	8.74	8.40	8.04	7.96	8.00	7.58	7.03	7.84	183.0	7.94	8.22	7.98	7.29	8.07	7.62	

Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims

Jonathas, Wadeline (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)																	
date 09-Sep-19 time		12.42		24.17		36.87		51.01	51.01	4 / 1							
reaction time 0.173 interval				11.75		12.70		14.14		# of strides	12.42	11.75	12.70	14.14	24.17	26.84	2.67
velocity		8.05		8.51		7.87		7.07	7.84	193.5	8.05	8.51	7.87	7.07	8.27	7.45	

European Athletics (2019) - race analysis

Effiong, Rosey (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2025 USATF Championships (Eugene, OR)																	
date 01-Aug-25 time		12.04		23.80		36.56		51.01	51.01	6 / 3							
reaction time interval				11.76		12.76		14.45		# of strides	12.04	11.76	12.76	14.45	23.80	27.21	3.41
velocity		8.31		8.50		7.84		6.92	7.84		8.31	8.50	7.84	6.92	8.40	7.35	

USATF and Karmarush (2025) - USATF championships results and race analysis

Wilson, Linetta (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																	
date 17-Jun-96 time		12.63		24.35		36.84	43.62	51.02	51.02	6 / 3							
reaction time interval				11.72		12.49	6.78	7.40	PB	# of strides	12.63	11.72	12.49	14.18	24.35	26.67	2.32
velocity		7.92		8.53		8.01	7.37	6.76	7.84		7.92	8.53	8.01	7.05	8.21	7.50	

USATF Women's Sprint Development (1996)

McConnell, Lee (GBR) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	
date 08-Aug-02 time		12.58		24.33		37.02		51.02	51.02	6 / 3							
reaction time 0.209 interval				11.75		12.69		14.00	PB	# of strides	12.58	11.75	12.69	14.00	24.33	26.69	2.36
velocity		7.95		8.51		7.88		7.14	7.84		7.95	8.51	7.88	7.14	8.22	7.49	

Graubner (2009) - http://www.fgs.uni-halle.de

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 NCAA Championships (Eugene, OR)																	
date 11-Jun-10 time				24.2		37.0		51.0	51.02	/ 2							
reaction time interval						12.8		14.0		# of strides			12.80	14.00	24.20	26.80	2.60
velocity				8.26		7.81		7.14	7.84				7.81	7.14	8.26	7.46	

Track Newsletter (2010) - NCAA women's championships

Baumgart-Witan, Iga (POL) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2019 IAAF World Championships (Doha, QAT)																	

Yamanaka (2019) - race analysis of men and women 400m competition

date	01-Oct-19	time	6.99	12.70	18.48	24.49	30.71	37.24	43.97	51.02	51.02	6 / 3						
reaction time	0.192	interval		5.71	5.78	6.01	6.22	6.53	6.73	7.05	PB	# of strides	12.70	11.79	12.75	13.78	24.49	26.53	2.04
		velocity	7.15	8.76	8.65	8.32	8.04	7.66	7.43	7.09	7.84	178.7	7.87	8.48	7.84	7.26	8.17	7.54	

Whitney, Kaylin (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
date	10-Aug-22	time	6.86	12.52	18.35	24.30	30.43	36.89	43.67	51.02	51.02	8 / 7							
reaction time	0.222	interval		5.66	5.83	5.95	6.13	6.46	6.78	7.35		# of strides	12.52	11.78	12.59	14.13	24.30	26.72	2.42
		velocity	7.29	8.83	8.58	8.40	8.16	7.74	7.37	6.80	7.84	185.2	7.99	8.49	7.94	7.08	8.23	7.49	

Omega Timing (2022) - diamond league race analysis

Nielsen, Laviai (GBR) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Kamila Skolimowska Memorial (Chorzów, POL)																	
date	25-Aug-24	time	6.66	12.20	17.94	24.03	30.34	37.04	43.96	51.02	51.02	1 / 9							
reaction time	0.154	interval		5.54	5.74	6.09	6.31	6.70	6.92	7.06		# of strides	12.20	11.83	13.01	13.98	24.03	26.99	2.96
		velocity	7.51	9.03	8.71	8.21	7.92	7.46	7.23	7.08	7.84		8.20	8.45	7.69	7.15	8.32	7.41	

Omega Timing (2024) - diamond league race analysis

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)																	
date	31-May-25	time		12.17		24.41		37.42		51.02	51.02	8 / ~~5~~ 4							
reaction time	0.180	interval				12.24		13.01		13.60		# of strides	12.17	12.24	13.01	13.60	24.41	26.61	2.20
		velocity		8.22		8.17		7.69		7.35	7.84		8.22	8.17	7.69	7.35	8.19	7.52	

Grand Slam Track (2025) - results and splits by race

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 USATF Championships (Eugene, OR)																	
date	02-Aug-25	time		12.43		24.62		37.06		51.02	51.02	8 / 7							
reaction time		interval				12.19		12.44		13.96		# of strides	12.43	12.19	12.44	13.96	24.62	26.40	1.78
		velocity		8.05		8.20		8.04		7.16	7.84	180.0	8.05	8.20	8.04	7.16	8.12	7.58	

USATF and Karmarush (2025) - USATF championships results and race analysis

Richardson, Jillian (CAN) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 IAAF World Championships (Rome, ITA)																	
date	31-Aug-87	time		12.82		24.76		37.32		51.03	51.03	8 / 6							
reaction time		interval				11.94		12.56		13.71		# of strides	12.82	11.94	12.56	13.71	24.76	26.27	1.51
		velocity		7.80		8.38		7.96		7.29	7.84		7.80	8.38	7.96	7.29	8.08	7.61	

Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)

Reid, Suziann (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)																	
date	12-Jul-04	time		12.18		24.12		37.09	43.61	51.03	51.03	8 / 2							
reaction time		interval				11.94		12.97	6.52	7.42		# of strides	12.18	11.94	12.97	13.94	24.12	26.91	2.79
		velocity		8.21		8.38		7.71	7.67	6.74	7.84	197.0	8.21	8.38	7.71	7.17	8.29	7.43	

USATF Women's Sprint Development (2004)

Krivoshapka, Antonina (RUS) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2009 IAAF World Championships (Berlin, GER)																	
date	15-Aug-09	time		12.57		24.73		37.31		51.03	51.03	4 / 1							
reaction time	0.194	interval				12.16		12.58		13.72		# of strides	12.57	12.16	12.58	13.72	24.73	26.30	1.57
		velocity		7.96		8.22		7.95		7.29	7.84		7.96	8.22	7.95	7.29	8.09	7.60	

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Meeting de Paris (Paris, FRA)																	
date	01-Jul-17	time		12.6	18.4	24.4	30.7	37.3	44.0	51.03	51.03	4 / 1							
reaction time	0.236	interval			5.8	6.0	6.3	6.6	6.7	7.0		# of strides	12.60	11.80	12.90	13.73	24.40	26.63	2.23
		velocity		7.94	8.62	8.33	7.94	7.58	7.46	7.11	7.84	200.2	7.94	8.47	7.75	7.28	8.20	7.51	

Omega Timing (2017) - diamond league race analysis

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Athletissima (Lausanne, SUI)																	
date	26-Aug-22	time	6.80	12.40	18.22	24.26	30.55	37.16	43.89	51.03	51.03	3 / 5							
reaction time	0.150	interval		5.60	5.82	6.04	6.29	6.61	6.73	7.14		# of strides	12.40	11.86	12.90	13.87	24.26	26.77	2.51
		velocity	7.35	8.93	8.59	8.28	7.95	7.56	7.43	7.00	7.84		8.06	8.43	7.75	7.21	8.24	7.47	

Omega Timing (2022) - diamond league race analysis

Diggs, Talitha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 USATF Championships (Eugene, OR)																	
date	01-Aug-25	time		12.28		24.49		37.26		51.03	51.03	9 / 3							
reaction time		interval				12.21		12.77		13.77		# of strides	12.28	12.21	12.77	13.77	24.49	26.54	2.05
		velocity		8.14		8.19		7.83		7.26	7.84		8.14	8.19	7.83	7.26	8.17	7.54	

USATF and Karmarush (2025) - USATF championships results and race analysis

Lear, Bailey (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 USATF Championships (Eugene, OR)																	
date	01-Aug-25	time		12.42		24.34		36.88		51.03	51.03	6 / 4							
reaction time		interval				11.92		12.54		14.15		# of strides	12.42	11.92	12.54	14.15	24.34	26.69	2.35
		velocity		8.05		8.39		7.97		7.07	7.84		8.05	8.39	7.97	7.07	8.22	7.49	

USATF and Karmarush (2025) - USATF championships results and race analysis

Kotlyarova, Olga (RUS) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 Olympic Games (Sydney, AUS)																	
date	25-Sep-00	time		12.3		24.0		37.7		51.0	51.04	1 / 8							
reaction time	0.188	interval				11.70		13.70		13.30		# of strides	12.30	11.70	13.70	13.30	24.00	27.00	3.00
		velocity		8.13		8.55		7.30		7.52	7.84		8.13	8.55	7.30	7.52	8.33	7.41	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																	
date	28-Jun-14	time		12.6		24.4		36.8		51.0	51.04	/ ~~6~~ 5							
reaction time		interval				11.8		12.4		14.2		# of strides	12.60	11.80	12.40	14.20	24.40	26.60	2.20
		velocity		7.94		8.47		8.06		7.04	7.84		7.94	8.47	8.06	7.04	8.20	7.52	

Track Newsletter (2014) - USATF women's championships

John, Yemi Mary (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	
date	14-Jul-23	time		13.00		24.81		37.10		51.04	51.04	7 / 1							
reaction time	0.167	interval				11.81		12.29		13.94	PB	# of strides	13.00	11.81	12.29	13.94	24.81	26.23	1.42

European Athletics (2023) - european athletics U23 championships results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.69		8.47		8.14		7.17	7.84	193.5	7.69	8.47	8.14	7.17	8.06	7.62	

Nielsen, Laviai (GBR) (1988)
FINAL - 2024 Bislett Games (Oslo, NOR) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-May-24	time	6.73	12.46	18.29	24.39	30.64	37.18	43.83	51.04	51.04	2 / 7							
reaction time	0.147	interval		5.73	5.83	6.10	6.25	6.54	6.65	7.21		# of strides	12.46	11.93	12.79	13.86	24.39	26.65	2.26
		velocity	7.43	8.73	8.58	8.20	8.00	7.65	7.52	6.93	7.84	191.0	8.03	8.38	7.82	7.22	8.20	7.50	

Morán, Paola (MEX) (1997)
Heat 3 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.67	12.37	18.30	24.45	30.65	37.08	43.82	51.04	51.04	6 / 3							
reaction time	0.173	interval		5.70	5.93	6.15	6.20	6.43	6.74	7.22		# of strides	12.37	12.08	12.63	13.96	24.45	26.59	2.14
		velocity	7.50	8.77	8.43	8.13	8.06	7.78	7.42	6.93	7.84	190.0	8.08	8.28	7.92	7.16	8.18	7.52	

Mawdsley, Sharlene (IRL) (1998)
Heat 3 - 2025 World Athletics Championships (Tokyo, JPN) — *Seiko Timing (2025) - 2025 World Championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.38		24.12		36.80		51.04	51.04	9 / 4							
reaction time	0.184	interval				11.74		12.68		14.24		# of strides	12.38	11.74	12.68	14.24	24.12	26.92	2.80
		velocity		8.08		8.52		7.89		7.02	7.84	195.0	8.08	8.52	7.89	7.02	8.29	7.43	

Howard, Denean (USA) (1964)
FINAL - 1984 USA Olympic Trials (Los Angeles, CA) — *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jun-84	time				24.0				51.1	51.05	7 / 5							
reaction time		interval								27.1		# of strides					24.00	27.10	3.10
		velocity				8.33				7.38	7.84						8.33	7.38	

Święty-Ersetic, Justyna (POL) (1992)
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-May-18	time	7.01	12.72	18.55	24.67	30.92	37.44	44.12	51.05	51.05	6 / 1							
reaction time	0.216	interval		5.71	5.83	6.12	6.25	6.52	6.68	6.93	PB	# of strides	12.72	11.95	12.77	13.61	24.67	26.38	1.71
		velocity	7.13	8.76	8.58	8.17	8.00	7.67	7.49	7.22	7.84	211.5	7.86	8.37	7.83	7.35	8.11	7.58	

Jackson, Shericka (JAM) (1994)
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-19	time		12.5		24.4		37.2		51.05	51.05	6 / 2							
reaction time	0.198	interval				11.9		12.8		13.9		# of strides	12.50	11.90	12.80	13.85	24.40	26.65	2.25
		velocity		8.00		8.40		7.81		7.22	7.84	197.0	8.00	8.40	7.81	7.22	8.20	7.50	

Święty-Ersetic, Justyna (POL) (1992)
FINAL - 2022 Meeting de Paris (Paris, FRA) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Jun-22	time	7.02	12.70	18.48	24.44	30.67	37.19	43.90	51.05	51.05	2 / 6							
reaction time	0.226	interval		5.68	5.78	5.96	6.23	6.52	6.71	7.15		# of strides	12.70	11.74	12.75	13.86	24.44	26.61	2.17
		velocity	7.12	8.80	8.65	8.39	8.03	7.67	7.45	6.99	7.84	212.0	7.87	8.52	7.84	7.22	8.18	7.52	

Williams, Sada (BAR) (1997)
Heat 3 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		12.54		24.46		36.84		51.05	51.05	6 / 1							
reaction time	0.169	interval				11.92		12.38		14.21		# of strides	12.54	11.92	12.38	14.21	24.46	26.59	2.13
		velocity		7.97		8.39		8.08		7.04	7.84	194.7	7.97	8.39	8.08	7.04	8.18	7.52	

Holmes, Alexis (USA) (2000)
Heat 4 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		12.22		24.06		37.23		51.05	51.05	3 / 1							
reaction time		interval				11.84		13.17		13.82		# of strides	12.22	11.84	13.17	13.82	24.06	26.99	2.93
		velocity		8.18		8.45		7.59		7.24	7.84	183.7	8.18	8.45	7.59	7.24	8.31	7.41	

Onojuvwevwo, Ella (NGR) (2005)
Semi-Final 2 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-24	time	6.77	12.31	18.01	23.95	30.13	36.69	43.58	51.05	51.05	3 / 6							
reaction time	0.188	interval		5.54	5.70	5.94	6.18	6.56	6.89	7.47		# of strides	12.31	11.64	12.74	14.36	23.95	27.10	3.15
		velocity	7.39	9.03	8.77	8.42	8.09	7.62	7.26	6.69	7.84	195.0	8.12	8.59	7.85	6.96	8.35	7.38	

Malone, Maicel (USA) (1969)
Semi-Final 2 - 1997 USATF Championships (Indianapolis, IN) — *Track Newsletter (1997) - USATF National Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-97	time				25.0		37.1		51.1	51.06	/ 2							
reaction time		interval						12.10		14.00		# of strides			12.10	14.00	25.00	26.10	1.10
		velocity				8.00		8.26		7.14	7.83				8.26	7.14	8.00	7.66	

Henderson, Monique (USA) (1983)
Heat 4 - 2004 USA Olympic Trials (Sacramento, CA) — *USATF Women's Sprint Development (2004)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jul-04	time		11.92		23.69		36.58	43.34	51.06	51.06	3 / 2							
reaction time		interval				11.77		12.89	6.76	7.72		# of strides	11.92	11.77	12.89	14.48	23.69	27.37	3.68
		velocity		8.39		8.50		7.76	7.40	6.48	7.83		8.39	8.50	7.76	6.91	8.44	7.31	

Beard, Jessica (USA) (1989)
FINAL - 2011 USATF National Championships (Eugene, OR) — *Track Newsletter (2011) - USATF women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-11	time		12.2		24.2		37.1		51.1	51.06	/ 4							
reaction time		interval				12.00		12.90		14.00		# of strides	12.20	12.00	12.90	14.00	24.20	26.90	2.70
		velocity		8.20		8.33		7.75		7.14	7.83		8.20	8.33	7.75	7.14	8.26	7.43	

Richards, Sanya (USA) (1985)
Heat 5 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-09	time		12.46		24.89		37.50		51.06	51.06	7 / 1							
reaction time	0.176	interval				12.43		12.61		13.56		# of strides	12.46	12.43	12.61	13.56	24.89	26.17	1.28
		velocity		8.03		8.05		7.93		7.37	7.83		8.03	8.05	7.93	7.37	8.04	7.64	

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)																	*Track Newsletter (2017) - NCAA women's championships*
date 10-Jun-17	time			24.3		37.2		51.1	51.06	6 / 3							
reaction time	interval					12.90		13.90		# of strides			12.90	13.90	24.30	26.80	2.50
	velocity			8.23		7.75		7.19	7.83	188.7			7.75	7.19	8.23	7.46	

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21	time	6.7	12.4	18.3	24.4	30.5	36.9	43.7	51.06	51.06	4 / 3							
reaction time 0.167	interval		5.70	5.90	6.10	6.10	6.40	6.80	7.36		# of strides	12.40	12.00	12.50	14.16	24.40	26.66	2.26
	velocity	7.46	8.77	8.47	8.20	8.20	7.81	7.35	6.79	7.83		8.06	8.33	8.00	7.06	8.20	7.50	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 14-Jul-23	time		12.56		24.38		37.30		51.06	51.06	6 / 2							
reaction time 0.171	interval				11.82		12.92		13.76	NR	# of strides	12.56	11.82	12.92	13.76	24.38	26.68	2.30
	velocity		7.96		8.46		7.74		7.27	7.83	197.5	7.96	8.46	7.74	7.27	8.20	7.50	

Morauskaité, Modesta Justé (LTU) (1!

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time		12.50		24.15		36.83		51.06	51.06	7 / 5							
reaction time 0.159	interval				11.65		12.68		14.23		# of strides	12.50	11.65	12.68	14.23	24.15	26.91	2.76
	velocity		8.00		8.58		7.89		7.03	7.83	194.2	8.00	8.58	7.89	7.03	8.28	7.43	

Manuel, Lurdes Gloria (CZE) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24	time		13.00		24.77		37.30		51.06	51.06	7 / 3							
reaction time 0.203	interval				11.77		12.53		13.76		# of strides	13.00	11.77	12.53	13.76	24.77	26.29	1.52
	velocity		7.69		8.50		7.98		7.27	7.83	188.5	7.69	8.50	7.98	7.27	8.07	7.61	

Bukowiecka, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Weltklasse (Zürich, SUI)																	*Omega Timing (2025) - diamond league race analysis*
date 28-Aug-25	time	6.77	12.30	17.97	23.91	30.18	36.75	43.50	51.06	51.06	8 / 8							
reaction time 0.163	interval		5.53	5.67	5.94	6.27	6.57	6.75	7.56		# of strides	12.30	11.61	12.84	14.31	23.91	27.15	3.24
	velocity	7.39	9.04	8.82	8.42	7.97	7.61	7.41	6.61	7.83		8.13	8.61	7.79	6.99	8.36	7.37	

McConnell, Lee (GBR) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)																	*Bonvin (2003) - Compte-rendu 400m et relais 4x 400m*
date 27-Aug-03	time				23.3		36.5		51.07	51.07	1 / 7							
reaction time 0.205	interval						13.2		14.6		# of strides			13.20	14.57	23.30	27.77	4.47
	velocity				8.58		7.58		6.86	7.83				7.58	6.86	8.58	7.20	

Pyhyda, Nataliya (UKR) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time	6.60	12.29	18.07	24.15	30.46	37.06	43.88	51.07	51.07	3 / 3							
reaction time 0.184	interval		5.69	5.78	6.08	6.31	6.60	6.82	7.19		# of strides	12.29	11.86	12.91	14.01	24.15	26.92	2.77
	velocity	7.58	8.79	8.65	8.22	7.92	7.58	7.33	6.95	7.83		8.14	8.43	7.75	7.14	8.28	7.43	

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time	6.86	12.34	18.07	24.02	30.26	36.75	43.61	51.07	51.07	3 / 2							
reaction time 0.306	interval		5.48	5.73	5.95	6.24	6.49	6.86	7.46		# of strides	12.34	11.68	12.73	14.32	24.02	27.05	3.03
	velocity	7.29	9.12	8.73	8.40	8.01	7.70	7.29	6.70	7.83		8.10	8.56	7.86	6.98	8.33	7.39	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		12.67		24.78		37.40		51.07	51.07	6 / 3							
reaction time 0.190	interval				12.11		12.62		13.67		# of strides	12.67	12.11	12.62	13.67	24.78	26.29	1.51
	velocity		7.89		8.26		7.92		7.32	7.83	193.5	7.89	8.26	7.92	7.32	8.07	7.61	

Scott, Gabby (PUR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time		12.40		24.18		37.15		51.07	51.07	7 / 3							
reaction time 0.171	interval				11.78		12.97		13.92		# of strides	12.40	11.78	12.97	13.92	24.18	26.89	2.71
	velocity		8.06		8.49		7.71		7.18	7.83	184.0	8.06	8.49	7.71	7.18	8.27	7.44	

Aguilar, Evelyn (COL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 21-Aug-23	time		12.42		24.14		37.06		51.07	51.07	2 / 5							
reaction time 0.157	interval				11.72		12.92		14.01	PB	# of strides	12.42	11.72	12.92	14.01	24.14	26.93	2.79
	velocity		8.05		8.53		7.74		7.14	7.83		8.05	8.53	7.74	7.14	8.29	7.43	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 21-Aug-23	time		12.68		24.33		36.91		51.07	51.07	7 / 3							
reaction time 0.227	interval				11.65		12.58		14.16		# of strides	12.68	11.65	12.58	14.16	24.33	26.74	2.41
	velocity		7.89		8.58		7.95		7.06	7.83	193.0	7.89	8.58	7.95	7.06	8.22	7.48	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																	*Omega Timing (2023) - diamond league race analysis*
date 17-Sep-23	time	6.69	12.35	18.16	24.25	30.41	36.86	43.67	51.07	51.07	7 / 5							
reaction time 0.190	interval		5.66	5.81	6.09	6.16	6.45	6.81	7.40		# of strides	12.35	11.90	12.61	14.21	24.25	26.82	2.57
	velocity	7.47	8.83	8.61	8.21	8.12	7.75	7.34	6.76	7.83		8.10	8.40	7.93	7.04	8.25	7.46	

Harris, Kimberly (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time		12.50		24.23		36.99		51.07	51.07	6 / 2						
reaction time		interval				11.73		12.76		14.08	PB	# of strides	12.50	11.73	12.76	14.08	24.23	26.84	2.61
		velocity		8.00		8.53		7.84		7.10	7.83	195.0	8.00	8.53	7.84	7.10	8.25	7.45	

Mangione, Alice (ITA) (1997)

Repechage 3 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.87	12.48	18.26	24.33	30.57	37.02	43.74	51.07	51.07	6 / 3							
reaction time	0.170	interval		5.61	5.78	6.07	6.24	6.45	6.72	7.33	PB	# of strides	12.48	11.85	12.69	14.05	24.33	26.74	2.41
		velocity	7.28	8.91	8.65	8.24	8.01	7.75	7.44	6.82	7.83	192.5	8.01	8.44	7.88	7.12	8.22	7.48	

Oakley, Dejanea (JAM) (2004)

Heat 1 - 2025 World Athletics Championships (Tokyo, JPN)

Seiko Timing (2025) - 2025 World Championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.44		24.32		37.15		51.07	51.07	6 / 3							
reaction time	0.165	interval				11.88		12.83		13.92		# of strides	12.44	11.88	12.83	13.92	24.32	26.75	2.43
		velocity		8.04		8.42		7.79		7.18	7.83		8.04	8.42	7.79	7.18	8.22	7.48	

Zehrt, Monika (GDR) (1952)

FINAL - 1972 Olympic Games (Munich, FRG)

Track & Field News (1979) - olympic track & field: complete results

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Sep-72	time				24.2		36.8		51.08	51.08	7 / 1							
reaction time		interval						12.60		14.28	OR	# of strides			12.60	14.28	24.20	26.88	2.68
		velocity				8.26		7.94		7.00	7.83	194.0			7.94	7.00	8.26	7.44	

Reid, Suziann (USA) (1977)

FINAL - 1999 NCAA Championships (Boise, ID)

Track Newsletter (1999) - NCAA Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-99	time				24.2				51.1	51.08	/ 1							
reaction time		interval								26.90		# of strides					24.20	26.90	2.70
		velocity				8.26				7.43	7.83						8.26	7.43	

Richards, Sanya (USA) (1985)

Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)

USATF Women's Sprint Development with HPC (2008)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-08	time		12.11	18.24	24.48	30.48	36.80	43.64	51.08	51.08	5 / 1							
reaction time		interval			6.13	6.24	6.00	6.32	6.84	7.44		# of strides	12.11	12.37	12.32	14.28	24.48	26.60	2.12
		velocity		8.26	8.16	8.01	8.33	7.91	7.31	6.72	7.83		8.26	8.08	8.12	7.00	8.17	7.52	

de Witte, Lisanne (NED) (1992)

FINAL - 2018 Müller Anniversary Games (London, GBR)

Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jul-18	time		13.0		24.9		37.5		51.08	51.08	2 / 4							
reaction time	0.157	interval				11.9		12.6		13.6		# of strides	13.00	11.90	12.60	13.58	24.90	26.18	1.28
		velocity		7.69		8.40		7.94		7.36	7.83		7.69	8.40	7.94	7.36	8.03	7.64	

Adeleke, Rhasidat (IRL) (2002)

Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		12.47		24.29		37.06		51.08	51.08	4 / 3							
reaction time	0.254	interval				11.82		12.77		14.02		# of strides	12.47	11.82	12.77	14.02	24.29	26.79	2.50
		velocity		8.02		8.46		7.83		7.13	7.83	185.0	8.02	8.46	7.83	7.13	8.23	7.47	

McLeod, Candice (JAM) (1996)

FINAL - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-23	time		12.36		22.63		36.40		51.08	51.08	3 / 7							
reaction time	0.167	interval				10.27		13.77		14.68		# of strides	12.36	10.27	13.77	14.68	22.63	28.45	5.82
		velocity		8.09		9.74		7.26		6.81	7.83	203.0	8.09	9.74	7.26	6.81	8.84	7.03	

Miklós, Andrea (ROU) (1999)

FINAL - 2024 Meeting de Paris (Paris, FRA)

Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jul-24	time	6.81	12.33	17.94	23.88	30.17	36.69	43.60	51.08	51.08	2 / 7							
reaction time	0.188	interval		5.52	5.61	5.94	6.29	6.52	6.91	7.48		# of strides	12.33	11.55	12.81	14.39	23.88	27.20	3.32
		velocity	7.34	9.06	8.91	8.42	7.95	7.67	7.24	6.68	7.83	203.0	8.11	8.66	7.81	6.95	8.38	7.35	

Naser, Salwa Eid (BRN) (1998)

FINAL - 2025 Athletissima (Lausanne, SUI)

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-25	time	6.87	12.57	18.36	24.32	30.38	36.75	43.59	51.08	51.08	5 / 5							
reaction time	0.162	interval		5.70	5.79	5.96	6.06	6.37	6.84	7.49		# of strides	12.57	11.75	12.43	14.33	24.32	26.76	2.44
		velocity	7.28	8.77	8.64	8.39	8.25	7.85	7.31	6.68	7.83	190.7	7.96	8.51	8.05	6.98	8.22	7.47	

Green, Nicole (USA) (1971)

Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)

USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		12.63		24.25		36.90	43.74	51.09	51.09	3 / 4							
reaction time		interval				11.62		12.65	6.84	7.35	PB	# of strides	12.63	11.62	12.65	14.19	24.25	26.84	2.59
		velocity		7.92		8.61		7.91	7.31	6.80	7.83		7.92	8.61	7.91	7.05	8.25	7.45	

Spencer, Ashley (USA) (1993)

FINAL - 2016 USA Olympic Trials (Eugene, OR)

Track Newsletter (2016) - US olympic trials women

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jul-16	time		12.20		24.1		36.7		51.1	51.09	8 / 7							
reaction time	0.614	interval				11.90		12.60		14.40		# of strides	12.20	11.90	12.60	14.40	24.10	27.00	2.90
		velocity		8.20		8.40		7.94		6.94	7.83		8.20	8.40	7.94	6.94	8.30	7.41	

Campbell, Kethlin (USA) (1999)

FINAL - 2019 NCAA Championships (Austin, TX)

Track Newsletter (2019) - NCAA women's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jun-19	time						37.2		51.1	51.09	/ 4							
reaction time	0.236	interval								13.90		# of strides				13.90			
		velocity						5.38		7.19	7.83					7.19			

Klaver, Lieke (NED) (1998)

FINAL - 2021 Weltklasse (Zürich, SUI)

Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-21	time	6.7	12.1	17.8	23.7	30.0	36.6	43.6	51.09	51.09	1 / 7							
reaction time	0.199	interval		5.40	5.70	5.90	6.30	6.60	7.00	7.49		# of strides	12.10	11.60	12.90	14.49	23.70	27.39	3.69

		velocity	7.46	9.26	8.77	8.47	7.94	7.58	7.14	6.68	7.83		8.26	8.62	7.75	6.90	8.44	7.30	

Baumgart-Witan, Iga (POL) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 European Athletics Championships (Munich, GER)																	
																	European Athletics (2022) - european athletics championships race analysis
date 15-Aug-22	time	12.55		24.36		36.98		51.09	51.09	5 / 1							
reaction time 0.229	interval			11.81		12.62		14.11		# of strides	12.55	11.81	12.62	14.11	24.36	26.73	2.37
	velocity	7.97		8.47		7.92		7.09	7.83	180.0	7.97	8.47	7.92	7.09	8.21	7.48	

Brown, Kaylyn (USA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)																	
																	USATF and Karmarush (2024) - USA Olympic trials results and race analysis
date 21-Jun-24	time	11.96		23.48		36.74		51.09	51.09	3 / 3							
reaction time	interval			11.52		13.26		14.35		# of strides	11.96	11.52	13.26	14.35	23.48	27.61	4.13
	velocity	8.36		8.68		7.54		6.97	7.83	185.0	8.36	8.68	7.54	6.97	8.52	7.24	

Gushchina, Yuliya (RUS)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 ISTAF (Berlin, GER)																	
																	Graubner (2009) - http://www.fgs.uni-halle.de
date 14-Jun-09	time	12.21		24.26		37.11		51.10	51.10	/ 3							
reaction time 0.186	interval			12.05		12.85		13.99		# of strides	12.21	12.05	12.85	13.99	24.26	26.84	2.58
	velocity	8.19		8.30		7.78		7.15	7.83		8.19	8.30	7.78	7.15	8.24	7.45	

Nelson, Briana (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																	
																	Track Newsletter (2014) - USATF women's championships
date 28-Jun-14	time	12.5		24.6		37.1		51.1	51.10	/ ~~7~~ 6							
reaction time	interval			12.1		12.5		14.0		# of strides	12.50	12.10	12.50	14.00	24.60	26.50	1.90
	velocity	8.00		8.26		8.00		7.14	7.83		8.00	8.26	8.00	7.14	8.13	7.55	

Grenot, Libania (ITA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 European Championships (Zurich, SUI)																	
																	Incalza (2014) - https://www.youtube.com/watch?v=09l9yDmjZus&list=UU7691fXeyNFIMROfkJ-WWUg
date 15-Aug-14	time	11.95		23.49		36.30		51.10	51.10	3 / 1							
reaction time 0.180	interval			11.54		12.81		14.80		# of strides			12.81	14.80	23.49	27.61	4.12
	velocity	8.37		8.67		7.81		6.76	7.83				7.81	6.76	8.51	7.24	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	
																	Omega Timing (2021) - diamond league race analysis
date 26-Aug-21	time 6.9	12.5	18.3	24.5	30.8	37.5	44.2	51.10	51.10	8 / 4							
reaction time 0.167	interval	5.60	5.80	6.20	6.30	6.70	6.70	6.90		# of strides	12.50	12.00	13.00	13.60	24.50	26.60	2.10
	velocity 7.25	8.93	8.62	8.06	7.94	7.46	7.46	7.25	7.83		8.00	8.33	7.69	7.35	8.16	7.52	

Miller-Uibo, Shaunae (BAH) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 World Athletics Championships (Eugene, OR)																	
																	Timing by Seiko (2022) - world athletics championships race analysis
date 17-Jul-22	time	12.03		24.13		36.84		51.10	51.10	7 / 1							
reaction time 0.123	interval			12.10		12.71		14.26		# of strides	12.03	12.10	12.71	14.26	24.13	26.97	2.84
	velocity	8.31		8.26		7.87		7.01	7.83	175.0	8.31	8.26	7.87	7.01	8.29	7.42	

Pipi, Ama (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, First Division (Chorzów, POL)																	
																	European Athletics (2023) - 3rd european games, athletics - results book
date 23-Jun-23	time	12.32		24.05		37.05		51.10	51.10	5 / 4							
reaction time 0.229	interval			11.73		13.00		14.05		# of strides	12.32	11.73	13.00	14.05	24.05	27.05	3.00
	velocity	8.12		8.53		7.69		7.12	7.83	192.7	8.12	8.53	7.69	7.12	8.32	7.39	

John, Yemi Mary (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
																	Omega Timing (2025) - diamond league race analysis
date 11-Jul-25	time 6.93	12.68	18.49	24.52	30.75	37.17	43.86	51.10	51.10	2 / 7							
reaction time 0.191	interval	5.75	5.81	6.03	6.23	6.42	6.69	7.24		# of strides	12.68	11.84	12.65	13.93	24.52	26.58	2.06
	velocity 7.22	8.70	8.61	8.29	8.03	7.79	7.47	6.91	7.83	196.0	7.89	8.45	7.91	7.18	8.16	7.52	

Griffith, Florence (USA) (1959)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 USA Olympic Trials (Los Angeles, CA)																	
																	USATF Women's Sprint Development with HPC (2008)
date 19-Jun-84	time			23.8				51.2	51.11	4 / 6							
reaction time	interval							27.4		# of strides					23.80	27.40	3.60
	velocity			8.40				7.30	7.83						8.40	7.30	

Williams, Clora (JAM) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 NCAA Championships (Sacramento, CA)																	
																	Track Newsletter (2006) - NCAA women's championships
date 10-Jun-06	time	12.2		24.2		37.1		51.1	51.11	5 / 1							
reaction time	interval			12.00		12.90		14.00		# of strides	12.20	12.00	12.90	14.00	24.20	26.90	2.70
	velocity	8.20		8.33		7.75		7.14	7.83	194.0	8.20	8.33	7.75	7.14	8.26	7.43	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting de Paris (Paris, FRA)																	
																	Omega Timing (2019) - diamond league race analysis
date 24-Aug-19	time	12.6		24.5		37.4		51.11	51.11	7 / 1							
reaction time 0.136	interval			11.9		12.9		13.7		# of strides	12.60	11.90	12.90	13.71	24.50	26.61	2.11
	velocity	7.94		8.40		7.75		7.29	7.83	188.5	7.94	8.40	7.75	7.29	8.16	7.52	

Howard-Hill, Denean (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Olympic Games (Seoul, KOR)																	
																	Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988
date 26-Sep-88	time	12.21		24.00		36.79		51.12	51.12	8 / 6							
reaction time 0.241	interval			11.79		12.79		14.33		# of strides	12.21	11.79	12.79	14.33	24.00	27.12	3.12
	velocity	8.19		8.48		7.82		6.98	7.82		8.19	8.48	7.82	6.98	8.33	7.37	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)																	
																	Timing by Seiko (2022) - world athletics championships race analysis
date 20-Jul-22	time	12.70		24.77		37.40		51.12	51.12	7 / 4							
reaction time 0.192	interval			12.07		12.63		13.72		# of strides	12.70	12.07	12.63	13.72	24.77	26.35	1.58
	velocity	7.87		8.29		7.92		7.29	7.82	188.0	7.87	8.29	7.92	7.29	8.07	7.59	

Arnold, Jermaisha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)																	*Track Newsletter (2023) - USATF championships/WCT women*
date 08-Jul-23	time	12.90		24.72		37.43		51.12	51.12	8 / 7							
reaction time 0.260	interval			11.82		12.71		13.69		# of strides	12.90	11.82	12.71	13.69	24.72	26.40	1.68
	velocity	7.75		8.46		7.87		7.30	7.82		7.75	8.46	7.87	7.30	8.09	7.58	

Lear, Bailey (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time	12.42		24.26		37.14		51.12	51.12	5 / 2							
reaction time	interval			11.84		12.88		13.98		# of strides	12.42	11.84	12.88	13.98	24.26	26.86	2.60
	velocity	8.05		8.45		7.76		7.15	7.82	191.2	8.05	8.45	7.76	7.15	8.24	7.45	

Mawdsley, Sharlene (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)																	*Grand Slam Track (2025) - results and splits by race*
date 31-May-25	time	12.29		24.33		37.25		51.12	51.12	2 / ~~6~~ 5							
reaction time 0.340	interval			12.04		12.92		13.87		# of strides	12.29	12.04	12.92	13.87	24.33	26.79	2.46
	velocity	8.14		8.31		7.74		7.21	7.82		8.14	8.31	7.74	7.21	8.22	7.47	

Dixon, Diane (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 IAAF World Championships (Rome, ITA)																	*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*
date 31-Aug-87	time	12.32		23.94		37.01		51.13	51.13	4 / 7							
reaction time	interval			11.62		13.07		14.12		# of strides	12.32	11.62	13.07	14.12	23.94	27.19	3.25
	velocity	8.12		8.61		7.65		7.08	7.82		8.12	8.61	7.65	7.08	8.35	7.36	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Jetour Doha Meeting (Doha, QAT)																	*Omega Timing (2025) - diamond league race analysis*
date 16-May-25	time	6.65	12.18	18.12	24.40	30.88	37.41	44.01	51.12	51.12	4 / 3						
reaction time 0.213	interval		5.53	5.94	6.28	6.48	6.53	6.60	7.11		# of strides	12.18	12.22	13.01	13.71	24.40	26.72	2.32
	velocity	7.52	9.04	8.42	7.96	7.72	7.66	7.58	7.03	7.82	183.0	8.21	8.18	7.69	7.29	8.20	7.49	

Robinson, Moushaumi (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championship (Indianapolis, IN)																	*USATF Women's Sprint Development (2006)*
date 24-Jun-06	time	11.96	17.93	24.34	30.68	37.22	44.04	51.13	51.13	7 / 4							
reaction time	interval		5.97	6.41	6.34	6.54	6.82	7.09		# of strides	11.96	12.38	12.88	13.91	24.34	26.79	2.45
	velocity	8.36	8.38	7.80	7.89	7.65	7.33	7.05	7.82		8.36	8.08	7.76	7.19	8.22	7.47	

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 03-Jul-08	time	12.17	17.40	24.29	30.46	36.92	43.69	51.13	51.13	6 / 5							
reaction time	interval		5.23	6.89	6.17	6.46	6.77	7.44		# of strides	12.17	12.12	12.63	14.21	24.29	26.84	2.55
	velocity	8.22	9.56	7.26	8.10	7.74	7.39	6.72	7.82		8.22	8.25	7.92	7.04	8.23	7.45	

Dunn, Debbie (USA) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 15-Aug-09	time	12.37		24.29		36.94		51.13	51.13	5 / 1							
reaction time 0.181	interval			11.92		12.65		14.19		# of strides	12.37	11.92	12.65	14.19	24.29	26.84	2.55
	velocity	8.08		8.39		7.91		7.05	7.82		8.08	8.39	7.91	7.05	8.23	7.45	

Onuora, Anyika (GBR) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Anniversary Games (London, GBR)																	*Omega Timing (2018) - diamond league race analysis*
date 22-Jul-18	time	13.0		25.2		37.4		51.13	51.13	7 / 5							
reaction time 0.167	interval			12.2		12.2		13.7		# of strides	13.00	12.20	12.20	13.73	25.20	25.93	0.73
	velocity	7.69		8.20		8.20		7.28	7.82	193.5	7.69	8.20	8.20	7.28	7.94	7.71	

Abrams, Aliyah (GUY) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)																	*Track Newsletter (2019) - NCAA women's championships*
date 07-Jun-19	time					37.0		51.1	51.13	/ 5							
reaction time 0.220	interval							14.10	**PB**	# of strides				14.10			
	velocity					5.41		7.09	7.82					7.09			

Miklós, Andrea (ROU) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24	time	12.35		24.37		37.22		51.13	51.13	5 / 2							
reaction time 0.197	interval			12.02		12.85		13.91		# of strides	12.35	12.02	12.85	13.91	24.37	26.76	2.39
	velocity	8.10		8.32		7.78		7.19	7.82	203.0	8.10	8.32	7.78	7.19	8.21	7.47	

Vaičule, Gunta (LAT) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time	6.85	12.42	18.09	23.93	30.05	36.42	43.34	51.13	51.13	3 / 5						
reaction time 0.185	interval		5.57	5.67	5.84	6.12	6.37	6.92	7.79		# of strides	12.42	11.51	12.49	14.71	23.93	27.20	3.27
	velocity	7.30	8.98	8.82	8.56	8.17	7.85	7.23	6.42	7.82	194.5	8.05	8.69	8.01	6.80	8.36	7.35	

Neufville, Marilyn (JAM) (1952)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1970 Commonwealth Games (Edinburgh, GBR)																	*Hymans (2015) - progression of IAAF world records - 2015 edition*
date 23-Jul-70	time			23.8				51.0	51.0	/ 1							
reaction time	interval							27.2	**WR**	# of strides					23.80	27.20	3.40
	velocity			8.40				7.35	7.84	(51.02)					8.40	7.35	

Zehrt, Monika (GDR) (1952)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 FRA vs. GDR (Colombes, FRA)																	*Hymans (2015) - progression of IAAF world records - 2015 edition*
date 04-Jul-72	time			23.8				51.0	51.0	/ 1							
reaction time	interval							27.2	**=WR**	# of strides					23.80	27.20	3.40
	velocity			8.40				7.35	7.84	(51.08)					8.40	7.35	

Brisco-Hooks, Valerie (USA) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1984 Olympic Games (Los Angeles, CA)																	*Dunaway (1984) - another AR for Brisco-Hooks*

date	05-Aug-84	time			24.9			51.14	51.14	4 / 1								
reaction time		interval						26.24		# of strides					24.90	26.24	1.34	
		velocity			8.03			7.62	7.82	191.0					8.03	7.62		

Reid, Suziann (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 15-Jul-04	time		12.25		24.64	30.65	37.17	43.78	51.14	51.14	5 / 2							
reaction time	interval				12.39	6.01	6.52	6.61	7.36		# of strides	12.25	12.39	12.53	13.97	24.64	26.50	1.86
	velocity		8.16		8.07	8.32	7.67	7.56	6.79	7.82	193.0	8.16	8.07	7.98	7.16	8.12	7.55	

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																	*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date 10-Aug-05	time					36.5		51.1	51.14	7 / 5								
reaction time 0.176	interval							14.6		# of strides				14.64				
	velocity					8.22		6.83	7.82					6.83				

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 USATF National Championships (Eugene, OR)																	*Track Newsletter (2011) - USATF women's championships*
date 25-Jun-11	time		12.2		24.4		37.2		51.1	51.14	/ 5							
reaction time	interval				12.20		12.80		13.90		# of strides	12.20	12.20	12.80	13.90	24.40	26.70	2.30
	velocity		8.20		8.20		7.81		7.19	7.82		8.20	8.20	7.81	7.19	8.20	7.49	

Onuora, Anyika (GBR) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time	6.86	12.43	18.42	24.64	30.87	37.11	43.79	51.14	51.14	6 / 4							
reaction time 0.167	interval		5.57	5.99	6.22	6.23	6.24	6.68	7.35	PB	# of strides	12.43	12.21	12.47	14.03	24.64	26.50	1.86
	velocity	7.29	8.98	8.35	8.04	8.03	8.01	7.49	6.80	7.82	196.5	8.05	8.19	8.02	7.13	8.12	7.55	

Gogl-Walli, Susanne (AUT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24	time		12.38		24.35		37.08		51.14	51.14	6 / 3							
reaction time 0.241	interval				11.97		12.73		14.06		# of strides	12.38	11.97	12.73	14.06	24.35	26.79	2.44
	velocity		8.08		8.35		7.86		7.11	7.82	192.2	8.08	8.35	7.86	7.11	8.21	7.47	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 07-Aug-24	time	6.76	12.21	17.80	23.76	30.03	36.63	43.61	51.14	51.14	3 / 5							
reaction time 0.189	interval		5.45	5.59	5.96	6.27	6.60	6.98	7.53		# of strides	12.21	11.55	12.87	14.51	23.76	27.38	3.62
	velocity	7.40	9.17	8.94	8.39	7.97	7.58	7.16	6.64	7.82	194.0	8.19	8.66	7.77	6.89	8.42	7.30	

Mupopo, Kabange (ZAM) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*
date 09-Aug-17	time		11.66		23.40		36.26	43.16	50.97	51.15	9 / ~~7~~							
reaction time 0.184	interval				11.74		12.86	6.90	7.81	DV	# of strides	11.66	11.74	12.86	14.71	23.40	27.57	4.17
	velocity		8.58		8.52		7.78	7.25	6.40	7.82	195.6	8.58	8.52	7.78	6.80	8.55	7.25	

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Meeting de Paris (Paris, FRA)																	*Omega Timing (2018) - diamond league race analysis*
date 30-Jun-18	time		12.7		24.7		37.4		51.15	51.15	8 / 6							
reaction time 0.246	interval				12.0		12.7		13.8		# of strides	12.70	12.00	12.70	13.75	24.70	26.45	1.75
	velocity		7.87		8.33		7.87		7.27	7.82	193.0	7.87	8.33	7.87	7.27	8.10	7.56	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Athletissima (Lausanne, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 26-Aug-22	time	6.70	12.21	18.00	24.03	30.40	37.13	43.91	51.15	51.15	4 / 6							
reaction time 0.194	interval		5.51	5.79	6.03	6.37	6.73	6.78	7.24		# of strides	12.21	11.82	13.10	14.02	24.03	27.12	3.09
	velocity	7.46	9.07	8.64	8.29	7.85	7.43	7.37	6.91	7.82		8.19	8.46	7.63	7.13	8.32	7.37	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																	*Omega Timing (2023) - diamond league race analysis*
date 17-Sep-23	time	6.88	12.50	18.33	24.47	30.77	37.28	44.03	51.15	51.15	3 / 6							
reaction time 0.162	interval		5.62	5.83	6.14	6.30	6.51	6.75	7.12		# of strides	12.50	11.97	12.81	13.87	24.47	26.68	2.21
	velocity	7.27	8.90	8.58	8.14	7.94	7.68	7.41	7.02	7.82		8.00	8.35	7.81	7.21	8.17	7.50	

Weil, Martina (CHI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time	6.76	12.33	18.05	24.01	30.25	36.66	43.51	51.15	51.15	9 / 4							
reaction time 0.178	interval		5.57	5.72	5.96	6.24	6.41	6.85	7.64		# of strides	12.33	11.68	12.65	14.49	24.01	27.14	3.13
	velocity	7.40	8.98	8.74	8.39	8.01	7.80	7.30	6.54	7.82		8.11	8.56	7.91	6.90	8.33	7.37	

Stevens, Rochelle (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 19-Jun-96	time		12.20		23.99		36.75	43.64	51.16	51.16	1 / 4							
reaction time	interval				11.79		12.76	6.89	7.52		# of strides	12.20	11.79	12.76	14.41	23.99	27.17	3.18
	velocity		8.20		8.48		7.84	7.26	6.65	7.82		8.20	8.48	7.84	6.94	8.34	7.36	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 Prefontaine Classic (Eugene, OR)																	*Track Newsletter (2002) - prefontaine classic*
date 26-May-02	time				24.2				51.1	51.16	/ 2							
reaction time	interval								26.90	PB	# of strides					24.20	26.90	2.70
	velocity				8.26				7.43	7.82						8.26	7.43	

Jackson, Shericka (JAM) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2017) - diamond league race analysis*
date 01-Sep-17	time		12.5	18.4	24.6	31.0	37.6	44.3	51.16	51.16	3 / 5							
reaction time 0.193	interval			5.90	6.20	6.40	6.60	6.70	6.86		# of strides	12.50	12.10	13.00	13.56	24.60	26.56	1.96

	velocity	8.00	8.47	8.06	7.81	7.58	7.46	7.29	7.82	197.5	8.00	8.26	7.69	7.37	8.13	7.53	

Barnett, Sharrika (JAM) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2018 NCAA Championships (Eugene, OR) — *Track Newsletter (2018) - NCAA women's championships*

date	09-Jun-18	time					36.7		51.2	51.16	/ 4						
reaction time		interval							14.50		# of strides				14.50		
		velocity					5.45		6.90	7.82					6.90		

Ellis, Kendall (USA) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 1 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	05-Aug-24	time	6.83	12.40	18.13	24.18	30.41	36.86	43.57	51.16	51.16	5 / 5						
reaction time	0.195	interval		5.57	5.73	6.05	6.23	6.45	6.71	7.59		# of strides	12.40	11.78	12.68	14.30	24.18	26.98	2.80
		velocity	7.32	8.98	8.73	8.26	8.03	7.75	7.45	6.59	7.82	185.7	8.06	8.49	7.89	6.99	8.27	7.41	

Miklós, Andrea (ROU) (1999)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Invitational - 2024 Memorial van damme (Brussels, BEL) — *Omega Timing (2024) - diamond league race analysis*

date	13-Sep-24	time	6.66	12.17	17.86	23.90	30.18	36.80	43.69	51.16	51.16	5 / 3						
reaction time	0.144	interval		5.51	5.69	6.04	6.28	6.62	6.89	7.47		# of strides	12.17	11.73	12.90	14.36	23.90	27.26	3.36
		velocity	7.51	9.07	8.79	8.28	7.96	7.55	7.26	6.69	7.82	202.0	8.22	8.53	7.75	6.96	8.37	7.34	

Arendt, Helga (FRG) (1964)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

date	26-Sep-88	time		12.53		24.33		37.06		51.17	51.17	7 / 7						
reaction time	0.218	interval				11.80		12.73		14.11		# of strides	12.53	11.80	12.73	14.11	24.33	26.84	2.51
		velocity		7.98		8.47		7.86		7.09	7.82		7.98	8.47	7.86	7.09	8.22	7.45	

Nazarova, Olga (URS) (1965)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1991 European Cup (Frankfurt, GER) — *Federle (2003) - http://www.fgs.uni-halle.de*

date	29-Jun-91	time		12.79		24.35		36.74		51.17	51.17	7 / 3						
reaction time		interval				11.56		12.39		14.43		# of strides	12.79	11.56	12.39	14.43	24.35	26.82	2.47
		velocity		7.82		8.65		8.07		6.93	7.82		7.82	8.65	8.07	6.93	8.21	7.46	

Barber, Mikele (USA) (1980)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2000 USA Olympic Trials (Sacramento, CA) — *Hymans (2008) - history of the US olympic trials - track and field*

date	16-Jul-00	time		12.5		24.1		36.8		51.17	51.17	8 / 5						
reaction time		interval				11.6		12.7		14.4		# of strides	12.50	11.60	12.70	14.37	24.10	27.07	2.97
		velocity		8.00		8.62		7.87		6.96	7.82		8.00	8.62	7.87	6.96	8.30	7.39	

Kapachinskaya, Anastasiya (RUS) (19

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 4 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	15-Aug-09	time		12.53		24.38		37.12		51.17	51.17	6 / 2						
reaction time	0.225	interval				11.85		12.74		14.05		# of strides	12.53	11.85	12.74	14.05	24.38	26.79	2.41
		velocity		7.98		8.44		7.85		7.12	7.82		7.98	8.44	7.85	7.12	8.20	7.47	

Trotter, De'Hashia (Dee Dee) (USA) (1

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2011 USATF National Championships (Eugene, OR) — *Track Newsletter (2011) - USATF women's championships*

date	25-Jun-11	time		13.1		25.2		37.5		51.2	51.17	/ 6						
reaction time		interval				12.10		12.30		13.70		# of strides	13.10	12.10	12.30	13.70	25.20	26.00	0.80
		velocity		7.63		8.26		8.13		7.30	7.82		7.63	8.26	8.13	7.30	7.94	7.69	

Yeargin, Nicole (GBR) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 2 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time		12.48		24.32		37.22		51.17	51.17	7 / 4						
reaction time	0.150	interval				11.84		12.90		13.95		# of strides	12.48	11.84	12.90	13.95	24.32	26.85	2.53
		velocity		8.01		8.45		7.75		7.17	7.82	195.7	8.01	8.45	7.75	7.17	8.22	7.45	

Baumgart-Witan, Iga (POL) (1989)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

date	16-Aug-22	time		12.72		24.38		37.11		51.17	51.17	5 / 3						
reaction time	0.209	interval				11.66		12.73		14.06		# of strides	12.72	11.66	12.73	14.06	24.38	26.79	2.41
		velocity		7.86		8.58		7.86		7.11	7.82	181.0	7.86	8.58	7.86	7.11	8.20	7.47	

Mawdsley, Sharlene (IRL) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 1 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time		12.41		23.90		36.83		51.17	51.17	5 / 4						
reaction time	0.169	interval				11.49		12.93		14.34	PB	# of strides	12.41	11.49	12.93	14.34	23.90	27.27	3.37
		velocity		8.06		8.70		7.73		6.97	7.82	195.5	8.06	8.70	7.73	6.97	8.37	7.33	

Pipi, Ama (GBR) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	21-Aug-23	time		12.42		23.89		36.80		51.17	51.17	5 / 4						
reaction time	0.173	interval				11.47		12.91		14.37		# of strides	12.42	11.47	12.91	14.37	23.89	27.28	3.39
		velocity		8.05		8.72		7.75		6.96	7.82	194.2	8.05	8.72	7.75	6.96	8.37	7.33	

Gogl-Walli, Susanne (AUT) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 2 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	07-Aug-24	time	6.88	12.47	18.22	24.25	30.49	37.09	43.89	51.17	51.17	4 / 7						
reaction time	0.163	interval		5.59	5.75	6.03	6.24	6.60	6.80	7.28		# of strides	12.47	11.78	12.84	14.08	24.25	26.92	2.67
		velocity	7.27	8.94	8.70	8.29	8.01	7.58	7.35	6.87	7.82	194.0	8.02	8.49	7.79	7.10	8.25	7.43	

Kaiser-Brown, Natasha (USA) (1967)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

date	17-Jun-96	time		12.43		24.43		37.30	44.05	51.18	51.18	7 / 4						
reaction time		interval				12.00		12.87	6.75	7.13		# of strides	12.43	12.00	12.87	13.88	24.43	26.75	2.32
		velocity		8.05		8.33		7.77	7.41	7.01	7.82		8.05	8.33	7.77	7.20	8.19	7.48	

Jones, Brittany (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Carson, CA)																	*USATF Women's Sprint Development (2005)*
date 25-Jun-05	time	12.53	18.38	24.47	30.55	36.87	43.81	51.18	51.18	7 / ~~1~~							
reaction time	interval		5.85	6.09	6.08	6.32	6.94	7.37	DQ	# of strides	12.53	11.94	12.40	14.31	24.47	26.71	2.24
	velocity	7.98	8.55	8.21	8.22	7.91	7.20	6.78	7.82		7.98	8.38	8.06	6.99	8.17	7.49	

Montsho, Amantle (BOT) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Olympic Games (Beijing, CHN)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 19-Aug-08	time	12.3		24.2		36.8		51.2	51.18	8 / 8							
reaction time 0.299	interval			11.90		12.60		14.40		# of strides	12.30	11.90	12.60	14.40	24.20	27.00	2.80
	velocity	8.13		8.40		7.94		6.94	7.82		8.13	8.40	7.94	6.94	8.26	7.41	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	*Omega Timing (2022) - continental tour race analysis*
date 06-Jun-22	time	6.8	12.4	18.3	24.1	30.3	36.8	43.6	51.18	51.18	6 / 1						
reaction time 0.169	interval		5.60	5.90	5.80	6.20	6.50	6.80	7.58		# of strides	12.40	11.70	12.70	14.38	24.10	27.08	2.98
	velocity	7.35	8.93	8.47	8.62	8.06	7.69	7.35	6.60	7.82	187.5	8.06	8.55	7.87	6.95	8.30	7.39	

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2024) - diamond league race analysis*
date 02-Jun-24	time	6.69	12.25	17.93	24.06	30.41	37.02	43.92	51.18	51.18	5 / 1						
reaction time 0.142	interval		5.56	5.68	6.13	6.35	6.61	6.90	7.26		# of strides	12.25	11.81	12.96	14.16	24.06	27.12	3.06
	velocity	7.47	8.99	8.80	8.16	7.87	7.56	7.25	6.89	7.82		8.16	8.47	7.72	7.06	8.31	7.37	

Whittaker, Isabella (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time		12.32		24.18		37.17		51.18	51.18	9 / 2						
reaction time	interval				11.86		12.99		14.01		# of strides	12.32	11.86	12.99	14.01	24.18	27.00	2.82
	velocity		8.12		8.43		7.70		7.14	7.82		8.12	8.43	7.70	7.14	8.27	7.41	

John, Yemi Mary (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Jul-24	time	6.82	12.54	18.42	24.59	30.92	37.39	44.07	51.18	51.18	4 / 1						
reaction time 0.178	interval		5.72	5.88	6.17	6.33	6.47	6.68	7.11		# of strides	12.54	12.05	12.80	13.79	24.59	26.59	2.00
	velocity	7.33	8.74	8.50	8.10	7.90	7.73	7.49	7.03	7.82		7.97	8.30	7.81	7.25	8.13	7.52	

Mawdsley, Sharlene (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24	time	6.76	12.37	18.14	24.09	30.29	36.81	43.69	51.18	51.18	3 / 3						
reaction time 0.169	interval		5.61	5.77	5.95	6.20	6.52	6.88	7.49		# of strides	12.37	11.72	12.72	14.37	24.09	27.09	3.00
	velocity	7.40	8.91	8.67	8.40	8.06	7.67	7.27	6.68	7.82	194.0	8.08	8.53	7.86	6.96	8.30	7.38	

Butler, Aaliyah (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 07-Aug-24	time	6.61	12.00	17.57	23.44	29.62	36.18	43.24	51.18	51.18	5 / 6						
reaction time 0.160	interval		5.39	5.57	5.87	6.18	6.56	7.06	7.94		# of strides	12.00	11.44	12.74	15.00	23.44	27.74	4.30
	velocity	7.56	9.28	8.98	8.52	8.09	7.62	7.08	6.30	7.82	196.0	8.33	8.74	7.85	6.67	8.53	7.21	

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Meeting de Paris (Paris, FRA)																	*Omega Timing (2017) - diamond league race analysis*
date 01-Jul-17	time		12.6	18.4	24.7	31.1	37.5	44.2	51.19	51.19	7 / 2						
reaction time 0.242	interval			5.8	6.3	6.4	6.4	6.7	7.0		# of strides	12.60	12.10	12.80	13.69	24.70	26.49	1.79
	velocity		7.94	8.62	7.94	7.81	7.81	7.46	7.15	7.81	191.7	7.94	8.26	7.81	7.30	8.10	7.55	

Whitney, Kaylin (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Weltklasse (Zürich, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 09-Sep-21	time	6.8	12.4	18.2	24.1	30.3	36.9	43.8	51.19	51.19	2 / 8						
reaction time 0.198	interval		5.60	5.80	5.90	6.20	6.60	6.90	7.39		# of strides	12.40	11.70	12.80	14.29	24.10	27.09	2.99
	velocity	7.35	8.93	8.62	8.47	8.06	7.58	7.25	6.77	7.81		8.06	8.55	7.81	7.00	8.30	7.38	

Cofil, Fiordaliza (DOM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		12.60		24.75		37.77		51.19	51.19	7 / 1						
reaction time 0.214	interval				12.15		13.02		13.42		# of strides	12.60	12.15	13.02	13.42	24.75	26.44	1.69
	velocity		7.94		8.23		7.68		7.45	7.81	192.0	7.94	8.23	7.68	7.45	8.08	7.56	

Bukowiecka, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Athletissima (Lausanne, SUI)																	*Omega Timing (2025) - diamond league race analysis*
date 20-Aug-25	time	6.83	12.42	18.10	24.05	30.34	36.97	43.87	51.19	51.19	7 / 6						
reaction time 0.191	interval		5.59	5.68	5.95	6.29	6.63	6.90	7.32		# of strides	12.42	11.63	12.92	14.22	24.05	27.14	3.09
	velocity	7.32	8.94	8.80	8.40	7.95	7.54	7.25	6.83	7.81		8.05	8.60	7.74	7.03	8.32	7.37	

Nazarova, Olga (URS) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 IAAF World Championships (Rome, ITA)																	*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*
date 31-Aug-87	time		12.90		24.68		37.40		51.20	51.20	1 / 8						
reaction time	interval				11.78		12.72		13.80		# of strides	12.90	11.78	12.72	13.80	24.68	26.52	1.84
	velocity		7.75		8.49		7.86		7.25	7.81		7.75	8.49	7.86	7.25	8.10	7.54	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 16-Aug-09	time		12.41		24.01		36.79		51.20	51.20	3 / 5						
reaction time 0.265	interval				11.60		12.78		14.41		# of strides	12.41	11.60	12.78	14.41	24.01	27.19	3.18
	velocity		8.06		8.62		7.82		6.94	7.81	186.7	8.06	8.62	7.82	6.94	8.33	7.36	

Paulino, Marileidy (DOM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Doha Diamond League (Doha, QAT)																	*Omega Timing (2022) - diamond league race analysis*

date	13-May-22	time	6.6	12.3	18.4	24.6	30.9	37.3	43.9	51.20	51.20	4 / 1						
reaction time	0.209	interval		5.70	6.10	6.20	6.30	6.40	6.60	7.30		# of strides	12.30	12.30	12.70	13.90	24.60	26.60	2.00
		velocity	7.58	8.77	8.20	8.06	7.94	7.81	7.58	6.85	7.81	179.2	8.13	8.13	7.87	7.19	8.13	7.52	

van der Walt, Zenéy (RSA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)																	
date 21-Jul-23 time	6.84	12.53	18.39	24.36	30.60	37.19	43.98	51.20	51.20	1 / 7							
reaction time 0.178 interval		5.69	5.86	5.97	6.24	6.59	6.79	7.22		# of strides	12.53	11.83	12.83	14.01	24.36	26.84	2.48
velocity	7.31	8.79	8.53	8.38	8.01	7.59	7.36	6.93	7.81		7.98	8.45	7.79	7.14	8.21	7.45	

Omega Timing (2023) - diamond league race analysis

Arnold, Jermaisha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	
date 21-Jun-24 time		12.83		24.56		37.21		51.20	51.20	8 / 3							
reaction time interval				11.73		12.65		13.99		# of strides	12.83	11.73	12.65	13.99	24.56	26.64	2.08
velocity		7.79		8.53		7.91		7.15	7.81	192.0	7.79	8.53	7.91	7.15	8.14	7.51	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Jahn-Wilden, Rita (FRG) (1957)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 Olympic Games (Munich, FRG)																	
date 07-Sep-72 time				24.4				51.2	51.21	4 / 2							
reaction time interval								26.8		# of strides					24.40	26.80	2.40
velocity				8.20				7.46	7.81	193.0					8.20	7.46	

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

Landre, Francine (FRA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 European Cup (Bremen, GER)																	
date 23-Jun-01 time		12.42		24.52		37.48		51.21	51.21	/ 2							
reaction time interval				12.10		12.96		13.73	**=PB**	# of strides	12.42	12.10	12.96	13.73	24.52	26.69	2.17
velocity		8.05		8.26		7.72		7.28	7.81		8.05	8.26	7.72	7.28	8.16	7.49	

Graubner (2007) - http://www.fgs.uni-halle.de

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting de Paris (Paris, FRA)																	
date 24-Aug-19 time		12.3		24.5		37.2		51.21	51.21	6 / 2							
reaction time 0.205 interval				12.2		12.7		14.0		# of strides	12.30	12.20	12.70	14.01	24.50	26.71	2.21
velocity		8.13		8.20		7.87		7.14	7.81	186.2	8.13	8.20	7.87	7.14	8.16	7.49	

Omega Timing (2019) - diamond league race analysis

Wimbley, Shakima (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Weltklasse (Zürich, SUI)																	
date 29-Aug-19 time	6.7	12.3	18.1	24.2	30.6	37.2	44.0	51.21	51.21	3 / 2							
reaction time 0.145 interval		5.6	5.8	6.1	6.4	6.6	6.8	7.2		# of strides	12.30	11.90	13.00	14.01	24.20	27.01	2.81
velocity	7.46	8.93	8.62	8.20	7.81	7.58	7.35	6.93	7.81	182.0	8.13	8.40	7.69	7.14	8.26	7.40	

Omega Timing (2019) - diamond league race analysis

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)																	
date 16-Aug-22 time		12.54		24.50		37.14		51.21	51.21	7 / 4							
reaction time 0.158 interval				11.96		12.64		14.07		# of strides	12.54	11.96	12.64	14.07	24.50	26.71	2.21
velocity		7.97		8.36		7.91		7.11	7.81	202.0	7.97	8.36	7.91	7.11	8.16	7.49	

European Athletics (2022) - european athletics championships race analysis

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Weltklasse (Zürich, SUI)																	
date 08-Sep-22 time	6.75	12.33	18.06	24.01	30.22	36.72	43.66	51.21	51.21	6 / 1							
reaction time 0.151 interval		5.58	5.73	5.95	6.21	6.50	6.94	7.55		# of strides	12.33	11.68	12.71	14.49	24.01	27.20	3.19
velocity	7.41	8.96	8.73	8.40	8.05	7.69	7.20	6.62	7.81		8.11	8.56	7.87	6.90	8.33	7.35	

Omega Timing (2022) - diamond league race analysis

Effiong, Rosey (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																	
date 21-Jun-24 time		12.34		24.14		37.03		51.21	51.21	8 / 2							
reaction time interval				11.80		12.89		14.18		# of strides	12.34	11.80	12.89	14.18	24.14	27.07	2.93
velocity		8.10		8.47		7.76		7.05	7.81	192.5	8.10	8.47	7.76	7.05	8.29	7.39	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Myers, Sandra (ESP) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1993 IAAF World Championships (Stuttgart, GER)																	
date 17-Aug-93 time		12.09		23.63		36.45		51.22	51.22	1 / 6							
reaction time interval				11.54		12.82		14.77		# of strides	12.09	11.54	12.82	14.77	23.63	27.59	3.96
velocity		8.27		8.67		7.80		6.77	7.81		8.27	8.67	7.80	6.77	8.46	7.25	

Grgic (2019) - final result prediction in female 400m track event based on results achieved at certain race segments

Reid, Suziann (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1998 NCAA Championships (Amherst, NY)																	
date 06-Jun-98 time				24.2				51.2	51.22	/ 1							
reaction time interval								27.00		# of strides					24.20	27.00	2.80
velocity				8.26				7.41	7.81						8.26	7.41	

Track Newsletter (1998) - NCAA Championships

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bislett Games (Oslo, NOR)																	
date 07-Jun-18 time		12.3		24.1		36.7		51.22	51.22	7 / 6							
reaction time 0.236 interval				11.8		12.6		14.5		# of strides	12.30	11.80	12.60	14.52	24.10	27.12	3.02
velocity		8.13		8.47		7.94		6.89	7.81	194.7	8.13	8.47	7.94	6.89	8.30	7.37	

Omega Timing (2018) - diamond league race analysis

Yeargin, Nicole (GBR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																	
date 20-Jul-22 time		12.65		24.89		37.57		51.22	51.22	2 / 4							
reaction time 0.156 interval				12.24		12.68		13.65		# of strides	12.65	12.24	12.68	13.65	24.89	26.33	1.44
velocity		7.91		8.17		7.89		7.33	7.81		7.91	8.17	7.89	7.33	8.04	7.60	

Timing by Seiko (2022) - world athletics championships race analysis

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)																	
date 21-Jun-24 time		12.37		24.08		37.20		51.22	51.22	5 / 3							
reaction time interval				11.71		13.12		14.02		# of strides	12.37	11.71	13.12	14.02	24.08	27.14	3.06

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		velocity		8.08		8.54		7.62		7.13	7.81	188.0	8.08	8.54	7.62	7.13	8.31	7.37	

Scott, Gabby (PUR) (1997)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2024 Olympic Games (Paris, FRA)																		*Paris 2024 Olympic Games - Results Book (2024)*	
date	07-Aug-24	time	6.76	12.36	18.11	24.10	30.40	36.99	43.90	51.22	51.22	2 / 7							
reaction time	0.164	interval		5.60	5.75	5.99	6.30	6.59	6.91	7.32		# of strides	12.36	11.74	12.89	14.23	24.10	27.12	3.02
		velocity	7.40	8.93	8.70	8.35	7.94	7.59	7.24	6.83	7.81	185.2	8.09	8.52	7.76	7.03	8.30	7.37	

Ohuruogu, Victoria (GBR) (1993)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
National FINAL - 2025 London Athletics Meet (London, GBR)																		*Omega Timing (2025) - diamond league race analysis*	
date	19-Jul-25	time	6.91	12.65	18.52	24.55	30.74	37.29	43.93	51.22	51.22	5 / 1							
reaction time	0.193	interval		5.74	5.87	6.03	6.19	6.55	6.64	7.29		# of strides	12.65	11.90	12.74	13.93	24.55	26.67	2.12
		velocity	7.24	8.71	8.52	8.29	8.08	7.63	7.53	6.86	7.81		7.91	8.40	7.85	7.18	8.15	7.50	

Mawdsley, Sharlene (IRL) (1998)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 3 - 2025 World Athletics Championships (Tokyo, JPN)																		*Seiko Timing (2025) - 2025 World Championships race analysis*	
date	16-Sep-25	time		12.57		23.98		36.82		51.22	51.22	3 / 8							
reaction time	0.200	interval				11.41		12.84		14.40		# of strides	12.57	11.41	12.84	14.40	23.98	27.24	3.26
		velocity		7.96		8.76		7.79		6.94	7.81	195.0	7.96	8.76	7.79	6.94	8.34	7.34	

Cox, Crystal (USA) (1979)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)																		*USATF Women's Sprint Development (2004)*	
date	15-Jul-04	time		12.38		23.92	30.01	36.49	43.46	51.23	51.23	5 / 4							
reaction time		interval				11.54	6.09	6.48	6.97	7.77	**PB**	# of strides	12.38	11.54	12.57	14.74	23.92	27.31	3.39
		velocity		8.08		8.67	8.21	7.72	7.17	6.44	7.81	190.7	8.08	8.67	7.96	6.78	8.36	7.32	

Williams, Shericka (JAM) (1985)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2009 IAAF World Championships (Berlin, GER)																		*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*	
date	15-Aug-09	time		12.94		25.01		37.79		51.23	51.23	3 / 2							
reaction time	0.182	interval				12.07		12.78		13.44		# of strides	12.94	12.07	12.78	13.44	25.01	26.22	1.21
		velocity		7.73		8.29		7.82		7.44	7.81		7.73	8.29	7.82	7.44	8.00	7.63	

Baker, Keshia (USA) (1988)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2012 USA Olympic Trials (Eugene, OR)																		*Hymans (2020) - history of the US olympic trials - track and field*	
date	24-Jun-12	time				24.2		36.7		51.23	51.23	1 / ~~6~~ 5							
reaction time	0.273	interval						12.50		14.53		# of strides			12.50	14.53	24.20	27.03	2.83
		velocity				8.26		8.00		6.88	7.81				8.00	6.88	8.26	7.40	

Okolo, Courtney (USA) (1994)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 USATF National Championship (Sacramento, CA)																		*Lee (& Ferrara) (2017) - speedendurance.com/2017/07/13/400m-splits-from-usa-national-championships/*	
date	24-Jun-17	time		12.67		24.29		36.92		51.23	51.23	1 / 8							
reaction time		interval				11.62		12.63		14.31		# of strides	12.67	11.62	12.63	14.31	24.29	26.94	2.65
		velocity		8.24		8.73		8.12		7.24	7.81		7.89	8.61	7.92	6.99	8.23	7.42	

Gogl-Walli, Susanne (AUT) (1996)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2024 European Athletics Championships (Roma, ITA)																		*European Athletics (2024) - 2024 european athletics championships - results book*	
date	10-Jun-24	time		12.50		24.39		37.21		51.23	51.23	2 / 7							
reaction time	0.225	interval				11.89		12.82		14.02		# of strides	12.50	11.89	12.82	14.02	24.39	26.84	2.45
		velocity		8.00		8.41		7.80		7.13	7.81		8.00	8.41	7.80	7.13	8.20	7.45	

McConnell, Lee (GBR) (1978)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2002 European Championships (Munich, GER)																		*Graubner (2009) - http://www.fgs.uni-halle.de*	
date	07-Aug-02	time		12.66		24.52		37.37		51.24	51.24	/ 2							
reaction time	0.218	interval				11.86		12.85		13.87		# of strides	12.66	11.86	12.85	13.87	24.52	26.72	2.20
		velocity		7.90		8.43		7.78		7.21	7.81		7.90	8.43	7.78	7.21	8.16	7.49	

Zykina, Olesya (RUS) (1980)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																		*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*	
date	10-Aug-05	time						36.7		51.2	51.24	2 / 6							
reaction time	0.199	interval								14.5		# of strides				14.54			
		velocity						8.17		6.88	7.81					6.88			

George, Regina (NGR) (1991)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 7 - 2012 Olympic Games (London, GBR)																		Hadley (2012) - uka 2012 olympic games report: 400m, 4x 400m	
date	03-Aug-12	time				23.54				51.24	51.24	6 / 1							
reaction time	0.175	interval								27.70		# of strides					23.54	27.70	4.16
		velocity				8.50				7.22	7.81	193.0					8.50	7.22	

Gayot, Marie (FRA) (1989)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)																		*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*	
date	24-Aug-15	time	7.10	13.02	19.02	25.21	31.59	37.89	44.39	51.24	51.24	6 / 2							
reaction time	0.200	interval		5.92	6.00	6.19	6.38	6.30	6.50	6.85	**PB**	# of strides	13.02	12.19	12.68	13.35	25.21	26.03	0.82
		velocity	7.04	8.45	8.33	8.08	7.84	7.94	7.69	7.30	7.81	190.5	7.68	8.20	7.89	7.49	7.93	7.68	

Zemlyak, Olha (UKR) (1990)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																		*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*	
date	15-Aug-16	time	6.89	12.67	18.44	24.51	30.87	37.42	44.13	51.24	51.24	1 / 7							
reaction time	0.183	interval		5.78	5.77	6.07	6.36	6.55	6.71	7.11		# of strides	12.67	11.84	12.91	13.82	24.51	26.73	2.22
		velocity	7.26	8.65	8.67	8.24	7.86	7.63	7.45	7.03	7.81	192.0	7.89	8.45	7.75	7.24	8.16	7.48	

Felix, Allyson (USA) (1985)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 USATF National Championships (Eugene, OR)																		*Track Newsletter (2022) - USATF championships women*	
date	25-Jun-22	time		12.25		24.77		37.38		51.24	51.24	9 / 6							
reaction time		interval				12.52		12.61		13.86		# of strides	12.25	12.52	12.61	13.86	24.77	26.47	1.70
		velocity		8.16		7.99		7.93		7.22	7.81	184.2	8.16	7.99	7.93	7.22	8.07	7.56	

Miklós, Andrea (ROU) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		12.55							51.24	4 / 2							
reaction time 0.192 interval										# of strides	12.55						
velocity		7.97							7.81	199.7	7.97						

Young, Charokee (JAM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		12.49		24.11		36.87		51.24	51.24	8 / 6							
reaction time 0.222 interval				11.62		12.76		14.37		# of strides	12.49	11.62	12.76	14.37	24.11	27.13	3.02
velocity		8.01		8.61		7.84		6.96	7.81	194.7	8.01	8.61	7.84	6.96	8.30	7.37	

Pryce, Nickisha (JAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 21-Aug-23 time		12.10		23.39		36.25		51.24	51.24	8 / 5							
reaction time 0.186 interval				11.29		12.86		14.99		# of strides	12.10	11.29	12.86	14.99	23.39	27.85	4.46
velocity		8.26		8.86		7.78		6.67	7.81	191.0	8.26	8.86	7.78	6.67	8.55	7.18	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2023) - diamond league race analysis*
date 02-Sep-23 time	6.97	12.69	18.67	24.81	30.96	37.38	44.05	51.24	51.24	8 / 5							
reaction time 0.221 interval		5.72	5.98	6.14	6.15	6.42	6.67	7.19		# of strides	12.69	12.12	12.57	13.86	24.81	26.43	1.62
velocity	7.17	8.74	8.36	8.14	8.13	7.79	7.50	6.95	7.81		7.88	8.25	7.96	7.22	8.06	7.57	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2024 Memorial van damme (Brussels, BEL)																	*Omega Timing (2024) - diamond league race analysis*
date 13-Sep-24 time	6.98	12.72	18.67	24.79	30.92	37.28	43.95	51.24	51.24	7 / 4							
reaction time 0.126 interval		5.74	5.95	6.12	6.13	6.36	6.67	7.29		# of strides	12.72	12.07	12.49	13.96	24.79	26.45	1.66
velocity	7.16	8.71	8.40	8.17	8.16	7.86	7.50	6.86	7.81	186.0	7.86	8.29	8.01	7.16	8.07	7.56	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Athlos (Randalls Island, NY)																	*Athlos and Karmarush (2025). Athlos results and race analysis*
date 10-Oct-25 time		12.41		24.71		37.72		51.24	51.24	7 / 3							
reaction time interval				12.30		13.01		13.52		# of strides	12.41	12.30	13.01	13.52	24.71	26.53	1.82
velocity		8.06		8.13		7.69		7.40	7.81		8.06	8.13	7.69	7.40	8.09	7.54	

Holland, Maree (AUS) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1988 Olympic Games (Seoul, KOR)																	*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*
date 26-Sep-88 time		12.29		23.94		36.72		51.25	51.25	2 / 8							
reaction time 0.221 interval				11.65		12.78		14.53		# of strides	12.29	11.65	12.78	14.53	23.94	27.31	3.37
velocity		8.14		8.58		7.82		6.88	7.80		8.14	8.58	7.82	6.88	8.35	7.32	

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15 time	6.51	11.94	17.72	23.91	30.26	36.86	43.83	51.25	51.25	7 / 3							
reaction time 0.154 interval		5.43	5.78	6.19	6.35	6.60	6.97	7.42		# of strides	11.94	11.97	12.95	14.39	23.91	27.34	3.43
velocity	7.68	9.21	8.65	8.08	7.87	7.58	7.17	6.74	7.80	196.5	8.38	8.35	7.72	6.95	8.36	7.32	

Grenot, Libania (ITA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Olympic Games (Rio de Janeiro, BRA)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 15-Aug-16 time	6.77	12.24	17.97	23.85	30.13	36.66	43.69	51.25	51.25	2 / 8							
reaction time 0.149 interval		5.47	5.73	5.88	6.28	6.53	7.03	7.56		# of strides	12.24	11.61	12.81	14.59	23.85	27.40	3.55
velocity	7.39	9.14	8.73	8.50	7.96	7.66	7.11	6.61	7.80	187.5	8.17	8.61	7.81	6.85	8.39	7.30	

Vaičule, Gunta (LAT) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 16-Aug-22 time		12.68		24.29		37.06		51.25	51.25	1 / 4							
reaction time 0.179 interval				11.61		12.77		14.19	PB	# of strides	12.68	11.61	12.77	14.19	24.29	26.96	2.67
velocity		7.89		8.61		7.83		7.05	7.80	196.5	7.89	8.61	7.83	7.05	8.23	7.42	

Dixon, Diane (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 USA Olympic Trials (Los Angeles, CA)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 19-Jun-84 time				23.9				51.3	51.26	1 / 7							
reaction time interval								27.4		# of strides					23.90	27.40	3.50
velocity				8.37				7.30	7.80						8.37	7.30	

Belle, Roberta (USA) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 USA Olympic Trials (Los Angeles, CA)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 19-Jun-84 time				24.7				51.3	51.26	2 / 8							
reaction time interval								26.6		# of strides					24.70	26.60	1.90
velocity				8.10				7.52	7.80						8.10	7.52	

Floyd, Ebonie (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 03-Jul-08 time		12.31	17.88	24.70	30.93	37.55	44.23	51.26	51.26	1 / 6							
reaction time interval			5.57	6.82	6.23	6.62	6.68	7.03		# of strides	12.31	12.39	12.85	13.71	24.70	26.56	1.86
velocity		8.12	8.98	7.33	8.03	7.55	7.49	7.11	7.80		8.12	8.07	7.78	7.29	8.10	7.53	

McLeod, Candice (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21 time	6.8	12.4	18.1	24.1	30.4	36.9	43.7	51.26	51.26	5 / 5							
reaction time 0.158 interval		5.60	5.70	6.00	6.30	6.50	6.80	7.56		# of strides	12.40	11.70	12.80	14.36	24.10	27.16	3.06
velocity	7.35	8.93	8.77	8.33	7.94	7.69	7.35	6.61	7.80	203.0	8.06	8.55	7.81	6.96	8.30	7.36	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*

date	15-Aug-22	time		12.44		24.23		37.01		51.26	51.26	4 / 2						
reaction time	0.203	interval				11.79		12.78		14.25		# of strides	12.44	11.79	12.78	14.25	24.23	27.03	2.80
		velocity		8.04		8.48		7.82		7.02	7.80	200.7	8.04	8.48	7.82	7.02	8.25	7.40	

Williams, Jodie (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 07-Aug-22 time	6.6	12.3	18.3	24.5	30.7	37.0	43.8	51.26	51.26	9 / 3							
reaction time 0.130 interval		5.70	6.00	6.20	6.20	6.30	6.80	7.46		# of strides	12.30	12.20	12.50	14.26	24.50	26.76	2.26
velocity	7.58	8.77	8.33	8.06	8.06	7.94	7.35	6.70	7.80	192.0	8.13	8.20	8.00	7.01	8.16	7.47	

Wilson, Britton (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Apr-24 time	6.90	12.67	18.45	24.36	30.48	36.89	43.70	51.26	51.26	7 / 3							
reaction time 0.178 interval		5.77	5.78	5.91	6.12	6.41	6.81	7.56		# of strides	12.67	11.69	12.53	14.37	24.36	26.90	2.54
velocity	7.25	8.67	8.65	8.46	8.17	7.80	7.34	6.61	7.80	183.0	7.89	8.55	7.98	6.96	8.21	7.43	

Harris, Kimberly (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 22-Jun-24 time		12.40		24.02		36.82		51.26	51.26	6 / 4							
reaction time interval				11.62		12.80		14.44		# of strides	12.40	11.62	12.80	14.44	24.02	27.24	3.22
velocity		8.06		8.61		7.81		6.93	7.80	197.0	8.06	8.61	7.81	6.93	8.33	7.34	

Oketch, Mercy (KEN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2025 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2025) - diamond league race analysis*
date 22-Aug-25 time	6.77	12.63	18.53	24.75	31.13	37.58	44.19	51.26	51.26	5 / 1							
reaction time 0.200 interval		5.86	5.90	6.22	6.38	6.45	6.61	7.07		# of strides	12.63	12.12	12.83	13.68	24.75	26.51	1.76
velocity	7.39	8.53	8.47	8.04	7.84	7.75	7.56	7.07	7.80		7.92	8.25	7.79	7.31	8.08	7.54	

Danner, Mary (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championship (Indianapolis, IN)																	*USATF Women's Sprint Development (2006)*
date 24-Jun-06 time		12.02	18.32	24.39	30.73	37.37	44.26	51.27	51.27	2 / 5							
reaction time interval			6.30	6.07	6.34	6.64	6.89	7.01	PB	# of strides	12.02	12.37	12.98	13.90	24.39	26.88	2.49
velocity		8.32	7.94	8.24	7.89	7.53	7.26	7.13	7.80		8.32	8.08	7.70	7.19	8.20	7.44	

Cox, Shana (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 NCAA Championships (Sacramento, CA)																	*Track Newsletter (2007) - NCAA women's championships*
date 09-Jun-07 time				24.4		36.8		51.3	51.27	4 / 2							
reaction time interval						12.40		14.50		# of strides			12.40	14.50	24.40	26.90	2.50
velocity				8.20		8.06		6.90	7.80				8.06	6.90	8.20	7.43	

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 USATF National Championships (Eugene, OR)																	*Track Newsletter (2015) - USATF women's championships*
date 27-Jun-15 time				24.3		37.1		51.3	51.27	/ 5							
reaction time interval						12.8		14.2		# of strides			12.80	14.20	24.30	27.00	2.70
velocity				8.23		7.81		7.04	7.80				7.81	7.04	8.23	7.41	

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2017) - diamond league race analysis*
date 01-Sep-17 time		12.4	18.2	24.2	30.5	37.1	44.0	51.27	51.27	8 / 6							
reaction time 0.238 interval			5.80	6.00	6.30	6.60	6.90	7.27		# of strides	12.40	11.80	12.90	14.17	24.20	27.07	2.87
velocity		8.06	8.62	8.33	7.94	7.58	7.25	6.88	7.80	202.0	8.06	8.47	7.75	7.06	8.26	7.39	

Morauskaité, Modesta Justé (LTU) (1!

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22 time		12.49		24.36		37.07		51.27	51.27	5 / 2							
reaction time 0.136 interval				11.87		12.71		14.20		# of strides	12.49	11.87	12.71	14.20	24.36	26.91	2.55
velocity		8.01		8.42		7.87		7.04	7.80	192.5	8.01	8.42	7.87	7.04	8.21	7.43	

Aguilar, Evelyn (COL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		12.37		24.09		36.90		51.27	51.27	2 / 5							
reaction time 0.163 interval				11.72		12.81		14.37	PB	# of strides	12.37	11.72	12.81	14.37	24.09	27.18	3.09
velocity		8.08		8.53		7.81		6.96	7.80		8.08	8.53	7.81	6.96	8.30	7.36	

Diggs, Talitha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2023) - diamond league race analysis*
date 02-Sep-23 time	6.74	12.46	18.51	24.76	31.09	37.56	44.20	51.27	51.27	7 / 6							
reaction time 0.156 interval		5.72	6.05	6.25	6.33	6.47	6.64	7.07		# of strides	12.46	12.30	12.80	13.71	24.76	26.51	1.75
velocity	7.42	8.74	8.26	8.00	7.90	7.73	7.53	7.07	7.80		8.03	8.13	7.81	7.29	8.08	7.54	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Meeting de Paris (Paris, FRA)																	*Omega Timing (2024) - diamond league race analysis*
date 07-Jul-24 time	6.82	12.40	18.14	24.08	30.32	36.72	43.69	51.27	51.27	1 / 8							
reaction time 0.206 interval		5.58	5.74	5.94	6.24	6.40	6.97	7.58		# of strides	12.40	11.68	12.64	14.55	24.08	27.19	3.11
velocity	7.33	8.96	8.71	8.42	8.01	7.81	7.17	6.60	7.80	207.0	8.06	8.56	7.91	6.87	8.31	7.36	

Peoples, Paris (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 USATF Championships (Eugene, OR)																	*USATF and Karmarush (2025) - USATF championships results and race analysis*
date 01-Aug-25 time		12.50		24.27		37.09		51.27	51.27	9 / 5							
reaction time interval				11.77		12.82		14.18		# of strides	12.50	11.77	12.82	14.18	24.27	27.00	2.73
velocity		8.00		8.50		7.80		7.05	7.80		8.00	8.50	7.80	7.05	8.24	7.41	

Vervaet, Imke (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2025 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2025) - diamond league race analysis*
date 22-Aug-25 time	6.70	12.38	18.29	24.53	31.00	37.66	44.27	51.27	51.27	6 / 2							
reaction time 0.164 interval		5.68	5.91	6.24	6.47	6.66	6.61	7.00		# of strides	12.38	12.15	13.13	13.61	24.53	26.74	2.21

		velocity	7.46	8.80	8.46	8.01	7.73	7.51	7.56	7.14	7.80		8.08	8.23	7.62	7.35	8.15	7.48	

Brisco, Valerie (USA) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1987 TAC National Championships (San Jose, CA)																	
Track Newsletter (1987) - TAC National Championships																	
date 27-Jun-87 time				22.5				51.3	51.28	3 / 4							
reaction time interval								28.80		# of strides					22.50	28.80	6.30
velocity				8.89				6.94	7.80						8.89	6.94	

Hennegan, Monique (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)																	
Track Newsletter (2007) - USATF women's championships																	
date 23-Jun-07 time				24.0		36.7		51.3	51.28	3 / 6							
reaction time interval						12.70		14.60		# of strides			12.70	14.60	24.00	27.30	3.30
velocity				8.33		7.87		6.85	7.80				7.87	6.85	8.33	7.33	

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 USA Olympic Trials (Eugene, OR)																	
Hymans (2020) - history of the US olympic trials - track and field																	
date 24-Jun-12 time				23.9		36.5		51.28	51.28	3 / ~~7~~ 6							
reaction time 0.200 interval						12.60		14.78		# of strides			12.60	14.78	23.90	27.38	3.48
velocity				8.37		7.94		6.77	7.80				7.94	6.77	8.37	7.30	

Montsho, Amantle (BOT) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	
Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m																	
date 07-Aug-17 time		12.09		23.70		36.58	43.55	51.08	51.28	6 / ~~4~~ 3							
reaction time 0.203 interval				11.61		12.88	6.97	7.53		# of strides	12.09	11.61	12.88	14.50	23.70	27.38	3.68
velocity		8.27		8.61		7.76	7.17	6.64	7.80	187.0	8.27	8.61	7.76	6.90	8.44	7.30	

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)																	
Omega Timing (2018) - diamond league race analysis																	
date 10-Jun-18 time		12.5		24.5		37.0		51.28	51.28	8 / 6							
reaction time 0.234 interval				12.0		12.5		14.3		# of strides	12.50	12.00	12.50	14.28	24.50	26.78	2.28
velocity		8.00		8.33		8.00		7.00	7.80	194.0	8.00	8.33	8.00	7.00	8.16	7.47	

Baumgart-Witan, Iga (POL) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 European Athletics Championships (Munich, GER)																	
European Athletics (2022) - european athletics championships race analysis																	
date 17-Aug-22 time		12.64		24.41		37.11		51.28	51.28	2 / 8							
reaction time 0.228 interval				11.77		12.70		14.17		# of strides	12.64	11.77	12.70	14.17	24.41	26.87	2.46
velocity		7.91		8.50		7.87		7.06	7.80	180.0	7.91	8.50	7.87	7.06	8.19	7.44	

Becker, Sophie (IRL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 4 - 2024 Olympic Games (Paris, FRA)																	
Paris 2024 Olympic Games - Results Book (2024)																	
date 06-Aug-24 time	6.73	12.30	18.01	24.01	30.23	36.78	43.72	51.28	51.28	6 / 2							
reaction time 0.184 interval		5.57	5.71	6.00	6.22	6.55	6.94	7.56		# of strides	12.30	11.71	12.77	14.50	24.01	27.27	3.26
velocity	7.43	8.98	8.76	8.33	8.04	7.63	7.20	6.61	7.80	199.0	8.13	8.54	7.83	6.90	8.33	7.33	

Malone, Maicel (USA) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 USATF National Championship (Eugene, OR)																	
Track Newsletter (1999) - USATF National Championships																	
date 26-Jun-99 time				24.1				51.3	51.29	/ 1							
reaction time interval								27.20		# of strides					24.10	27.20	3.10
velocity				8.30				7.35	7.80						8.30	7.35	

Harper, Daina (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)																	
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition																	
date 20-May-18 time	6.73	12.36	18.18	24.25	30.49	37.03	43.85	51.29	51.29	5 / 2							
reaction time 0.205 interval		5.63	5.82	6.07	6.24	6.54	6.82	7.44		# of strides	12.36	11.89	12.78	14.26	24.25	27.04	2.79
velocity	7.43	8.88	8.59	8.24	8.01	7.65	7.33	6.72	7.80	185.7	8.09	8.41	7.82	7.01	8.25	7.40	

Botlogetswe, Christine (BOT) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)																	
Omega Timing (2019) - diamond league race analysis																	
date 18-May-19 time		12.7		24.6		37.6		51.29	51.29	9 / 3							
reaction time 0.222 interval				11.9		13.0		13.7		# of strides	12.70	11.90	13.00	13.69	24.60	26.69	2.09
velocity		7.87		8.40		7.69		7.30	7.80		7.87	8.40	7.69	7.30	8.13	7.49	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)																	
Omega Timing (2023) - diamond league race analysis																	
date 02-Jun-23 time	7.01	12.64	18.44	24.44	30.63	37.08	43.93	51.29	51.29	2 / 4							
reaction time 0.193 interval		5.63	5.80	6.00	6.19	6.45	6.85	7.36		# of strides	12.64	11.80	12.64	14.21	24.44	26.85	2.41
velocity	7.13	8.88	8.62	8.33	8.08	7.75	7.30	6.79	7.80		7.91	8.47	7.91	7.04	8.18	7.45	

Effiong, Rosey (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 USATF Championships (Eugene, OR)																	
USATF and Karmarush (2025) - USATF championships results and race analysis																	
date 02-Aug-25 time		12.18		24.16		37.11		51.29	51.29	1 / 8							
reaction time interval				11.98		12.95		14.18		# of strides	12.18	11.98	12.95	14.18	24.16	27.13	2.97
velocity		8.21		8.35		7.72		7.05	7.80	195.0	8.21	8.35	7.72	7.05	8.28	7.37	

Demus, Lashinda (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 NCAA Championships (Baton Rouge, LA)																	
Track Newsletter (2002) - NCAA championships																	
date 01-Jun-02 time				24.0				51.3	51.30	/ 3							
reaction time interval								27.30		# of strides					24.00	27.30	3.30
velocity				8.33				7.33	7.80						8.33	7.33	

Pospelova, Svetlana (RUS) (1979

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 IAAF World Championships (Paris, FRA)																	
Bonvin (2003) - Compte-rendu 400m et relais 4x 400m																	
date 27-Aug-03 time				23.7		36.7		51.30	51.30	2 / 8							
reaction time 0.145 interval						13.0		14.6		# of strides			13.00	14.60	23.70	27.60	3.90
velocity				8.44		7.69		6.85	7.80				7.69	6.85	8.44	7.25	

Williams, Novlene (JAM) (1982) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Sep-08	time		12.94		24.88		37.62		51.30	51.30	8 / 3						
reaction time	0.231	interval				11.94		12.74		13.68		# of strides	12.94	11.94	12.74	13.68	24.88	26.42	1.54
		velocity		7.73		8.38		7.85		7.31	7.80		7.73	8.38	7.85	7.31	8.04	7.57	

Ohuruogu, Christine (GBR) (1984) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 5 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	15-Aug-09	time		12.74		24.62		37.36		51.30	51.30	4 / 2						
reaction time	0.263	interval				11.88		12.74		13.94		# of strides	12.74	11.88	12.74	13.94	24.62	26.68	2.06
		velocity		7.85		8.42		7.85		7.17	7.80		7.85	8.42	7.85	7.17	8.12	7.50	

de Witte, Lisanne (NED) (1992) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2019 Weltklasse (Zürich, SUI) — *Omega Timing (2019) - diamond league race analysis*

date	29-Aug-19	time	7.0	12.8	18.6	24.6	30.8	37.4	44.1	51.30	51.30	1 / 3						
reaction time	0.167	interval		5.8	5.8	6.0	6.2	6.6	6.7	7.2		# of strides	12.80	11.80	12.80	13.90	24.60	26.70	2.10
		velocity	7.14	8.62	8.62	8.33	8.06	7.58	7.46	6.94	7.80		7.81	8.47	7.81	7.19	8.13	7.49	

Stepter, Jaide (USA) (1994) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2022 USATF National Championships (Eugene, OR) — *Track Newsletter (2022) - USATF championships women*

date	25-Jun-22	time		12.47		24.50		37.39		51.30	51.30	8 / 7						
reaction time		interval				12.03		12.89		13.91		# of strides	12.47	12.03	12.89	13.91	24.50	26.80	2.30
		velocity		8.02		8.31		7.76		7.19	7.80	187.2	8.02	8.31	7.76	7.19	8.16	7.46	

Petržilková, Tereza (CZE) (1993) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 5 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time		12.75							51.30	6 / 3						
reaction time	0.152	interval										# of strides	12.75						
		velocity		7.84							7.80	195.0	7.84						

Weil, Martina (CHI) (1999) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) — *Omega Timing (2023) - diamond league race analysis*

date	02-Sep-23	time	6.72	12.29	18.24	24.37	30.73	37.35	44.10	51.30	51.30	1 / 7						
reaction time	0.160	interval		5.57	5.95	6.13	6.36	6.62	6.75	7.20		# of strides	12.29	12.08	12.98	13.95	24.37	26.93	2.56
		velocity	7.44	8.98	8.40	8.16	7.86	7.55	7.41	6.94	7.80		8.14	8.28	7.70	7.17	8.21	7.43	

Brossier, Amandine (FRA) (1995) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 1 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time		12.70		24.67		37.36		51.30	51.30	6 / 1						
reaction time	0.207	interval				11.97		12.69		13.94		# of strides	12.70	11.97	12.69	13.94	24.67	26.63	1.96
		velocity		7.87		8.35		7.88		7.17	7.80		7.87	8.35	7.88	7.17	8.11	7.51	

Robinson, Na'Asha (USA) (1997) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 2 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time		12.31		23.92		36.95		51.30	51.30	8 / 4						
reaction time		interval				11.61		13.03		14.35	**=PB**	# of strides	12.31	11.61	13.03	14.35	23.92	27.38	3.46
		velocity		8.12		8.61		7.67		6.97	7.80	194.0	8.12	8.61	7.67	6.97	8.36	7.30	

Litvinova, Lyudmila (RUS) (1985) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 1 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

date	15-Aug-09	time		12.92		25.13		37.83		51.31	51.31	4 / 1						
reaction time	0.209	interval				12.21		12.70		13.48		# of strides	12.92	12.21	12.70	13.48	25.13	26.18	1.05
		velocity		7.74		8.19		7.87		7.42	7.80		7.74	8.19	7.87	7.42	7.96	7.64	

Wyciszkiewicz, Patrycja (POL) (1994) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 1 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

date	24-Aug-15	time	6.82	12.50	18.25	24.32	30.66	37.17	44.01	51.31	51.31	9 / 4						
reaction time	0.190	interval		5.68	5.75	6.07	6.34	6.51	6.84	7.30	**NUR / PB**	# of strides	12.50	11.82	12.85	14.14	24.32	26.99	2.67
		velocity	7.33	8.80	8.70	8.24	7.89	7.68	7.31	6.85	7.80		8.00	8.46	7.78	7.07	8.22	7.41	

Nielsen, Laviai (GBR) (1988) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2019 Athletissima (Lausanne, SUI) — *Omega Timing (2019) - diamond league race analysis*

date	05-Jul-19	time		12.5		24.6		37.4		51.31	51.31	1 / 4						
reaction time	0.160	interval				12.1		12.8		13.9		# of strides	12.50	12.10	12.80	13.91	24.60	26.71	2.11
		velocity		8.00		8.26		7.81		7.19	7.80		8.00	8.26	7.81	7.19	8.13	7.49	

Whitney, Kaylin (USA) (1998) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2022 USATF National Championships (Eugene, OR) — *Track Newsletter (2022) - USATF championships women*

date	25-Jun-22	time		12.59		24.32		37.04		51.31	51.31	2 / 8						
reaction time		interval				11.73		12.72		14.27		# of strides	12.59	11.73	12.72	14.27	24.32	26.99	2.67
		velocity		7.94		8.53		7.86		7.01	7.80		7.94	8.53	7.86	7.01	8.22	7.41	

Abrams, Aliyah (GUY) (1997) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA) — *Omega Timing (2023) - diamond league race analysis*

date	02-Jun-23	time	6.67	12.22	18.00	23.99	30.22	36.76	43.72	51.31	51.31	7 / 5						
reaction time	0.134	interval		5.55	5.78	5.99	6.23	6.54	6.96	7.59		# of strides	12.22	11.77	12.77	14.55	23.99	27.32	3.33
		velocity	7.50	9.01	8.65	8.35	8.03	7.65	7.18	6.59	7.80		8.18	8.50	7.83	6.87	8.34	7.32	

Anderson, Andrea (USA) (1977) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2000 USA Olympic Trials (Sacramento, CA) — *Hymans (2008) - history of the US olympic trials - track and field*

date	16-Jul-00	time		12.2		23.4		36.0		51.32	51.32	1 / 6						
reaction time		interval				11.2		12.6		15.3		# of strides	12.20	11.20	12.60	15.32	23.40	27.92	4.52
		velocity		8.20		8.93		7.94		6.53	7.79		8.20	8.93	7.94	6.53	8.55	7.16	

Richards-Ross, Sanya (USA) (1985) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2011 IAAF World Championships (Daegu, KOR) — *Butler (2013) - IAAF world athletic results 2008-2011 full results*

date	29-Aug-11	time			24.1		36.8		51.32	51.32	1 / 7								
reaction time	0.195	interval					12.7		14.5		# of strides					24.10	27.22	3.12	
		velocity			8.30		7.87		6.89	7.79	188.0					8.30	7.35		

Baisden, Kendall (USA) (1995)

FINAL - 2014 NCAA Championships (Eugene, OR)

Track Newsletter (2014) - NCAA women's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-14	time				24.4		37.5		51.3	51.32	7 / 3							
reaction time		interval						13.10		13.80		# of strides			13.10	13.80	24.40	26.90	2.50
		velocity				8.20		7.63		7.25	7.79				7.63	7.25	8.20	7.43	

James, Tiffany (JAM) (1997)

FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-16	time	6.85	12.52	18.30	24.29	30.59	37.13	43.94	51.32	51.32	5 / 1							
reaction time	0.153	interval		5.67	5.78	5.99	6.30	6.54	6.81	7.38	PB	# of strides	12.52	11.77	12.84	14.19	24.29	27.03	2.74
		velocity	7.30	8.82	8.65	8.35	7.94	7.65	7.34	6.78	7.79		7.99	8.50	7.79	7.05	8.23	7.40	

Kaczmarek, Natalia (POL) (1998)

FINAL - 2021 Meeting de Paris (Paris, FRA)

Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Aug-21	time	6.9	12.6	18.6	24.7	31.1	37.6	44.3	51.32	51.32	1 / 6							
reaction time	0.184	interval		5.70	6.00	6.10	6.40	6.50	6.70	7.02		# of strides	12.60	12.10	12.90	13.72	24.70	26.62	1.92
		velocity	7.25	8.77	8.33	8.20	7.81	7.69	7.46	7.12	7.79	196.0	7.94	8.26	7.75	7.29	8.10	7.51	

Pipi, Ama (GBR) (1995)

Heat 3 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		12.43		24.23		37.12		51.32	51.32	7 / 3							
reaction time	0.171	interval				11.80		12.89		14.20		# of strides	12.43	11.80	12.89	14.20	24.23	27.09	2.86
		velocity		8.05		8.47		7.76		7.04	7.79	196.7	8.05	8.47	7.76	7.04	8.25	7.38	

Williams, Sada (BAR) (1997)

FINAL - 2025 Jetour Doha Meeting (Doha, QAT)

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-May-25	time	6.62	12.33	18.31	24.41	30.67	37.21	43.94	51.32	51.32	7 / 4							
reaction time	0.147	interval		5.71	5.98	6.10	6.26	6.54	6.73	7.38		# of strides	12.33	12.08	12.80	14.11	24.41	26.91	2.50
		velocity	7.55	8.76	8.36	8.20	7.99	7.65	7.43	6.78	7.79		8.11	8.28	7.81	7.09	8.19	7.43	

Löwe, Gabriele (GDR) (1958)

FINAL - 1980 Olympic Games (Moscow, URS)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-80	time						37.6		51.33	51.33	1 / 6							
reaction time		interval								13.73		# of strides				13.73			
		velocity						7.98		7.28	7.79					7.28			

Jæger, Henriette (NOR) (2003)

Heat 5 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.80							51.33	8 / 4							
reaction time	0.164	interval										# of strides	12.80						
		velocity		7.81							7.79	198.0	7.81						

Morauskaité, Modesta Justé (LTU) (1!

Repechage 2 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	7.02	12.88	18.79	24.95	31.20	37.66	44.27	51.33	51.33	6 / 4							
reaction time	0.171	interval		5.86	5.91	6.16	6.25	6.46	6.61	7.06		# of strides	12.88	12.07	12.71	13.67	24.95	26.38	1.43
		velocity	7.12	8.53	8.46	8.12	8.00	7.74	7.56	7.08	7.79	195.7	7.76	8.29	7.87	7.32	8.02	7.58	

Adeleke, Rhasidat (IRL) (2002)

FINAL - 2025 Prefontaine Classic (Eugene, OR)

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jul-25	time	6.81	12.69	18.53	24.56	30.79	37.19	43.93	51.33	51.33	3 / 4							
reaction time	0.150	interval		5.88	5.84	6.03	6.23	6.40	6.74	7.40		# of strides	12.69	11.87	12.63	14.14	24.56	26.77	2.21
		velocity	7.34	8.50	8.56	8.29	8.03	7.81	7.42	6.76	7.79	185.0	7.88	8.42	7.92	7.07	8.14	7.47	

Hastings, Natasha (USA) (1986)

FINAL - 2005 USATF National Junior Championships (Carson, CA)

USATF Women's Sprint Development (2005)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time		12.30	18.05	24.17	30.33	36.82	43.76	51.34	51.34	6 / ~~2~~ 1							
reaction time		interval			5.75	6.12	6.16	6.49	6.94	7.58	PB	# of strides	12.30	11.87	12.65	14.52	24.17	27.17	3.00
		velocity		8.13	8.70	8.17	8.12	7.70	7.20	6.60	7.79		8.13	8.42	7.91	6.89	8.27	7.36	

Cox, Crystal (USA) (1979)

FINAL - 2006 USATF National Championship (Indianapolis, IN)

USATF Women's Sprint Development (2006)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-06	time		11.82	17.50	23.69	29.85	36.45	43.63	51.34	51.34	5 / 6							
reaction time		interval			5.68	6.19	6.16	6.60	7.18	7.71		# of strides	11.82	11.87	12.76	14.89	23.69	27.65	3.96
		velocity		8.46	8.80	8.08	8.12	7.58	6.96	6.49	7.79		8.46	8.42	7.84	6.72	8.44	7.23	

Święty-Ersetic, Justyna (POL) (1992)

FINAL - 2018 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2018) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-18	time		12.8		24.8		37.6		51.34	51.34	2 / 7							
reaction time	0.208	interval				12.0		12.8		13.7		# of strides	12.80	12.00	12.80	13.74	24.80	26.54	1.74
		velocity		7.81		8.33		7.81		7.28	7.79	211.7	7.81	8.33	7.81	7.28	8.06	7.54	

Naser, Salwa Eid (BRN) (1998)

FINAL - 2019 Asian Athletics Championships (Doha, QAT)

Yamanaka (2019) - race analysis of men and women 400m competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Apr-19	time	6.64	12.15	18.00	24.26	30.67	37.24	44.08	51.34	51.34	4 / 1							
reaction time	0.187	interval		5.51	5.85	6.26	6.41	6.57	6.84	7.26		# of strides	12.15	12.11	12.98	14.10	24.26	27.08	2.82
		velocity	7.53	9.07	8.55	7.99	7.80	7.61	7.31	6.89	7.79	187.0	8.23	8.26	7.70	7.09	8.24	7.39	

Klaver, Lieke (NED) (1998)

FINAL - 2022 FBK Games (Hengelo, NED)

Omega Timing (2022) - continental tour race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-22	time	6.5	12.0	17.7	23.7	30.0	36.7	43.7	51.34	51.34	5 / 2							
reaction time	0.186	interval		5.50	5.70	6.00	6.30	6.70	7.00	7.64		# of strides	12.00	11.70	13.00	14.64	23.70	27.64	3.94

	velocity	7.69	9.09	8.77	8.33	7.94	7.46	7.14	6.54	7.79	189.0	8.33	8.55	7.69	6.83	8.44	7.24	

Kaczmarek, Natalia (POL) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

date	20-Jul-22	time		12.51		24.40		37.30		51.34	51.34	4 / 5						
reaction time	0.141	interval				11.89		12.90		14.04		# of strides	12.51	11.89	12.90	14.04	24.40	26.94	2.54
		velocity		7.99		8.41		7.75		7.12	7.79	197.2	7.99	8.41	7.75	7.12	8.20	7.42	

Mangione, Alice (ITA) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

date	09-Jun-24	time		12.79		25.23		38.06		51.34	51.34	9 / 3						
reaction time	0.248	interval				12.44		12.83		13.28	PB	# of strides	12.79	12.44	12.83	13.28	25.23	26.11	0.88
		velocity		7.82		8.04		7.79		7.53	7.79	194.0	7.82	8.04	7.79	7.53	7.93	7.66	

Häggman, Pirjo (FIN) (1951)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1980 Olympic Games (Moscow, URS) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	28-Jul-80	time						37.6		51.35	51.35	2 / 7						
reaction time		interval								13.75		# of strides				13.75			
		velocity						7.98		7.27	7.79					7.27			

Pérec, Marie-José (FRA) (1968)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1988 French National Championships (Tours, FRA) — *Vazel (2011) - speed reserve in the 400m*

date	14-Aug-88	time		12.8		24.6		37.4		51.3	51.35	/ 1						
reaction time		interval				11.80		12.80		13.90	PB	# of strides	12.80	11.80	12.80	13.90	24.60	26.70	2.10
		velocity		7.81		8.47		7.81		7.19	7.79	170.5	7.81	8.47	7.81	7.19	8.13	7.49	

Porter, Shanelle (USA) (1972)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

date	17-Jun-96	time		12.55		24.15		36.78	43.68	51.35	51.35	5 / 5						
reaction time		interval				11.60		12.63	6.90	7.67		# of strides	12.55	11.60	12.63	14.57	24.15	27.20	3.05
		velocity		7.97		8.62		7.92	7.25	6.52	7.79		7.97	8.62	7.92	6.86	8.28	7.35	

Alexander, Kineke (VIN) (1986)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2006 NCAA Championships (Sacramento, CA) — *Track Newsletter (2006) - NCAA women's championships*

date	10-Jun-06	time		12.1		24.4		37.1		51.3	51.35	7 / 2						
reaction time		interval				12.30		12.70		14.20	NR	# of strides	12.10	12.30	12.70	14.20	24.40	26.90	2.50
		velocity		8.26		8.13		7.87		7.04	7.79		8.26	8.13	7.87	7.04	8.20	7.43	

Weil, Martina (CHI) (1999)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 4 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time		12.50		24.30		37.42		51.35	51.35	3 / 4						
reaction time	0.159	interval				11.80		13.12		13.93		# of strides	12.50	11.80	13.12	13.93	24.30	27.05	2.75
		velocity		8.00		8.47		7.62		7.18	7.79	187.2	8.00	8.47	7.62	7.18	8.23	7.39	

Cox, Shana (USA) (1985)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2006 USATF National Championship (Indianapolis, IN) — *USATF Women's Sprint Development (2006)*

date	24-Jun-06	time		12.48	18.38	24.71	30.88	37.40	44.14	51.36	51.36	8 / 7						
reaction time		interval			5.90	6.33	6.17	6.52	6.74	7.22		# of strides	12.48	12.23	12.69	13.96	24.71	26.65	1.94
		velocity		8.01	8.47	7.90	8.10	7.67	7.42	6.93	7.79		8.01	8.18	7.88	7.16	8.09	7.50	

Allcock, Amy (GBR) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2018 Müller Anniversary Games (London, GBR) — *Omega Timing (2018) - diamond league race analysis*

date	22-Jul-18	time		12.8		24.9		37.6		51.36	51.36	8 / 6						
reaction time	0.157	interval				12.1		12.7		13.8	PB	# of strides	12.80	12.10	12.70	13.76	24.90	26.46	1.56
		velocity		7.81		8.26		7.87		7.27	7.79	194.7	7.81	8.26	7.87	7.27	8.03	7.56	

Clark, Zoey (GBR) (1994)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2018 Müller Anniversary Games (London, GBR) — *Omega Timing (2018) - diamond league race analysis*

date	22-Jul-18	time		12.7		24.8		37.6		51.36	51.36	9 / 7						
reaction time	0.142	interval				12.1		12.8		13.8	PB	# of strides	12.70	12.10	12.80	13.76	24.80	26.56	1.76
		velocity		7.87		8.26		7.81		7.27	7.79		7.87	8.26	7.81	7.27	8.06	7.53	

Felix, Allyson (USA) (1985)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) — *European Athletics (2019) - race analysis*

date	09-Sep-19	time		12.49		25.31		37.70		51.36	51.36	8 / 2						
reaction time	0.187	interval				12.82		12.39		13.66		# of strides	12.49	12.82	12.39	13.66	25.31	26.05	0.74
		velocity		8.01		7.80		8.07		7.32	7.79	186.0	8.01	7.80	8.07	7.32	7.90	7.68	

Cofil, Fiordaliza (DOM) (2000)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) — *Omega Timing (2022) - diamond league race analysis*

date	06-Aug-22	time	6.76	12.41	18.38	24.74	31.27	37.75	44.23	51.36	51.36	9 / 6						
reaction time	0.190	interval		5.65	5.97	6.36	6.53	6.48	6.48	7.13		# of strides	12.41	12.33	13.01	13.61	24.74	26.62	1.88
		velocity	7.40	8.85	8.38	7.86	7.66	7.72	7.72	7.01	7.79		8.06	8.11	7.69	7.35	8.08	7.51	

Pipi, Ama (GBR) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

date	07-Aug-22	time	6.8	12.6	18.7	24.9	31.2	37.7	44.4	51.36	51.36	8 / 4						
reaction time	0.204	interval		5.80	6.10	6.20	6.30	6.50	6.70	6.96		# of strides	12.60	12.30	12.80	13.66	24.90	26.46	1.56
		velocity	7.35	8.62	8.20	8.06	7.94	7.69	7.46	7.18	7.79	196.0	7.94	8.13	7.81	7.32	8.03	7.56	

Vaičule, Gunta (LAT) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 1 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time		12.69		24.29		37.06		51.36	51.36	6 / 5						
reaction time	0.192	interval				11.60		12.77		14.30		# of strides	12.69	11.60	12.77	14.30	24.29	27.07	2.78
		velocity		7.88		8.62		7.83		6.99	7.79	196.0	7.88	8.62	7.83	6.99	8.23	7.39	

Manuel, Lurdes Gloria (CZE) (2005)
Heat 2 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		13.30		25.46		38.02		51.36	51.36	8 / 1							
reaction time	0.212	interval				12.16		12.56		13.34		# of strides	13.30	12.16	12.56	13.34	25.46	25.90	0.44
		velocity		7.52		8.22		7.96		7.50	7.79		7.52	8.22	7.96	7.50	7.86	7.72	

Bromfield, Junelle (JAM) (1998)
Heat 6 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.80	12.30	18.09	24.11	30.42	36.95	43.88	51.36	51.36	8 / 3							
reaction time	0.198	interval		5.50	5.79	6.02	6.31	6.53	6.93	7.48		# of strides	12.30	11.81	12.84	14.41	24.11	27.25	3.14
		velocity	7.35	9.09	8.64	8.31	7.92	7.66	7.22	6.68	7.79	179.0	8.13	8.47	7.79	6.94	8.30	7.34	

Oketch, Mercy (KEN) (2002)
Semi-Final 2 - 2025 World Athletics Championships (Tokyo, JPN)
Seiko Timing (2025) - 2025 World Championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-25	time		12.50		24.33		37.11		51.36	51.36	4 / 7							
reaction time	0.251	interval				11.83		12.78		14.25		# of strides	12.50	11.83	12.78	14.25	24.33	27.03	2.70
		velocity		8.00		8.45		7.82		7.02	7.79		8.00	8.45	7.82	7.02	8.22	7.40	

Alekseyeva, Tatyana (RUS) (1963)
FINAL - 1997 IAAF World Championships (Athens, GRE)
Ritzdorf (1997) - biomechanical research project at the VI th world championships in athletics, Athens 1997

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-97	time	6.48	12.24	17.64	23.48	29.72	36.28	43.24	51.20	51.37	2 / 8							
reaction time	0.167	interval		5.76	5.40	5.84	6.24	6.56	6.96	7.96		# of strides	12.24	11.24	12.80	14.92	23.48	27.72	4.24
		velocity	7.72	8.68	9.26	8.56	8.01	7.62	7.18	6.28	7.79		8.17	8.90	7.81	6.70	8.52	7.22	

Antyukh, Natalya (RUS) (1981)
FINAL - 2001 European Cup (Bremen, GER)
Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-01	time		12.76		24.72		37.36		51.37	51.37	/ 3							
reaction time		interval				11.96		12.64		14.01		# of strides	12.76	11.96	12.64	14.01	24.72	26.65	1.93
		velocity		7.84		8.36		7.91		7.14	7.79		7.84	8.36	7.91	7.14	8.09	7.50	

Floyd, Ebonie (USA) (1983)
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)
USATF Women's Sprint Development with HPC (2008)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-08	time		12.70	18.47	24.59	30.79	37.40	44.18	51.37	51.37	4 / 2							
reaction time		interval			5.77	6.12	6.20	6.61	6.78	7.19		# of strides	12.70	11.89	12.81	13.97	24.59	26.78	2.19
		velocity		7.87	8.67	8.17	8.06	7.56	7.37	6.95	7.79		7.87	8.41	7.81	7.16	8.13	7.47	

McPherson, Stephenie (JAM) (1988)
FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-22	time	6.57	12.09	17.79	23.76	30.11	36.78	43.53	51.37	51.37	6 / 3							
reaction time	0.134	interval		5.52	5.70	5.97	6.35	6.67	6.75	7.84		# of strides	12.09	11.67	13.02	14.59	23.76	27.61	3.85
		velocity	7.61	9.06	8.77	8.38	7.87	7.50	7.41	6.38	7.79	190.0	8.27	8.57	7.68	6.85	8.42	7.24	

Ohuruogu, Victoria (GBR) (1993)
Heat 5 - 2025 World Athletics Championships (Tokyo, JPN)
Seiko Timing (2025) - 2025 World Championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.50		24.41		37.05		51.37	51.37	9 / 4							
reaction time	0.226	interval				11.91		12.64		14.32		# of strides	12.50	11.91	12.64	14.32	24.41	26.96	2.55
		velocity		8.00		8.40		7.91		6.98	7.79	193.0	8.00	8.40	7.91	6.98	8.19	7.42	

Reid, Suziann (USA) (1977)
FINAL - 1999 USATF National Championship (Eugene, OR)
Track Newsletter (1999) - USATF National Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jun-99	time				24.4				51.4	51.38	/ 2							
reaction time		interval								27.00		# of strides					24.40	27.00	2.60
		velocity				8.20				7.41	7.79						8.20	7.41	

Washington, Demetria (USA) (1979)
FINAL - 2002 NCAA Championships (Baton Rouge, LA)
Track Newsletter (2002) - NCAA championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-02	time				23.80		36.80		51.40	51.38	/ 4							
reaction time		interval						13.00		14.60		# of strides			13.00	14.60	23.80	27.60	3.80
		velocity				8.40		7.69		6.85	7.79				7.69	6.85	8.40	7.25	

Usovich, Ilona (BLR) (1982)
FINAL - 2007 IAAF World Athletics Final (Stuttgart, GER)
Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Sep-07	time		12.59		24.27		37.21		51.31	51.38	8 / 8							
reaction time	0.196	interval				11.68		12.94		14.10		# of strides	12.59	11.68	12.94	14.10	24.27	27.04	2.77
		velocity		7.94		8.56		7.73		7.09	7.79		7.94	8.56	7.73	7.09	8.24	7.40	

Pompey, Aliann (GUY) (1978)
Heat 5 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-09	time		12.52		24.88		37.67		51.38	51.38	6 / 3							
reaction time	0.184	interval				12.36		12.79		13.71		# of strides	12.52	12.36	12.79	13.71	24.88	26.50	1.62
		velocity		7.99		8.09		7.82		7.29	7.79		7.99	8.09	7.82	7.29	8.04	7.55	

Malone-Wallace, Maicel (USA) (1969)
FINAL - 2000 USA Olympic Trials (Sacramento, CA)
Hymans (2008) - history of the US olympic trials - track and field

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jul-00	time		12.5		24.0		36.6		51.39	51.39	6 / 7							
reaction time		interval				11.5		12.6		14.8		# of strides	12.50	11.50	12.60	14.79	24.00	27.39	3.39
		velocity		8.00		8.70		7.94		6.76	7.78		8.00	8.70	7.94	6.76	8.33	7.30	

Lloyd, Shereefa (JAM) (1982)
FINAL - 2005 NCAA Championships (Sacramento, CA)
Track Newsletter (2005) - NCAA women's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-05	time				24.4		37.2		51.4	51.39	7 / 4							
reaction time		interval						12.80		14.20	PB	# of strides			12.80	14.20	24.40	27.00	2.60
		velocity				8.20		7.81		7.04	7.78	190.0			7.81	7.04	8.20	7.41	

Cox, Shana (USA) (1985)
FINAL - 2006 NCAA Championships (Sacramento, CA)
Track Newsletter (2006) - NCAA women's championships

date	10-Jun-06	time		12.7		24.7		37.5		51.4	51.39	6 / 3						
reaction time		interval				12.00		12.80		13.90		# of strides	12.70	12.00	12.80	13.90	24.70	26.70	2.00
		velocity		7.87		8.33		7.81		7.19	7.78	192.0	7.87	8.33	7.81	7.19	8.10	7.49	

Irby, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 21-Jul-16	time	6.62	12.06	17.93	24.15	30.53	37.10	43.95	51.39	51.39	7 / 2							
reaction time 0.192	interval		5.44	5.87	6.22	6.38	6.57	6.85	7.44	PB	# of strides	12.06	12.09	12.95	14.29	24.15	27.24	3.09
	velocity	7.55	9.19	8.52	8.04	7.84	7.61	7.30	6.72	7.78		8.29	8.27	7.72	7.00	8.28	7.34	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)											*Omega Timing (2019) - diamond league race analysis*						
date 18-May-19	time		12.5		24.5		37.3		51.39	51.39	7 / 4							
reaction time 0.142	interval				12.0		12.8		14.1		# of strides	12.50	12.00	12.80	14.09	24.50	26.89	2.39
	velocity		8.00		8.33		7.81		7.10	7.78	190.0	8.00	8.33	7.81	7.10	8.16	7.44	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)											*Omega Timing (2019) - diamond league race analysis*						
date 06-Jun-19	time		12.5		24.2		37.1		51.39	51.39	4 / 3							
reaction time 0.152	interval				11.7		12.9		14.3		# of strides	12.50	11.70	12.90	14.29	24.20	27.19	2.99
	velocity		8.00		8.55		7.75		7.00	7.78	190.0	8.00	8.55	7.75	7.00	8.26	7.36	

Pavlova, Pepa (BUL) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1986 Bulgarian National Championships (Sofia, BUL)											*Bondarchuk (2007) - transfer of training in sports*						
date 13-Aug-86	time		11.30		22.68				51.40	51.40	/ 1							
reaction time	interval				11.38				28.72	PB	# of strides	11.30	11.38			22.68	28.72	6.04
	velocity		8.85		8.79				6.96	7.78		8.85	8.79			8.82	6.96	

Campbell, Juliet (JAM) (1970)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1993 IAAF World Championships (Stuttgart, GER)											*Grgic (2019) - final result prediction in female 400m track event based on results achieved at certain race segments*						
date 17-Aug-93	time		12.43		24.27		36.84		51.40	51.40	7 / 7							
reaction time	interval				11.84		12.57		14.56		# of strides	12.43	11.84	12.57	14.56	24.27	27.13	2.86
	velocity		8.05		8.45		7.96		6.87	7.78		8.05	8.45	7.96	6.87	8.24	7.37	

Maiyo, Maureen (KEN) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)											*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*						
date 24-Aug-15	time	6.79	12.36	18.25	24.38	30.67	37.18	44.05	51.40	51.40	8 / 4							
reaction time 0.199	interval		5.57	5.89	6.13	6.29	6.51	6.87	7.35	PB	# of strides	12.36	12.02	12.80	14.22	24.38	27.02	2.64
	velocity	7.36	8.98	8.49	8.16	7.95	7.68	7.28	6.80	7.78	187.5	8.09	8.32	7.81	7.03	8.20	7.40	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)											*Omega Timing (2019) - diamond league race analysis*						
date 18-May-19	time		12.3		24.0		37.0		51.40	51.40	3 / 5							
reaction time 0.236	interval				11.7		13.0		14.4		# of strides	12.30	11.70	13.00	14.40	24.00	27.40	3.40
	velocity		8.13		8.55		7.69		6.94	7.78	193.2	8.13	8.55	7.69	6.94	8.33	7.30	

Young, Charokee (JAM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)											*Seiko Timing (2023) - world championship race analysis*						
date 21-Aug-23	time		12.62		24.34		37.49		51.40	51.40	3 / 6							
reaction time 0.207	interval				11.72		13.15		13.91		# of strides	12.62	11.72	13.15	13.91	24.34	27.06	2.72
	velocity		7.92		8.53		7.60		7.19	7.78		7.92	8.53	7.60	7.19	8.22	7.39	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Memorial van Damme (Brussels, BEL)											*Seiko Timing (2023) - world championship race analysis*						
date 08-Sep-23	time	6.86	12.53	18.40	24.49	30.75	37.15	43.97	51.40	51.40	8 / 1							
reaction time 0.191	interval		5.67	5.87	6.09	6.26	6.40	6.82	7.43		# of strides	12.53	11.96	12.66	14.25	24.49	26.91	2.42
	velocity	7.29	8.82	8.52	8.21	7.99	7.81	7.33	6.73	7.78		7.98	8.36	7.90	7.02	8.17	7.43	

McLeod, Candice (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Meeting de Paris (Paris, FRA)											*Omega Timing (2021) - diamond league race analysis*						
date 28-Aug-21	time	6.7	12.3	18.2	24.3	30.5	36.9	43.7	51.41	51.41	2 / 7							
reaction time 0.160	interval		5.60	5.90	6.10	6.20	6.40	6.80	7.71		# of strides	12.30	12.00	12.60	14.51	24.30	27.11	2.81
	velocity	7.46	8.93	8.47	8.20	8.06	7.81	7.35	6.49	7.78	206.0	8.13	8.33	7.94	6.89	8.23	7.38	

Young, Charokee (JAM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)											*Timing by Seiko (2022) - world athletics championships race analysis*						
date 20-Jul-22	time		12.49		24.22		36.96		51.41	51.41	2 / 5							
reaction time 0.175	interval				11.73		12.74		14.45		# of strides	12.49	11.73	12.74	14.45	24.22	27.19	2.97
	velocity		8.01		8.53		7.85		6.92	7.78	196.0	8.01	8.53	7.85	6.92	8.26	7.36	

Kotlyarova, Nadezhda (RUS) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2015 IAAF World Championships (Beijing, CHN)											*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*						
date 24-Aug-15	time	6.75	12.31	18.08	24.11	30.39	37.03	43.98	51.42	51.42	3 / 3							
reaction time 0.187	interval		5.56	5.77	6.03	6.28	6.64	6.95	7.44	PB	# of strides	12.31	11.80	12.92	14.39	24.11	27.31	3.20
	velocity	7.41	8.99	8.67	8.29	7.96	7.53	7.19	6.72	7.78		8.12	8.47	7.74	6.95	8.30	7.32	

Harper, Daina (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)											*Track Newsletter (2017) - NCAA women's championships*						
date 10-Jun-17	time				23.9		36.9		51.4	51.42	/ 4							
reaction time	interval						13.00		14.50		# of strides			13.00	14.50	23.90	27.50	3.60
	velocity				8.37		7.69		6.90	7.78				7.69	6.90	8.37	7.27	

Azevedo, Cátia (POR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)											*European Athletics (2022) - european athletics championships race analysis*						
date 16-Aug-22	time		12.80		24.83		37.78		51.42	51.42	8 / 5							
reaction time 0.229	interval				12.03		12.95		13.64		# of strides	12.80	12.03	12.95	13.64	24.83	26.59	1.76

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.81		8.31		7.72		7.33	7.78	194.0	7.81	8.31	7.72	7.33	8.05	7.52	

Manuel, Lurdes Gloria (CZE) (2005)
Semi-Final 2 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-24	time	6.95	12.59	18.29	24.18	30.42	37.01	43.92	51.42	51.42	2 / 8							
reaction time	0.167	interval		5.64	5.70	5.89	6.24	6.59	6.91	7.50		# of strides	12.59	11.59	12.83	14.41	24.18	27.24	3.06
		velocity	7.19	8.87	8.77	8.49	8.01	7.59	7.24	6.67	7.78	191.7	7.94	8.63	7.79	6.94	8.27	7.34	

Oakley, Dejanea (JAM) (2004)
Semi-Final 1 - 2025 World Athletics Championships (Tokyo, JPN) — *Seiko Timing (2025) - 2025 World Championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-25	time		12.24		23.91		36.91		51.42	51.42	9 / 7							
reaction time	0.179	interval				11.67		13.00		14.51		# of strides	12.24	11.67	13.00	14.51	23.91	27.51	3.60
		velocity		8.17		8.57		7.69		6.89	7.78		8.17	8.57	7.69	6.89	8.36	7.27	

Wimbley, Shakima (USA) (1995)
FINAL - 2016 NCAA Championships (Eugene, OR) — *Track Newsletter (2016) - NCAA women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-16	time				24.8		37.8		51.4	51.43	6 / 3							
reaction time		interval						13.00		13.60		# of strides			13.00	13.60	24.80	26.60	1.80
		velocity				8.06		7.69		7.35	7.78				7.69	7.35	8.06	7.52	

Sherar, Zoe (CAN) (1999)
Repechage 4 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.86	12.41	18.16	24.18	30.44	36.91	43.76	51.43	51.43	7 / 3							
reaction time	0.170	interval		5.55	5.75	6.02	6.26	6.47	6.85	7.67		# of strides	12.41	11.77	12.73	14.52	24.18	27.25	3.07
		velocity	7.29	9.01	8.70	8.31	7.99	7.73	7.30	6.52	7.78	188.0	8.06	8.50	7.86	6.89	8.27	7.34	

Cox, Crystal (USA) (1979)
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA) — *USATF Women's Sprint Development (2004)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jul-04	time		12.61		24.22		37.12	43.99	51.44	51.44	7 / 2							
reaction time		interval				11.61		12.90	6.87	7.45	PB	# of strides	12.61	11.61	12.90	14.32	24.22	27.22	3.00
		velocity		7.93		8.61		7.75	7.28	6.71	7.78		7.93	8.61	7.75	6.98	8.26	7.35	

Stepter, Jaide (USA) (1994)
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-19	time		12.1		23.8		36.6		51.44	51.44	8 / 5							
reaction time	0.158	interval				11.7		12.8		14.8		# of strides	12.10	11.70	12.80	14.84	23.80	27.64	3.84
		velocity		8.26		8.55		7.81		6.74	7.78	191.0	8.26	8.55	7.81	6.74	8.40	7.24	

Abrams, Aliyah (GUY) (1997)
Heat 5 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.45							51.44	3 / 5							
reaction time	0.229	interval										# of strides	12.45						
		velocity		8.03							7.78	202.5	8.03						

Collins, Michelle (USA) (1971)
FINAL - 1999 USATF National Championship (Eugene, OR) — *Track Newsletter (1999) - USATF National Championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Jun-99	time				25.0				51.4	51.45	/ 3							
reaction time		interval								26.40		# of strides					25.00	26.40	1.40
		velocity				8.00				7.58	7.77						8.00	7.58	

Reid, Suziann (USA) (1977)
FINAL - 2005 USATF National Championship (Carson, CA) — *USATF Women's Sprint Development (2005)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time		12.31	18.06	24.36	30.63	37.07	42.54	51.45	51.45	1 / 6							
reaction time		interval			5.75	6.30	6.27	6.44	5.47	8.91		# of strides	12.31	12.05	12.71	14.38	24.36	27.09	2.73
		velocity		8.12	8.70	7.94	7.97	7.76	9.14	5.61	7.77		8.12	8.30	7.87	6.95	8.21	7.38	

Usovich, Ilona (BLR) (1982)
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN) — *Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-05	time		12.73		24.89		37.53	44.32	51.45	51.45	3 / 3							
reaction time		interval				12.16		12.64	6.79	7.13		# of strides	12.73	12.16	12.64	13.92	24.89	26.56	1.67
		velocity		7.86		8.22		7.91	7.36	7.01	7.77		7.86	8.22	7.91	7.18	8.04	7.53	

Hall, Patricia (JAM) (1982)
FINAL - 2006 NCAA Championships (Sacramento, CA) — *Track Newsletter (2006) - NCAA women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-06	time		12.2		24.2		37.1		51.5	51.45	3 / 4							
reaction time		interval				12.00		12.90		14.40	PB	# of strides	12.20	12.00	12.90	14.40	24.20	27.30	3.10
		velocity		8.20		8.33		7.75		6.94	7.77		8.20	8.33	7.75	6.94	8.26	7.33	

Grenot, Libania (ITA) (1983)
Heat 1 - 2009 IAAF World Championships (Berlin, GER) — *Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-09	time		12.89		25.00		37.64		51.45	51.45	5 / 2							
reaction time	0.188	interval				12.11		12.64		13.81		# of strides	12.89	12.11	12.64	13.81	25.00	26.45	1.45
		velocity		7.76		8.26		7.91		7.24	7.77		7.76	8.26	7.91	7.24	8.00	7.56	

Bromfield, Junelle (JAM) (1998)
FINAL - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-22	time	6.8	12.5	18.4	24.6	30.8	37.3	44.1	51.45	51.45	3 / 5							
reaction time	0.188	interval		5.70	5.90	6.20	6.20	6.50	6.80	7.35		# of strides	12.50	12.10	12.70	14.15	24.60	26.85	2.25
		velocity	7.35	8.77	8.47	8.06	8.06	7.69	7.35	6.80	7.77	185.7	8.00	8.26	7.87	7.07	8.13	7.45	

Oakley, Dejanea (JAM) (2004)
FINAL - 2025 Prefontaine Classic (Eugene, OR) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jul-25	time	6.94	12.72	18.62	24.91	31.34	37.83	44.33	51.45	51.45	7 / 5							
reaction time	0.122	interval		5.78	5.90	6.29	6.43	6.49	6.50	7.12		# of strides	12.72	12.19	12.92	13.62	24.91	26.54	1.63
		velocity	7.20	8.65	8.47	7.95	7.78	7.70	7.69	7.02	7.77		7.86	8.20	7.74	7.34	8.03	7.54	

Ponette, Helena (BEL) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2025 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2025) - diamond league race analysis*
date 22-Aug-25 time	7.03	12.84	18.75	24.79	31.09	37.60	44.28	51.45	51.45	4 / 3							
reaction time 0.175 interval		5.81	5.91	6.04	6.30	6.51	6.68	7.17		# of strides	12.84	11.95	12.81	13.85	24.79	26.66	1.87
velocity	7.11	8.61	8.46	8.28	7.94	7.68	7.49	6.97	7.77		7.79	8.37	7.81	7.22	8.07	7.50	

Hennagan, Monique (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Championship (Indianapolis, IN)																	*USATF Women's Sprint Development (2006)*
date 24-Jun-06 time		12.04	18.17	24.18	30.46	37.13	44.04	51.46	51.46	1 / 8							
reaction time interval			6.13	6.01	6.28	6.67	6.91	7.42		# of strides	12.04	12.14	12.95	14.33	24.18	27.28	3.10
velocity		8.31	8.16	8.32	7.96	7.50	7.24	6.74	7.77		8.31	8.24	7.72	6.98	8.27	7.33	

Cuddihy, Joanne (IRL) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 European Championships (Göteborg, SWE)																	*Behm (2006) - Championnats d'Europe Göteborg 2006... Le 400m avec ou sans obstacles*
date 10-Aug-06 time				24.3		37.0		51.46	51.46	/ 8							
reaction time interval						12.70		14.46		# of strides			12.70	14.46	24.30	27.16	2.86
velocity				8.23		15.75		6.92	7.77				7.87	6.92	8.23	7.36	

Wineberg, Mary (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 29-Jun-08 time			19.03	25.55	31.45	37.96	44.29	51.46	51.46	8 / 1							
reaction time interval				6.52	5.90	6.51	6.33	7.17		# of strides			12.41	13.50	25.55	25.91	0.36
velocity			7.88	7.67	8.47	7.68	7.90	6.97	7.77				8.06	7.41	7.83	7.72	

Morán, Paola (MEX) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 21-Aug-23 time		12.58		24.32		37.18		51.46	51.46	6 / 6							
reaction time 0.215 interval				11.74		12.86		14.28		# of strides	12.58	11.74	12.86	14.28	24.32	27.14	2.82
velocity		7.95		8.52		7.78		7.00	7.77	190.0	7.95	8.52	7.78	7.00	8.22	7.37	

Petržilková, Tereza (CZE) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 1 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24 time	6.96	12.72	18.65	24.76	30.95	37.36	44.12	51.46	51.46	7 / 4							
reaction time 0.170 interval		5.76	5.93	6.11	6.19	6.41	6.76	7.34		# of strides	12.72	12.04	12.60	14.10	24.76	26.70	1.94
velocity	7.18	8.68	8.43	8.18	8.08	7.80	7.40	6.81	7.77	191.5	7.86	8.31	7.94	7.09	8.08	7.49	

Ponette, Helena (BEL) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24 time	7.05	12.77	18.54	24.61	30.88	37.35	44.08	51.46	51.46	7 / 5							
reaction time 0.164 interval		5.72	5.77	6.07	6.27	6.47	6.73	7.38	PB	# of strides	12.77	11.84	12.74	14.11	24.61	26.85	2.24
velocity	7.09	8.74	8.67	8.24	7.97	7.73	7.43	6.78	7.77	197.0	7.83	8.45	7.85	7.09	8.13	7.45	

Robinson, Moushaumi (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)																	*Track Newsletter (2007) - USATF women's championships*
date 23-Jun-07 time						36.4		51.5	51.47	2 / 7							
reaction time interval								15.10		# of strides				15.10			
velocity						8.24		6.62	7.77					6.62			

Das, Hima (IND) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																	*Koyama (2018) - research on athlete performance and technique- 2018 data book*
date 12-Jul-18 time	6.84	12.69	18.69	25.00	31.51	38.03	44.59	51.47	51.47	4 / 1							
reaction time 0.180 interval		5.85	6.00	6.31	6.51	6.52	6.56	6.88		# of strides	12.69	12.31	13.03	13.44	25.00	26.47	1.47
velocity	7.31	8.55	8.33	7.92	7.68	7.67	7.62	7.27	7.77	197.5	7.88	8.12	7.67	7.44	8.00	7.56	

Constantine, Kyra (CAN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)																	*Track Newsletter (2019) - NCAA women's championships*
date 07-Jun-19 time						37.6		51.5	51.47	/ 6							
reaction time 0.211 interval								13.90		# of strides				13.90			
velocity						5.32		7.19	7.77					7.19			

Vondrová, Lada (CZE) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 20-Jul-22 time		12.23		24.12		36.85		51.47	51.47	1 / 6							
reaction time 0.199 interval				11.89		12.73		14.62		# of strides	12.23	11.89	12.73	14.62	24.12	27.35	3.23
velocity		8.18		8.41		7.86		6.84	7.77	197.0	8.18	8.41	7.86	6.84	8.29	7.31	

Beer, Ellie (AUS) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24 time	6.74	12.23	17.94	24.02	30.29	36.82	43.81	51.47	51.47	6 / 5							
reaction time 0.183 interval		5.49	5.71	6.08	6.27	6.53	6.99	7.66	PB	# of strides	12.23	11.79	12.80	14.65	24.02	27.45	3.43
velocity	7.42	9.11	8.76	8.22	7.97	7.66	7.15	6.53	7.77	188.0	8.18	8.48	7.81	6.83	8.33	7.29	

Baas, Mette (FIN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	*European Athletics (2025) - 2025 european team championships, first division - results book*
date 27-Jun-25 time	6.66	12.36	18.23	24.33	30.60	37.22	44.09	51.47	51.47	/ 1							
reaction time 0.143 interval		5.70	5.87	6.10	6.27	6.62	6.87	7.38	PB	# of strides	12.36	11.97	12.89	14.25	24.33	27.14	2.81
velocity	7.51	8.77	8.52	8.20	7.97	7.55	7.28	6.78	7.77		8.09	8.35	7.76	7.02	8.22	7.37	

Howard, Sherri (USA) (1962)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (1980) - US olympic trials*
date 25-Jun-80 time		14.1		24.2		37.4		51.5	51.48	/ 1							
reaction time interval				10.10		13.20		14.10		# of strides	14.10	10.10	13.20	14.10	24.20	27.30	3.10
velocity		7.09		9.90		7.58		7.09	7.77		7.09	9.90	7.58	7.09	8.26	7.33	

Graham, Kim (USA) (1971)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 USATF National Championships (Sacramento, CA)																	*Track Newsletter (1995) - USATF National Championships*

date	17-Jun-95	time			25.0			51.5	51.48	/ 2											
reaction time		interval						26.50		# of strides							25.00	26.50	1.50		
		velocity			8.00			7.55	7.77								8.00	7.55			

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 USATF National Championships (Eugene, OR)										*Track Newsletter (2015) - USATF women's championships*							
date 27-Jun-15	time			24.1		37.5		51.5	51.48	/ 6							
reaction time	interval					13.4		14.0		# of strides			13.40	14.00	24.10	27.40	3.30
	velocity			8.30		7.46		7.14	7.77				7.46	7.14	8.30	7.30	

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*							
date 09-Aug-17	time	12.16		23.75		36.54	43.51	51.21	51.48	3 / ~~8~~ 7							
reaction time 0.272	interval			11.59		12.79	6.97	7.70		# of strides	12.16	11.59	12.79	14.67	23.75	27.46	3.71
	velocity	8.22		8.63		7.82	7.17	6.49	7.77	202.2	8.22	8.63	7.82	6.82	8.42	7.28	

Wilson, Linetta (USA) (1967)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)										*USATF Women's Sprint Development (1996)*							
date 19-Jun-96	time	12.62		24.38		37.02	43.93	51.49	51.49	7 / 5							
reaction time	interval			11.76		12.64	6.91	7.56		# of strides	12.62	11.76	12.64	14.47	24.38	27.11	2.73
	velocity	7.92		8.50		7.91	7.24	6.61	7.77		7.92	8.50	7.91	6.91	8.20	7.38	

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 IAAF World Championships (Moscow, RUS)										*Track Newsletter (2013) - world championships women*							
date 12-Aug-13	time	12.6		24.3		37.1		51.5	51.49	1 / 8							
reaction time 0.276	interval			11.7		12.8		14.4		# of strides	12.60	11.70	12.80	14.40	24.30	27.20	2.90
	velocity	7.94		8.55		7.81		6.94	7.77		7.94	8.55	7.81	6.94	8.23	7.35	

Whyte, Madison (USA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 22-Jun-24	time	12.39		24.01		36.93		51.49	51.49	3 / 5							
reaction time	interval			11.62		12.92		14.56	PB	# of strides	12.39	11.62	12.92	14.56	24.01	27.48	3.47
	velocity	8.07		8.61		7.74		6.87	7.77	183.0	8.07	8.61	7.74	6.87	8.33	7.28	

Botlogetswe, Christine (BOT) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Athletissima (Lausanne, SUI)										*Omega Timing (2019) - diamond league race analysis*							
date 05-Jul-19	time	12.5		24.4		37.5		51.50	51.50	3 / 5							
reaction time 0.187	interval			11.9		13.1		14.0		# of strides	12.50	11.90	13.10	14.00	24.40	27.10	2.70
	velocity	8.00		8.40		7.63		7.14	7.77		8.00	8.40	7.63	7.14	8.20	7.38	

Wimbley, Shakima (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting de Paris (Paris, FRA)										*Omega Timing (2019) - diamond league race analysis*							
date 24-Aug-19	time	12.3		24.2		37.0		51.50	51.50	5 / 3							
reaction time 0.164	interval			11.9		12.8		14.5		# of strides	12.30	11.90	12.80	14.50	24.20	27.30	3.10
	velocity	8.13		8.40		7.81		6.90	7.77	180.2	8.13	8.40	7.81	6.90	8.26	7.33	

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 USATF National Championships (Eugene, OR)										*Track Newsletter (2023) - USATF championships/WCT women*							
date 08-Jul-23	time	12.35		23.85		36.58		51.50	51.50	1 / 8							
reaction time 0.247	interval			11.50		12.73		14.92		# of strides	12.35	11.50	12.73	14.92	23.85	27.65	3.80
	velocity	8.10		8.70		7.86		6.70	7.77		8.10	8.70	7.86	6.70	8.39	7.23	

Vondrová, Lada (CZE) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 21-Aug-23	time	12.39		24.02		37.07		51.50	51.50	3 / 7							
reaction time 0.196	interval			11.63		13.05		14.43		# of strides	12.39	11.63	13.05	14.43	24.02	27.48	3.46
	velocity	8.07		8.60		7.66		6.93	7.77		8.07	8.60	7.66	6.93	8.33	7.28	

Gogl-Walli, Susanne (AUT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 21-Aug-23	time	12.50		24.25		37.37		51.50	51.50	2 / 7							
reaction time 0.168	interval			11.75		13.12		14.13		# of strides	12.50	11.75	13.12	14.13	24.25	27.25	3.00
	velocity	8.00		8.51		7.62		7.08	7.77		8.00	8.51	7.62	7.08	8.25	7.34	

Irby-Jackson, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Memorial van damme (Brussels, BEL)										*Omega Timing (2024) - diamond league race analysis*							
date 13-Sep-24	time	6.66	12.12	17.94	24.10	30.47	37.03	43.96	51.50	51.50	8 / ~~5~~ 4						
reaction time 0.170	interval		5.46	5.82	6.16	6.37	6.56	6.93	7.54		# of strides	12.12	11.98	12.93	14.47	24.10	27.40	3.30
	velocity	7.51	9.16	8.59	8.12	7.85	7.62	7.22	6.63	7.77		8.25	8.35	7.73	6.91	8.30	7.30	

Fraser, Donna (GBR) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 European Cup (Munich, GER)										*Jung (2003) - http://www.fgs.uni-halle.de*							
date 21-Jun-97	time	12.70		24.57		37.09		51.51	51.51	/ 2							
reaction time	interval			11.87		12.52		14.42	PB	# of strides	12.70	11.87	12.52	14.42	24.57	26.94	2.37
	velocity	7.87		8.42		7.99		6.93	7.77		7.87	8.42	7.99	6.93	8.14	7.42	

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 2 - 2008 USA Olympic Trials (Eugene, OR)										*USATF Women's Sprint Development with HPC (2008)*							
date 29-Jun-08	time	12.35	18.51	25.03	31.37	37.71	44.40	51.51	51.51	7 / 1							
reaction time	interval		6.16	6.52	6.34	6.34	6.69	7.11		# of strides	12.35	12.68	12.68	13.80	25.03	26.48	1.45
	velocity	8.10	8.12	7.67	7.89	7.89	7.47	7.03	7.77		8.10	7.89	7.89	7.25	7.99	7.55	

Petržilková, Tereza (CZE) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, First Division (Chorzów, POL)										*European Athletics (2023) - 3rd european games, athletics - results book*							
date 23-Jun-23	time	12.56		24.49		37.45		51.51	51.51	2 / 5							
reaction time 0.217	interval			11.93		12.96		14.06	PB	# of strides	12.56	11.93	12.96	14.06	24.49	27.02	2.53

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.96		8.38		7.72		7.11	7.77		7.96	8.38	7.72	7.11	8.17	7.40	

Pipi, Ama (GBR) (1995)

FINAL - 2023 Xiamen Diamond League (Xiamen, CHN) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-23	time	6.87	12.57	18.50	24.73	31.10	37.49	44.14	51.51	51.51	9 / 8							
reaction time	0.198	interval		5.70	5.93	6.23	6.37	6.39	6.65	7.37		# of strides	12.57	12.16	12.76	14.02	24.73	26.78	2.05
		velocity	7.28	8.77	8.43	8.03	7.85	7.82	7.52	6.78	7.77		7.96	8.22	7.84	7.13	8.09	7.47	

John, Yemi Mary (GBR) (2003)

Semi-Final 1 - 2025 World Athletics Championships (Tokyo, JPN) — *Seiko Timing (2025) - 2025 World Championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-25	time		12.61		24.47		37.32		51.51	51.51	2 / 8							
reaction time	0.236	interval				11.86		12.85		14.19		# of strides	12.61	11.86	12.85	14.19	24.47	27.04	2.57
		velocity		7.93		8.43		7.78		7.05	7.77		7.93	8.43	7.78	7.05	8.17	7.40	

Kaiser-Brown, Natasha (USA) (1967)

FINAL - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jun-96	time		12.49		24.58		37.58	44.42	51.52	51.52	2 / 6							
reaction time		interval				12.09		13.00	6.84	7.10		# of strides	12.49	12.09	13.00	13.94	24.58	26.94	2.36
		velocity		8.01		8.27		7.69	7.31	7.04	7.76		8.01	8.27	7.69	7.17	8.14	7.42	

Beard, Jessica (USA) (1989)

FINAL - 2012 USA Olympic Trials (Eugene, OR) — *Hymans (2020) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-12	time				24.1		36.8		51.52	51.52	2 / ~~8~~ 7							
reaction time	0.264	interval						12.70		14.72		# of strides		24.10	12.70	14.72	24.10	27.42	3.32
		velocity				8.30		7.87		6.79	7.76			4.15	7.87	6.79	8.30	7.29	

Baumgart-Witan, Iga (POL) (1989)

FINAL - 2019 The Match - Europe v USA (Minsk, BLR) — *European Athletics (2019) - race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-19	time		12.97		24.93		37.65		51.52	51.52	7 / 3							
reaction time	0.265	interval				11.96		12.72		13.87		# of strides	12.97	11.96	12.72	13.87	24.93	26.59	1.66
		velocity		7.71		8.36		7.86		7.21	7.76	182.0	7.71	8.36	7.86	7.21	8.02	7.52	

Ponette, Helena (BEL) (2000)

Heat 5 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.68							51.52	9 / 6							
reaction time	0.212	interval									PB	# of strides	12.68						
		velocity		7.89							7.76		7.89						

Scott, Gabby (PUR) (1997)

Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Aug-23	time		12.48		24.19		37.36		51.52	51.52	4 / 6							
reaction time	0.177	interval				11.71		13.17		14.16		# of strides	12.48	11.71	13.17	14.16	24.19	27.33	3.14
		velocity		8.01		8.54		7.59		7.06	7.76		8.01	8.54	7.59	7.06	8.27	7.32	

Leatherwood, Lillie (USA) (1964)

FINAL - 1991 IAAF World Championships (Tokyo, JPN) — *Butler (2013) - IAAF world championships statistics handbook- moscow 2013*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Aug-91	time				24.34				51.53	51.53	7 / 7							
reaction time		interval								27.19		# of strides					24.34	27.19	2.85
		velocity				8.22				7.36	7.76						8.22	7.36	

Kotlyarova, Olga (RUS) (1976)

FINAL - 1997 European Cup (Munich, GER) — *Jung (2003) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-97	time		12.73		24.53		37.16		51.53	51.53	/ 3							
reaction time		interval				11.80		12.63		14.37		# of strides	12.73	11.80	12.63	14.37	24.53	27.00	2.47
		velocity		7.86		8.47		7.92		6.96	7.76		7.86	8.47	7.92	6.96	8.15	7.41	

Prokopek, Grażyna (POL) (1977)

FINAL - 2002 European Championships (Munich, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-02	time		12.61		24.54		37.33		51.53	51.53	8 / 4							
reaction time	0.171	interval				11.93		12.79		14.20		# of strides	12.61	11.93	12.79	14.20	24.54	26.99	2.45
		velocity		7.93		8.38		7.82		7.04	7.76		7.93	8.38	7.82	7.04	8.15	7.41	

de Witte, Lisanne (NED) (1992)

FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jun-19	time		12.7		24.6		37.5		51.53	51.53	7 / 6							
reaction time	0.174	interval				11.9		12.9		14.0		# of strides	12.70	11.90	12.90	14.03	24.60	26.93	2.33
		velocity		7.87		8.40		7.75		7.13	7.76	194.0	7.87	8.40	7.75	7.13	8.13	7.43	

Nielsen, Laviai (GBR) (1988)

Semi-Final 1 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		12.42		24.28		37.22		51.53	51.53	7 / 6							
reaction time	0.162	interval				11.86		12.94		14.31		# of strides	12.42	11.86	12.94	14.31	24.28	27.25	2.97
		velocity		8.05		8.43		7.73		6.99	7.76	195.0	8.05	8.43	7.73	6.99	8.24	7.34	

Keough, Linda (GBR) (1963)

FINAL - 1991 European Cup (Frankfurt, GER) — *Federle (2003) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-91	time		12.37		24.34		37.06		51.54	51.54	8 / 4							
reaction time		interval				11.97		12.72		14.48		# of strides	12.37	11.97	12.72	14.48	24.34	27.20	2.86
		velocity		8.08		8.35		7.86		6.91	7.76		8.08	8.35	7.86	6.91	8.22	7.35	

Washington, Demetria (USA) (1979)

FINAL - 2003 USATF National Championship (Palo Alto, CA) — *USATF Women's Sprint Development (2003)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-03	time				24.12		37.25	44.11	51.54	51.54	5 / 2							
reaction time		interval						13.13	6.86	7.43		# of strides			13.13	14.29	24.12	27.42	3.30
		velocity				8.29		7.62	7.29	6.73	7.76				7.62	7.00	8.29	7.29	

Robinson, Moushaumi (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 17-Jul-04	time	12.22		24.04	30.43	37.01	43.72	51.54	51.54	8 / 6							
reaction time	interval			11.82	6.39	6.58	6.71	7.82	PB	# of strides	12.22	11.82	12.97	14.53	24.04	27.50	3.46
	velocity	8.18		8.46	7.82	7.60	7.45	6.39	7.76		8.18	8.46	7.71	6.88	8.32	7.27	

Montsho, Amantle (BOT) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 14-Sep-08	time	13.04		24.83		37.69		51.54	51.54	3 / 4							
reaction time 0.387	interval			11.79		12.86		13.85		# of strides	13.04	11.79	12.86	13.85	24.83	26.71	1.88
	velocity	7.67		8.48		7.78		7.22	7.76		7.67	8.48	7.78	7.22	8.05	7.49	

Święty-Ersetic, Justyna (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Weltklasse (Zürich, SUI)																	*Omega Timing (2019) - diamond league race analysis*
date 29-Aug-19	time 7.1	12.8	18.7	24.8	31.1	37.5	44.3	51.54	51.54	6 / 4							
reaction time 0.217	interval	5.7	5.9	6.1	6.3	6.4	6.8	7.2		# of strides	12.80	12.00	12.70	14.04	24.80	26.74	1.94
	velocity 7.04	8.77	8.47	8.20	7.94	7.81	7.35	6.91	7.76	207.7	7.81	8.33	7.87	7.12	8.06	7.48	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 13-Jun-21	time 6.7	12.2	18.0	24.1	30.3	37.0	44.1	51.54	51.54	5 / 3							
reaction time 0.173	interval	5.50	5.80	6.10	6.20	6.70	7.10	7.44		# of strides	12.20	11.90	12.90	14.54	24.10	27.44	3.34
	velocity 7.46	9.09	8.62	8.20	8.06	7.46	7.04	6.72	7.76	192.0	8.20	8.40	7.75	6.88	8.30	7.29	

Diggs, Talitha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time	12.39		24.65		37.75		51.54	51.54	3 / 2							
reaction time 0.133	interval			12.26		13.10		13.79		# of strides	12.39	12.26	13.10	13.79	24.65	26.89	2.24
	velocity	8.07		8.16		7.63		7.25	7.76	194.7	8.07	8.16	7.63	7.25	8.11	7.44	

van der Walt, Zenéy (RSA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 21-Aug-23	time	12.61		24.39		37.42		51.54	51.54	4 / 8							
reaction time 0.202	interval			11.78		13.03		14.12		# of strides	12.61	11.78	13.03	14.12	24.39	27.15	2.76
	velocity	7.93		8.49		7.67		7.08	7.76		7.93	8.49	7.67	7.08	8.20	7.37	

Becker, Sophie (IRL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24	time	12.15		24.33		37.28		51.54	51.54	7 / 4							
reaction time 0.219	interval			12.18		12.95		14.26		# of strides	12.15	12.18	12.95	14.26	24.33	27.21	2.88
	velocity	8.23		8.21		7.72		7.01	7.76	196.5	8.23	8.21	7.72	7.01	8.22	7.35	

Maloney, Shafiqua (VIN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Jetour Doha Meeting (Doha, QAT)																	*Omega Timing (2025) - diamond league race analysis*
date 16-May-25	time 6.62	12.11	18.03	24.20	30.68	37.27	44.09	51.54	51.54	8 / 5							
reaction time 0.202	interval	5.49	5.92	6.17	6.48	6.59	6.82	7.45		# of strides	12.11	12.09	13.07	14.27	24.20	27.34	3.14
	velocity 7.55	9.11	8.45	8.10	7.72	7.59	7.33	6.71	7.76		8.26	8.27	7.65	7.01	8.26	7.32	

Williams, Shericka (JAM) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 14-Sep-08	time	12.72		24.91		37.75		51.55	51.55	6 / 5							
reaction time 0.231	interval			12.19		12.84		13.80		# of strides	12.72	12.19	12.84	13.80	24.91	26.64	1.73
	velocity	7.86		8.20		7.79		7.25	7.76		7.86	8.20	7.79	7.25	8.03	7.51	

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 15-Aug-09	time	12.59		24.24		37.00		51.55	51.55	4 / 1							
reaction time 0.222	interval			11.65		12.76		14.55		# of strides	12.59	11.65	12.76	14.55	24.24	27.31	3.07
	velocity	7.94		8.58		7.84		6.87	7.76		7.94	8.58	7.84	6.87	8.25	7.32	

Kabange, Mupopo (ZAM) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time 6.57	12.22	18.37	24.71	30.95	37.24	44.01	51.55	51.55	8 / 2							
reaction time 0.180	interval	5.65	6.15	6.34	6.24	6.29	6.77	7.54		# of strides	12.22	12.49	12.53	14.31	24.71	26.84	2.13
	velocity 7.61	8.85	8.13	7.89	8.01	7.95	7.39	6.63	7.76	8 / 2	8.18	8.01	7.98	6.99	8.09	7.45	

Renzhina, Yekaterina (RUS) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time 6.84	12.55	18.44	24.67	31.06	37.49	44.25	51.55	51.55	7 / 3							
reaction time 0.193	interval	5.71	5.89	6.23	6.39	6.43	6.76	7.30		# of strides	12.55	12.12	12.82	14.06	24.67	26.88	2.21
	velocity 7.31	8.76	8.49	8.03	7.82	7.78	7.40	6.85	7.76		7.97	8.25	7.80	7.11	8.11	7.44	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2019) - diamond league race analysis*
date 06-Jun-19	time	12.4		24.3		37.3		51.55	51.55	8 / 4							
reaction time 0.237	interval			11.9		13.0		14.3		# of strides	12.40	11.90	13.00	14.25	24.30	27.25	2.95
	velocity	8.06		8.40		7.69		7.02	7.76	192.7	8.06	8.40	7.69	7.02	8.23	7.34	

Azevedo, Cátia (POR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time	12.94		24.77		37.65		51.55	51.55	6 / 5							
reaction time 0.181	interval			11.83		12.88		13.90		# of strides	12.94	11.83	12.88	13.90	24.77	26.78	2.01
	velocity	7.73		8.45		7.76		7.19	7.76	195.5	7.73	8.45	7.76	7.19	8.07	7.47	

Simwaka, Asimenye (MAW) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*

date	07-Aug-22	time	6.5	11.8	17.6	23.8	30.1	36.7	43.7	51.55	51.55	5 / 6						
reaction time	0.190	interval		5.30	5.80	6.20	6.30	6.60	7.00	7.85	NR PB	# of strides	11.80	12.00	12.90	14.85	23.80	27.75	3.95
		velocity	7.69	9.43	8.62	8.06	7.94	7.58	7.14	6.37	7.76	211.0	8.47	8.33	7.75	6.73	8.40	7.21	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Weltklasse (Zürich, SUI)																	
																	Omega Timing (2022) - diamond league race analysis
date 08-Sep-22	time	6.72	12.31	18.19	24.22	30.54	37.23	44.17	51.55	51.55	1 / 7							
reaction time 0.172	interval		5.59	5.88	6.03	6.32	6.69	6.94	7.38		# of strides	12.31	11.91	13.01	14.32	24.22	27.33	3.11
	velocity	7.44	8.94	8.50	8.29	7.91	7.47	7.20	6.78	7.76		8.12	8.40	7.69	6.98	8.26	7.32	

Mawdsley, Sharlene (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	
																	European Athletics (2023) - 3rd european games, athletics - results book
date 20-Jun-23	time		12.40		24.17		37.36		51.55	51.55	5 / 1							
reaction time 0.189	interval				11.77		13.19		14.19		# of strides	12.40	11.77	13.19	14.19	24.17	27.38	3.21
	velocity		8.06		8.50		7.58		7.05	7.76	193.0	8.06	8.50	7.58	7.05	8.27	7.30	

Mangione, Alice (ITA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, First Division (Chorzów, POL)																	
																	European Athletics (2023) - 3rd european games, athletics - results book
date 23-Jun-23	time		12.59		24.56		37.57		51.55	51.55	4 / 6							
reaction time 0.259	interval				11.97		13.01		13.98		# of strides	12.59	11.97	13.01	13.98	24.56	26.99	2.43
	velocity		7.94		8.35		7.69		7.15	7.76		7.94	8.35	7.69	7.15	8.14	7.41	

Ford, JaMeesia (USA) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																	
																	USATF and Karmarush (2024) - USA Olympic trials results and race analysis
date 21-Jun-24	time		12.54		24.53		37.83		51.55	51.55	4 / 3							
reaction time	interval				11.99		13.30		13.72		# of strides	12.54	11.99	13.30	13.72	24.53	27.02	2.49
	velocity		7.97		8.34		7.52		7.29	7.76	183.0	7.97	8.34	7.52	7.29	8.15	7.40	

Lewis, Lauren (USA) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																	
																	USATF and Karmarush (2024) - USA Olympic trials results and race analysis
date 22-Jun-24	time		12.51		24.29		37.34		51.55	51.55	9 / 6							
reaction time	interval				11.78		13.05		14.21		# of strides	12.51	11.78	13.05	14.21	24.29	27.26	2.97
	velocity		7.99		8.49		7.66		7.04	7.76		7.99	8.49	7.66	7.04	8.23	7.34	

Martin, Johanna (GER) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	
																	European Athletics (2025) - 2025 european team championships, first division - results book
date 27-Jun-25	time	6.81	12.43	18.27	24.33	30.58	37.21	44.01	51.55	51.55	2 / 6							
reaction time 0.184	interval		5.62	5.84	6.06	6.25	6.63	6.80	7.54	PB	# of strides	12.43	11.90	12.88	14.34	24.33	27.22	2.89
	velocity	7.34	8.90	8.56	8.25	8.00	7.54	7.35	6.63	7.76	194.5	8.05	8.40	7.76	6.97	8.22	7.35	

Abrams, Aliyah (GUY) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)																	
																	Paris 2024 Olympic Games - Results Book (2024)
date 05-Aug-24	time	6.78	12.32	18.02	23.98	30.25	36.91	43.95	51.55	51.55	4 / 5							
reaction time 0.163	interval		5.54	5.70	5.96	6.27	6.66	7.04	7.60		# of strides	12.32	11.66	12.93	14.64	23.98	27.57	3.59
	velocity	7.37	9.03	8.77	8.39	7.97	7.51	7.10	6.58	7.76	203.7	8.12	8.58	7.73	6.83	8.34	7.25	

Polinari, Anna (ITA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2025 World Athletics Championships (Tokyo, JPN)																	
																	Seiko Timing (2025) - 2025 World Championships race analysis
date 14-Sep-25	time		12.86		24.87		37.65		51.55	51.55	6 / 5							
reaction time 0.164	interval				12.01		12.78		13.90		# of strides	12.86	12.01	12.78	13.90	24.87	26.68	1.81
	velocity		7.78		8.33		7.82		7.19	7.76	191.5	7.78	8.33	7.82	7.19	8.04	7.50	

Waithera, Ruth (KEN) (1958)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1984 Olympic Games (Los Angeles, CA)																	
																	Adams (1984) - 1984 olympic games - 200m & 400m
date 06-Aug-84	time				25.1				51.56	51.56	4 / 8							
reaction time 0.334	interval								26.46		# of strides					25.10	26.46	1.36
	velocity				7.97				7.56	7.76						7.97	7.56	

Malone, Maicel (USA) (1969)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 USATF National Championships (Sacramento, CA)																	
																	Track Newsletter (1995) - USATF National Championships
date 17-Jun-95	time		12.3		24.9		37.9		51.6	51.56	/ 3							
reaction time	interval				12.60		13.00		13.70		# of strides	12.30	12.60	13.00	13.70	24.90	26.70	1.80
	velocity		8.13		7.94		7.69		7.30	7.76		8.13	7.94	7.69	7.30	8.03	7.49	

Kapachinskaya, Anastasiya (RUS) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2002 European Championships (Munich, GER)																	
																	Graubner (2009) - http://www.fgs.uni-halle.de
date 07-Aug-02	time		12.88		24.69		37.46		51.56	51.56	/ 3							
reaction time 0.209	interval				11.81		12.77		14.10		# of strides	12.88	11.81	12.77	14.10	24.69	26.87	2.18
	velocity		7.76		8.47		7.83		7.09	7.76		7.76	8.47	7.83	7.09	8.10	7.44	

Francis, Phyllis (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting de Paris (Paris, FRA)																	
																	Omega Timing (2019) - diamond league race analysis
date 24-Aug-19	time		12.1		23.7		36.8		51.56	51.56	4 / 4							
reaction time 0.237	interval				11.6		13.1		14.8		# of strides	12.10	11.60	13.10	14.76	23.70	27.86	4.16
	velocity		8.26		8.62		7.63		6.78	7.76	179.2	8.26	8.62	7.63	6.78	8.44	7.18	

Yeargin, Nicole (GBR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	
																	Omega Timing (2022) - continental tour race analysis
date 06-Jun-22	time	6.8	12.4	18.3	24.4	30.7	37.2	44.1	51.56	51.56	7 / 3							
reaction time 0.183	interval		5.60	5.90	6.10	6.30	6.50	6.90	7.46		# of strides	12.40	12.00	12.80	14.36	24.40	27.16	2.76
	velocity	7.35	8.93	8.47	8.20	7.94	7.69	7.25	6.70	7.76		8.06	8.33	7.81	6.96	8.20	7.36	

Gale, Lauren (CAN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2025 World Athletics Championships (Tokyo, JPN)																	
																	Seiko Timing (2025) - 2025 World Championships race analysis
date 14-Sep-25	time		12.30		24.08		37.08		51.56	51.56	4 / 4							
reaction time 0.203	interval				11.78		13.00		14.48		# of strides	12.30	11.78	13.00	14.48	24.08	27.48	3.40

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		8.13		8.49		7.69		6.91	7.76		8.13	8.49	7.69	6.91	8.31	7.28	

Kidd, Ashlee (USA) (1985)
FINAL - 2006 NCAA Championships (Sacramento, CA) — *Track Newsletter (2006) - NCAA women's championships*

date	10-Jun-06	time		12.3		24.5		37.5		51.6	51.57	8 / 5							
reaction time		interval				12.20		13.00		14.10	PB	# of strides	12.30	12.20	13.00	14.10	24.50	27.10	2.60
		velocity		8.13		8.20		7.69		7.09	7.76		8.13	8.20	7.69	7.09	8.16	7.38	

Bamgbose, Margaret (NGR) (1993)
FINAL - 2016 NCAA Championships (Eugene, OR) — *Track Newsletter (2016) - NCAA women's championships*

date	11-Jun-16	time				24.8		37.9		51.6	51.57	/ 4							
reaction time		interval						13.10		13.70		# of strides			13.10	13.70	24.80	26.80	2.00
		velocity				8.06		7.63		7.30	7.76				7.63	7.30	8.06	7.46	

Latiševa-Čudare, Gunta (LAT) (1995)
Semi-Final 1 - 2017 IAAF World Championships (London, GBR) — *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*

date	07-Aug-17	time		12.56		24.50		37.36	44.23	51.35	51.57	8 / 4							
reaction time	0.216	interval				11.94		12.86	6.87	7.12		# of strides	12.56	11.94	12.86	13.99	24.50	26.85	2.35
		velocity		7.96		8.38		7.78	7.28	7.02	7.76	195.4	7.96	8.38	7.78	7.15	8.16	7.45	

Jele, Lydia (BOT) (1990)
Semi-Final 2 - 2017 IAAF World Championships (London, GBR) — *Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*

date	07-Aug-17	time		12.20		24.02		37.07	44.01	51.37	51.57	2 / 5							
reaction time	0.200	interval				11.82		13.05	6.94	7.36		# of strides	12.20	11.82	13.05	14.30	24.02	27.35	3.33
		velocity		8.20		8.46		7.66	7.20	6.79	7.76	195.5	8.20	8.46	7.66	6.99	8.33	7.31	

Mangione, Alice (ITA) (1997)
Heat 1 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time		12.62		24.51		37.62		51.57	51.57	8 / 6							
reaction time	0.189	interval				11.89		13.11		13.95		# of strides	12.62	11.89	13.11	13.95	24.51	27.06	2.55
		velocity		7.92		8.41		7.63		7.17	7.76	191.0	7.92	8.41	7.63	7.17	8.16	7.39	

Diggs, Talitha (USA) (2002)
Heat 1 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time		12.36		24.33		37.29		51.57	51.57	4 / 3							
reaction time		interval				11.97		12.96		14.28		# of strides	12.36	11.97	12.96	14.28	24.33	27.24	2.91
		velocity		8.09		8.35		7.72		7.00	7.76	196.0	8.09	8.35	7.72	7.00	8.22	7.34	

Arnold, Jermaisha (USA) (2002)
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	22-Jun-24	time		12.61		24.03		36.73		51.58	51.58	7 / 7							
reaction time		interval				11.42		12.70		14.85		# of strides	12.61	11.42	12.70	14.85	24.03	27.55	3.52
		velocity		7.93		8.76		7.87		6.73	7.75	197.0	7.93	8.76	7.87	6.73	8.32	7.26	

Coetzee, Miranda (RSA) (1997)
Heat 6 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	05-Aug-24	time	6.56	11.96	17.52	23.35	29.53	36.10	43.39	51.58	51.58	2 / 4							
reaction time	0.149	interval		5.40	5.56	5.83	6.18	6.57	7.29	8.19		# of strides	11.96	11.39	12.75	15.48	23.35	28.23	4.88
		velocity	7.62	9.26	8.99	8.58	8.09	7.61	6.86	6.11	7.75	199.0	8.36	8.78	7.84	6.46	8.57	7.08	

Joseph, Rachel (USA) (2004)
FINAL - 2025 USATF Championships (Eugene, OR) — *USATF and Karmarush (2025) - USATF championships results and race analysis*

date	02-Aug-25	time		12.11		23.71		36.33		51.58	51.58	3 / 9							
reaction time		interval				11.60		12.62		15.25		# of strides	12.11	11.60	12.62	15.25	23.71	27.87	4.16
		velocity		8.26		8.62		7.92		6.56	7.75	188.5	8.26	8.62	7.92	6.56	8.44	7.18	

Sutton, Sydney (USA) (2006)
Heat 3 - 2025 USATF Championships (Eugene, OR) — *USATF and Karmarush (2025) - USATF championships results and race analysis*

date	01-Aug-25	time		12.15		24.23		37.28		51.58	51.58	4 / 5							
reaction time		interval				12.08		13.05		14.30		# of strides	12.15	12.08	13.05	14.30	24.23	27.35	3.12
		velocity		8.23		8.28		7.66		6.99	7.75		8.23	8.28	7.66	6.99	8.25	7.31	

Nelson, Briana (USA) (1992)
FINAL - 2014 NCAA Championships (Eugene, OR) — *Track Newsletter (2014) - NCAA women's championships*

date	13-Jun-14	time				24.6		37.4		51.6	51.59	/ 4							
reaction time		interval						12.80		14.20		# of strides			12.80	14.20	24.60	27.00	2.40
		velocity				8.13		7.81		7.04	7.75				7.81	7.04	8.13	7.41	

Adeleke, Rhasidat (IRL) (2002)
Heat 4 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time		12.65		24.68		37.40		51.59	51.59	2 / 2							
reaction time	0.151	interval				12.03		12.72		14.19		# of strides	12.65	12.03	12.72	14.19	24.68	26.91	2.23
		velocity		7.91		8.31		7.86		7.05	7.75	184.0	7.91	8.31	7.86	7.05	8.10	7.43	

Williams, Sada (BAR) (1997)
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

date	05-Aug-22	time	6.6	12.3	18.2	24.2	30.4	37.0	44.0	51.59	51.59	5 / 1							
reaction time	0.202	interval		5.70	5.90	6.00	6.20	6.60	7.00	7.59		# of strides	12.30	11.90	12.80	14.59	24.20	27.39	3.19
		velocity	7.58	8.77	8.47	8.33	8.06	7.58	7.14	6.59	7.75	195.0	8.13	8.40	7.81	6.85	8.26	7.30	

Morán, Paola (MEX) (1997)
Heat 3 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	20-Aug-23	time		12.41		24.53		37.35		51.59	51.59	6 / 2							
reaction time	0.189	interval				12.12		12.82		14.24		# of strides	12.41	12.12	12.82	14.24	24.53	27.06	2.53
		velocity		8.06		8.25		7.80		7.02	7.75	188.0	8.06	8.25	7.80	7.02	8.15	7.39	

Mawdsley, Sharlene (IRL) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 European Athletics Championships (Roma, ITA)																*European Athletics (2024) - 2024 european athletics championships - results book*
date 10-Jun-24	time		12.33		24.09		36.82		51.59	51.59	4 / 8							
reaction time 0.201	interval				11.76		12.73		14.77		# of strides	12.33	11.76	12.73	14.77	24.09	27.50	3.41
	velocity		8.11		8.50		7.86		6.77	7.75		8.11	8.50	7.86	6.77	8.30	7.27	

Jones, Jan'Taijah (USA) (2001)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)																*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time		12.73		24.57		37.37		51.59	51.59	5 / 4							
reaction time	interval				11.84		12.80		14.22		# of strides	12.73	11.84	12.80	14.22	24.57	27.02	2.45
	velocity		7.86		8.45		7.81		7.03	7.75	196.0	7.86	8.45	7.81	7.03	8.14	7.40	

Hastings, Natasha (USA) (1986)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 NCAA Championships (Sacramento, CA)																*Track Newsletter (2006) - NCAA women's championships*
date 10-Jun-06	time		11.8		23.9		36.9		51.6	51.60	4 / 6							
reaction time	interval				12.10		13.00		14.70		# of strides	11.80	12.10	13.00	14.70	23.90	27.70	3.80
	velocity		8.47		8.26		7.69		6.80	7.75	195.0	8.47	8.26	7.69	6.80	8.37	7.22	

Woods, Shareese (USA) (1985)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 2 - 2008 USA Olympic Trials (Eugene, OR)																*USATF Women's Sprint Development with HPC (2008)*
date 29-Jun-08	time	12.94	19.21	25.55	31.77	38.08	44.60	51.60	51.60	8 / 2								
reaction time	interval		6.27	6.34	6.22	6.31	6.52	7.00	PB	# of strides	12.94	12.61	12.53	13.52	25.55	26.05	0.50	
	velocity	7.73	7.97	7.89	8.04	7.92	7.67	7.14	7.75		7.73	7.93	7.98	7.40	7.83	7.68		

Onuora, Anyika (GBR) (1984)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bislett Games (Oslo, NOR)																*Omega Timing (2018) - diamond league race analysis*
date 07-Jun-18	time		12.9		25.1		38.4		51.60	51.60	8 / 7							
reaction time 0.156	interval				12.2		13.3		13.2		# of strides	12.90	12.20	13.30	13.20	25.10	26.50	1.40
	velocity		7.75		8.20		7.52		7.58	7.75	200.0	7.75	8.20	7.52	7.58	7.97	7.55	

Nielsen, Laviai (GBR) (1988)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 European Athletics Championships (Munich, GER)																*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22	time		12.37		24.58		37.60		51.60	51.60	7 / 1							
reaction time 0.175	interval				12.21		13.02		14.00		# of strides	12.37	12.21	13.02	14.00	24.58	27.02	2.44
	velocity		8.08		8.19		7.68		7.14	7.75		8.08	8.19	7.68	7.14	8.14	7.40	

Konrad, Grace (CAN) (1999)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2023 World Athletics Championships (Budapest, HUN)																*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time		12.66		25.02		38.03		51.60	51.60	8 / 5							
reaction time 0.193	interval				12.36		13.01		13.57	PB	# of strides	12.66	12.36	13.01	13.57	25.02	26.58	1.56
	velocity		7.90		8.09		7.69		7.37	7.75		7.90	8.09	7.69	7.37	7.99	7.52	

Irby-Jackson, Lynna (USA) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																*Omega Timing (2023) - diamond league race analysis*
date 17-Sep-23	time	6.63	12.04	17.79	23.86	30.10	36.65	43.67	51.60	51.60	9 / 7							
reaction time 0.175	interval		5.41	5.75	6.07	6.24	6.55	7.02	7.93		# of strides	12.04	11.82	12.79	14.95	23.86	27.74	3.88
	velocity	7.54	9.24	8.70	8.24	8.01	7.63	7.12	6.31	7.75		8.31	8.46	7.82	6.69	8.38	7.21	

Mangione, Alice (ITA) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 Olympic Games (Paris, FRA)																*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time	6.91	12.56	18.40	24.61	30.95	37.51	44.30	51.60	51.60	7 / 5							
reaction time 0.196	interval		5.65	5.84	6.21	6.34	6.56	6.79	7.30		# of strides	12.56	12.05	12.90	14.09	24.61	26.99	2.38
	velocity	7.24	8.85	8.56	8.05	7.89	7.62	7.36	6.85	7.75		7.96	8.30	7.75	7.10	8.13	7.41	

Coetzee, Miranda (RSA) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 Olympic Games (Paris, FRA)																*Paris 2024 Olympic Games - Results Book (2024)*
date 07-Aug-24	time	6.87	12.54	18.28	24.32	30.63	37.13	44.03	51.60	51.60	3 / 8							
reaction time 0.217	interval		5.67	5.74	6.04	6.31	6.50	6.90	7.57		# of strides	12.54	11.78	12.81	14.47	24.32	27.28	2.96
	velocity	7.28	8.82	8.71	8.28	7.92	7.69	7.25	6.61	7.75	193.0	7.97	8.49	7.81	6.91	8.22	7.33	

Reid, Suziann (USA) (1977)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2004 USA Olympic Trials (Sacramento, CA)																*USATF Women's Sprint Development (2004)*
date 17-Jul-04	time		12.25		24.60	30.78	38.39	44.18	51.61	51.61	5 / 7							
reaction time	interval				12.35	6.18	7.61	5.79	7.43		# of strides	12.25	12.35	13.79	13.22	24.60	27.01	2.41
	velocity		8.16		8.10	8.09	6.57	8.64	6.73	7.75		8.16	8.10	7.25	7.56	8.13	7.40	

Kidd, Ashlee (USA) (1985)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 NCAA Championships (Sacramento, CA)																*Track Newsletter (2007) - NCAA women's championships*
date 09-Jun-07	time				24.4		37.3		51.6	51.61	3 / 3							
reaction time	interval						12.90		14.30		# of strides			12.90	14.30	24.40	27.20	2.80
	velocity				8.20		7.75		6.99	7.75				7.75	6.99	8.20	7.35	

Morauskaité, Modesta Justé (LTU) (1!

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time		12.47		24.21		37.22		51.61	51.61	3 / 2							
reaction time 0.153	interval				11.74		13.01		14.39		# of strides	12.47	11.74	13.01	14.39	24.21	27.40	3.19
	velocity		8.02		8.52		7.69		6.95	7.75		8.02	8.52	7.69	6.95	8.26	7.30	

Ohuruogu, Victoria (GBR) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bislett Games (Oslo, NOR)																*Omega Timing (2024) - diamond league race analysis*
date 30-May-24	time	7.03	12.72	18.47	24.58	30.78	37.33	44.30	51.61	51.61	1 / 8							
reaction time 0.161	interval		5.69	5.75	6.11	6.20	6.55	6.97	7.31		# of strides	12.72	11.86	12.75	14.28	24.58	27.03	2.45
	velocity	7.11	8.79	8.70	8.18	8.06	7.63	7.17	6.84	7.75	194.2	7.86	8.43	7.84	7.00	8.14	7.40	

Shida, Leni (UGA) (1994)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 World Athletics Championships (Tokyo, JPN)																*Seiko Timing (2025) - 2025 World Championships race analysis*

date	14-Sep-25	time		12.63		24.79		37.66		51.61	51.61	4 / 5						
reaction time	0.261	interval				12.16		12.87		13.95		# of strides	12.63	12.16	12.87	13.95	24.79	26.82	2.03
		velocity		7.92		8.22		7.77		7.17	7.75		7.92	8.22	7.77	7.17	8.07	7.46	

Bryzgina, Olga (URS) (1963)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 1987 IAAF World Championships (Rome, ITA)											*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*						
date 29-Aug-87	time		12.51		24.50		37.22		51.62	51.62	8 / 1							
reaction time	interval				11.99		12.72		14.40		# of strides	12.51	11.99	12.72	14.40	24.50	27.12	2.62
	velocity		7.99		8.34		7.86		6.94	7.75		7.99	8.34	7.86	6.94	8.16	7.37	

Emmelmann, Kirsten (GDR) (1961)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 1987 IAAF World Championships (Rome, ITA)											*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*						
date 29-Aug-87	time		12.32		23.98		36.74		51.62	51.62	7 / 1							
reaction time	interval				11.66		12.76		14.88		# of strides	12.32	11.66	12.76	14.88	23.98	27.64	3.66
	velocity		8.12		8.58		7.84		6.72	7.75		8.12	8.58	7.84	6.72	8.34	7.24	

Effiong, Rosey (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Prefontaine Classic (Eugene, OR)											*Omega Timing (2025) - diamond league race analysis*						
date 05-Jul-25	time	6.70	12.30	18.04	24.05	30.46	37.09	44.06	51.62	51.62	2 / 6							
reaction time 0.166	interval		5.60	5.74	6.01	6.41	6.63	6.97	7.56		# of strides	12.30	11.75	13.04	14.53	24.05	27.57	3.52
	velocity	7.46	8.93	8.71	8.32	7.80	7.54	7.17	6.61	7.75		8.13	8.51	7.67	6.88	8.32	7.25	

Damyanova, Svobodka (BUL) (1955)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 Balkan Games (Sofia, BUL)											*Bondarchuk (2007) - transfer of training in sports*						
date 14-Jun-80	time		11.92		23.90				51.63	51.63	/ 1							
reaction time	interval				11.98				27.73		# of strides	11.92	11.98			23.90	27.73	3.83
	velocity		8.39		8.35				7.21	7.75		8.39	8.35			8.37	7.21	

Crooks, Charmaine (CAN) (1962)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR)											*Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*						
date 25-Sep-88	time		12.43		24.17		36.85		51.63	51.63	5 / 7							
reaction time	interval				11.74		12.68		14.78		# of strides	12.43	11.74	12.68	14.78	24.17	27.46	3.29
	velocity		8.05		8.52		7.89		6.77	7.75		8.05	8.52	7.89	6.77	8.27	7.28	

Cross, Brandi (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)											*USATF Women's Sprint Development with HPC (2008)*						
date 29-Jun-08	time		12.33	18.12	24.24	30.55	37.20	44.06	51.63	51.63	3 / 3							
reaction time	interval			5.79	6.12	6.31	6.65	6.86	7.57	PB	# of strides	12.33	11.91	12.96	14.43	24.24	27.39	3.15
	velocity		8.11	8.64	8.17	7.92	7.52	7.29	6.61	7.75		8.11	8.40	7.72	6.93	8.25	7.30	

Désert-Mariller, Solen (FRA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2009 IAAF World Championships (Berlin, GER)											*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*						
date 15-Aug-09	time		12.75		24.79		37.81		51.63	51.63	6 / 3							
reaction time 0.210	interval				12.04		13.02		13.82		# of strides	12.75	12.04	13.02	13.82	24.79	26.84	2.05
	velocity		7.84		8.31		7.68		7.24	7.75		7.84	8.31	7.68	7.24	8.07	7.45	

Azevedo, Cátia (POR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 European Athletics Championships (Munich, GER)											*European Athletics (2022) - european athletics championships race analysis*						
date 15-Aug-22	time		12.88		24.71		37.45		51.63	51.63	3 / 1							
reaction time 0.284	interval				11.83		12.74		14.18		# of strides	12.88	11.83	12.74	14.18	24.71	26.92	2.21
	velocity		7.76		8.45		7.85		7.05	7.75	196.0	7.76	8.45	7.85	7.05	8.09	7.43	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Athletissima (Lausanne, SUI)											*Omega Timing (2022) - diamond league race analysis*						
date 26-Aug-22	time	6.85	12.51	18.46	24.56	30.80	37.26	44.11	51.63	51.63	2 / 7							
reaction time 0.139	interval		5.66	5.95	6.10	6.24	6.46	6.85	7.52		# of strides	12.51	12.05	12.70	14.37	24.56	27.07	2.51
	velocity	7.30	8.83	8.40	8.20	8.01	7.74	7.30	6.65	7.75		7.99	8.30	7.87	6.96	8.14	7.39	

Kielbasinska, Anna (POL) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Memorial van Damme (Brussels, BEL)											*Omega Timing (2022) - diamond league race analysis*						
date 02-Sep-22	time	6.59	12.31	18.09	24.10	30.41	37.06	43.98	51.63	51.63	6 / 7							
reaction time 0.150	interval		5.72	5.78	6.01	6.31	6.65	6.92	7.65		# of strides	12.31	11.79	12.96	14.57	24.10	27.53	3.43
	velocity	7.59	8.74	8.65	8.32	7.92	7.52	7.23	6.54	7.75	194.0	8.12	8.48	7.72	6.86	8.30	7.26	

Hammond, Kathy (USA) (1951)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 Olympic Games (Munich, FRG)											*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*						
date 07-Sep-72	time				24.5				51.6	51.64	5 / 3							
reaction time	interval								27.1		# of strides					24.50	27.10	2.60
	velocity				8.16				7.38	7.75	202.2					8.16	7.38	

Sanders, Nicola (GBR) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2009 IAAF World Championships (Berlin, GER)											*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*						
date 15-Aug-09	time		12.59		24.62		37.04		51.64	51.64	3 / 2							
reaction time 0.171	interval				12.03		12.42		14.60		# of strides	12.59	12.03	12.42	14.60	24.62	27.02	2.40
	velocity		7.94		8.31		8.05		6.85	7.75		7.94	8.31	8.05	6.85	8.12	7.40	

Grenot, Libania (ITA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)											*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*						
date 24-Aug-15	time	6.71	12.38	18.37	24.60	31.02	37.64	44.49	51.64	51.64	8 / 4							
reaction time 0.186	interval		5.67	5.99	6.23	6.42	6.62	6.85	7.15		# of strides	12.38	12.22	13.04	14.00	24.60	27.04	2.44
	velocity	7.45	8.82	8.35	8.03	7.79	7.55	7.30	6.99	7.75		8.08	8.18	7.67	7.14	8.13	7.40	

Iuel, Amalie (NOR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Weltklasse (Zürich, SUI)											*Omega Timing (2021) - diamond league race analysis*						
date 09-Sep-21	time	7.0	12.8	18.7	24.9	31.3	37.9	44.7	51.64	51.64	6 / 1							
reaction time 0.164	interval		5.80	5.90	6.20	6.40	6.60	6.80	6.94	NR PB	# of strides	12.80	12.10	13.00	13.74	24.90	26.74	1.84

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.14	8.62	8.47	8.06	7.81	7.58	7.35	7.20	7.75		7.81	8.26	7.69	7.28	8.03	7.48	

Kaczmarek, Natalia (POL) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)																			*Omega Timing (2023) - diamond league race analysis*
date	05-May-23	time	6.89	12.70	18.94	25.22	31.59	38.09	44.60	51.64	51.64	8 / 3							
reaction time	0.171	interval		5.81	6.24	6.28	6.37	6.50	6.51	7.04		# of strides	12.70	12.52	12.87	13.55	25.22	26.42	1.20
		velocity	7.26	8.61	8.01	7.96	7.85	7.69	7.68	7.10	7.75	195.0	7.87	7.99	7.77	7.38	7.93	7.57	

Yeargin, Nicole (GBR) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)																			*Omega Timing (2024) - diamond league race analysis*
date	20-Jul-24	time	6.90	12.64	18.61	24.88	31.30	37.83	44.50	51.64	51.64	6 / 2							
reaction time	0.167	interval		5.74	5.97	6.27	6.42	6.53	6.67	7.14		# of strides	12.64	12.24	12.95	13.81	24.88	26.76	1.88
		velocity	7.25	8.71	8.38	7.97	7.79	7.66	7.50	7.00	7.75		7.91	8.17	7.72	7.24	8.04	7.47	

John, Yemi Mary (GBR) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U23 Championships (Bergen, NOR)																			*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date	18-Jul-25	time	6.90	12.57	18.51	24.69	30.90	37.39	44.35	51.64	51.64	5 / 1							
reaction time	0.122	interval		5.67	5.94	6.18	6.21	6.49	6.96	7.29		# of strides	12.57	12.12	12.70	14.25	24.69	26.95	2.26
		velocity	7.25	8.82	8.42	8.09	8.05	7.70	7.18	6.86	7.75	196.7	7.96	8.25	7.87	7.02	8.10	7.42	

Ruicu, Otilia (ROU) (1978)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 European Cup (Bremen, GER)																			*Graubner (2007) - http://www.fgs.uni-halle.de*
date	23-Jun-01	time		12.67		24.98		37.79		51.65	51.65	/ 4							
reaction time		interval				12.31		12.81		13.86	PB	# of strides	12.67	12.31	12.81	13.86	24.98	26.67	1.69
		velocity		7.89		8.12		7.81		7.22	7.74		7.89	8.12	7.81	7.22	8.01	7.50	

Wineberg, Mary (USA) (1980)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)																			*Graubner (2009) - http://www.fgs.uni-halle.de*
date	14-Sep-08	time		12.31		24.12		37.22		51.65	51.65	1 / 6							
reaction time	0.263	interval				11.81		13.10		14.43		# of strides	12.31	11.81	13.10	14.43	24.12	27.53	3.41
		velocity		8.12		8.47		7.63		6.93	7.74		8.12	8.47	7.63	6.93	8.29	7.26	

Ponette, Helena (BEL) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	09-Jun-24	time		12.57		24.36		37.27		51.65	51.65	5 / 4							
reaction time	0.243	interval				11.79		12.91		14.38		# of strides	12.57	11.79	12.91	14.38	24.36	27.29	2.93
		velocity		7.96		8.48		7.75		6.95	7.74	199.0	7.96	8.48	7.75	6.95	8.21	7.33	

Robinson, Na'Asha (USA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	22-Jun-24	time		12.14		23.52		36.56		51.65	51.65	4 / 6							
reaction time		interval				11.38		13.04		15.09		# of strides	12.14	11.38	13.04	15.09	23.52	28.13	4.61
		velocity		8.24		8.79		7.67		6.63	7.74	197.0	8.24	8.79	7.67	6.63	8.50	7.11	

Onojuvwevwo, Ella (NGR) (2005)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	05-Aug-24	time	6.66	12.07	17.59	23.36	29.49	36.11	43.36	51.65	51.65	3 / 6							
reaction time	0.173	interval		5.41	5.52	5.77	6.13	6.62	7.25	8.29		# of strides	12.07	11.29	12.75	15.54	23.36	28.29	4.93
		velocity	7.51	9.24	9.06	8.67	8.16	7.55	6.90	6.03	7.74	199.0	8.29	8.86	7.84	6.44	8.56	7.07	

Beer, Ellie (AUS) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 3 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	06-Aug-24	time	6.92	12.45	18.11	24.10	30.41	37.06	44.05	51.65	51.65	4 / 4							
reaction time	0.201	interval		5.53	5.66	5.99	6.31	6.65	6.99	7.60		# of strides	12.45	11.65	12.96	14.59	24.10	27.55	3.45
		velocity	7.23	9.04	8.83	8.35	7.92	7.52	7.15	6.58	7.74	189.0	8.03	8.58	7.72	6.85	8.30	7.26	

Ohuruogu, Victoria (GBR) (1993)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 World Athletics Championships (Tokyo, JPN)																			*Seiko Timing (2025) - 2025 World Championships race analysis*
date	16-Sep-25	time		12.55		24.24		37.26		51.65	51.65	2 / 8							
reaction time	0.232	interval				11.69		13.02		14.39		# of strides	12.55	11.69	13.02	14.39	24.24	27.41	3.17
		velocity		7.97		8.55		7.68		6.95	7.74		7.97	8.55	7.68	6.95	8.25	7.30	

Sapenter, Debra (USA) (1952)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 Olympic Games (Montreal, CAN)																			*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date	29-Jul-76	time				24.0				51.7	51.66	5 / 8							
reaction time		interval								27.7		# of strides					24.00	27.70	3.70
		velocity				8.33				7.22	7.74						8.33	7.22	

Jæger, Henriette (NOR) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, First Division (Chorzów, POL)																			*European Athletics (2023) - 3rd european games, athletics - results book*
date	23-Jun-23	time		12.57		24.47		37.70		51.66	51.66	7 / 1							
reaction time	0.181	interval				11.90		13.23		13.96	PB	# of strides	12.57	11.90	13.23	13.96	24.47	27.19	2.72
		velocity		7.96		8.40		7.56		7.16	7.74		7.96	8.40	7.56	7.16	8.17	7.36	

Ogunkoya, Falilat (NGR) (1968)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																			*Pascua (1990) - atletismo (I) carreras y marcha*
date	10-Sep-89	time		12.27		24.90		37.17		51.67	51.67	7 / ~~4~~ 3							
reaction time		interval				12.63		12.27		14.50		# of strides	12.27	12.63	12.27	14.50	24.90	26.77	1.87
		velocity		8.15		7.92		8.15		6.90	7.74		8.15	7.92	8.15	6.90	8.03	7.47	

Dunn, Debbie (USA) (1978)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)																			*USATF Women's Sprint Development (2004)*
date	12-Jul-04	time		12.43		24.06		36.85	43.88	51.67	51.67	5 / 3							
reaction time		interval				11.63		12.79	7.03	7.79		# of strides	12.43	11.63	12.79	14.82	24.06	27.61	3.55
		velocity		8.05		8.60		7.82	7.11	6.42	7.74		8.05	8.60	7.82	6.75	8.31	7.24	

Funderbunk, Kala (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 NCAA Championships (Eugene, OR)																	*Track Newsletter (2015) - NCAA women's championships*
date 13-Jun-15	time			26.0				51.7	51.67	8 / 1							
reaction time	interval							25.70		# of strides					26.00	25.70	-0.30
	velocity			7.69				7.78	7.74						7.69	7.78	

Gardner, Gwen (USA) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (1980) - US olympic trials*
date 25-Jun-80	time			24.0				51.7	51.68	/ 2							
reaction time	interval							27.7		# of strides					24.00	27.70	3.70
	velocity			8.33				7.22	7.74						8.33	7.22	

Müller, Petra (GDR) (1965)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 1987 IAAF World Championships (Rome, ITA)																	*Moravec (1990) - time analyis of the sprints - Rome 1987 Scientific Report (2nd ed)*
date 29-Aug-87	time	12.59		24.81		37.30		51.68	51.68	7 / 1							
reaction time	interval			12.22		12.49		14.38		# of strides	12.59	12.22	12.49	14.38	24.81	26.87	2.06
	velocity	7.94		8.18		8.01		6.95	7.74		7.94	8.18	8.01	6.95	8.06	7.44	

Hall, Anna (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																	*Grand Slam Track (2025) - results and splits by race*
date 04-May-25	time	12.69		24.77		37.55		51.68	51.68	8 / 2							
reaction time 0.210	interval			12.08		12.78		14.13		# of strides	12.69	12.08	12.78	14.13	24.77	26.91	2.14
	velocity	7.88		8.28		7.82		7.08	7.74		7.88	8.28	7.82	7.08	8.07	7.43	

Vondrová, Lada (CZE) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	*European Athletics (2025) - 2025 european team championships, first division - results book*
date 27-Jun-25	time 6.85	12.77	18.94	25.20	31.40	37.81	44.46	51.68	51.68	8 / 7							
reaction time 0.195	interval	5.92	6.17	6.26	6.20	6.41	6.65	7.22		# of strides	12.77	12.43	12.61	13.87	25.20	26.48	1.28
	velocity 7.30	8.45	8.10	7.99	8.06	7.80	7.52	6.93	7.74	194.5	7.83	8.05	7.93	7.21	7.94	7.55	

Henrich, Charlotte (GBR) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U20 Championships (Tampere, FIN)																	*European Athletics (2025) - 2025 european athletics U20 championships - results book*
date 09-Aug-25	time 8.16	12.76	18.58	24.69	30.97	37.52	44.41	51.68	51.68	4 / 1							
reaction time 0.129	interval	4.60	5.82	6.11	6.28	6.55	6.89	7.27	PB	# of strides	12.76	11.93	12.83	14.16	24.69	26.99	2.30
	velocity 6.13	10.87	8.59	8.18	7.96	7.63	7.26	6.88	7.74	215.0	7.84	8.38	7.79	7.06	8.10	7.41	

Kapachinskaya, Anastasiya (RUS) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 08-Aug-02	time	12.88		24.96		37.86		51.69	51.69	7 / 5							
reaction time 0.286	interval			12.08		12.90		13.83		# of strides	12.88	12.08	12.90	13.83	24.96	26.73	1.77
	velocity	7.76		8.28		7.75		7.23	7.74		7.76	8.28	7.75	7.23	8.01	7.48	

Cox, Shana (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 2 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 29-Jun-08	time	12.31	18.08	24.21	31.44	37.17	44.16	51.69	51.69	3 / 3							
reaction time	interval		5.77	6.13	7.23	5.73	6.99	7.53		# of strides	12.31	11.90	12.96	14.52	24.21	27.48	3.27
	velocity	8.12	8.67	8.16	6.92	8.73	7.15	6.64	7.74		8.12	8.40	7.72	6.89	8.26	7.28	

Rubie, Anneliese (AUS) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time 6.68	12.37	18.28	24.47	30.77	37.35	44.25	51.69	51.69	4 / 5							
reaction time 0.184	interval	5.69	5.91	6.19	6.30	6.58	6.90	7.44	PB	# of strides	12.37	12.10	12.88	14.34	24.47	27.22	2.75
	velocity 7.49	8.79	8.46	8.08	7.94	7.60	7.25	6.72	7.74		8.08	8.26	7.76	6.97	8.17	7.35	

Schwab, Corinna (GER) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Weltklasse (Zürich, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 09-Sep-21	time 6.7	12.2	17.9	24.0	30.4	37.1	44.1	51.69	51.69	3 / 2							
reaction time 0.171	interval	5.50	5.70	6.10	6.40	6.70	7.00	7.59		# of strides	12.20	11.80	13.10	14.59	24.00	27.69	3.69
	velocity 7.46	9.09	8.77	8.20	7.81	7.46	7.14	6.59	7.74		8.20	8.47	7.63	6.85	8.33	7.22	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Doha Diamond League (Doha, QAT)																	*Omega Timing (2022) - diamond league race analysis*
date 13-May-22	time 6.6	12.5	18.7	24.9	31.2	37.7	44.4	51.69	51.69	6 / 2							
reaction time 0.128	interval	5.90	6.20	6.20	6.30	6.50	6.70	7.29		# of strides	12.50	12.40	12.80	13.99	24.90	26.79	1.89
	velocity 7.58	8.47	8.06	8.06	7.94	7.69	7.46	6.86	7.74	191.7	8.00	8.06	7.81	7.15	8.03	7.47	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Memorial van damme (Brussels, BEL)																	*Omega Timing (2024) - diamond league race analysis*
date 13-Sep-24	time 6.72	12.08	17.64	23.53	29.82	36.49	43.68	51.69	51.69	7 / ~~6~~ 5							
reaction time 0.176	interval	5.36	5.56	5.89	6.29	6.67	7.19	8.01		# of strides	12.08	11.45	12.96	15.20	23.53	28.16	4.63
	velocity 7.44	9.33	8.99	8.49	7.95	7.50	6.95	6.24	7.74		8.28	8.73	7.72	6.58	8.50	7.10	

Jæger, Henriette (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U23 Championships (Bergen, NOR)																	*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date 18-Jul-25	time 6.75	12.41	18.31	24.41	30.75	37.43	44.43	51.69	51.69	4 / 2							
reaction time 0.143	interval	5.66	5.90	6.10	6.34	6.68	7.00	7.26		# of strides	12.41	12.00	13.02	14.26	24.41	27.28	2.87
	velocity 7.41	8.83	8.47	8.20	7.89	7.49	7.14	6.89	7.74	191.7	8.06	8.33	7.68	7.01	8.19	7.33	

Wilson, Britton (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Athletissima (Lausanne, SUI)																	*Omega Timing (2025) - diamond league race analysis*
date 20-Aug-25	time 6.87	12.42	18.10	23.99	30.25	36.82	43.84	51.69	51.69	2 / 7							
reaction time 0.157	interval	5.55	5.68	5.89	6.26	6.57	7.02	7.85		# of strides	12.42	11.57	12.83	14.87	23.99	27.70	3.71
	velocity 7.28	9.01	8.80	8.49	7.99	7.61	7.12	6.37	7.74		8.05	8.64	7.79	6.72	8.34	7.22	

Howard, Denean (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1980 USA Olympic Trials (Eugene, OR)																	*Track Newsletter (1980) - US olympic trials*

date	25-Jun-80	time			24.1			51.7	51.70	/ 3								
reaction time		interval						27.6		# of strides					24.10	27.60	3.50	
		velocity			8.30			7.25	7.74						8.30	7.25		

Clay, Julian (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Championship (Carson, CA)																	
																	USATF Women's Sprint Development (2005)
date 25-Jun-05	time	12.31	18.12	24.41	30.78	37.29	42.79	51.70	51.70	2 / 7							
reaction time	interval		5.81	6.29	6.37	6.51	5.50	8.91		# of strides	12.31	12.10	12.88	14.41	24.41	27.29	2.88
	velocity	8.12	8.61	7.95	7.85	7.68	9.09	5.61	7.74		8.12	8.26	7.76	6.94	8.19	7.33	

Abugan, Folasade (NGR) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2009 IAAF World Championships (Berlin, GER)																	
																	Graubner (2009) - biomechanical analyses at the 12th IAAF world championships
date 15-Aug-09	time	12.56		24.68		37.64		51.70	51.70	5 / 4							
reaction time 0.217	interval			12.12		12.96		14.06		# of strides	12.56	12.12	12.96	14.06	24.68	27.02	2.34
	velocity	7.96		8.25		7.72		7.11	7.74		7.96	8.25	7.72	7.11	8.10	7.40	

Thiam, Amy Mbacké (SEN) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)																	
																	Graubner (2009) - biomechanical analyses at the 12th IAAF world championships
date 16-Aug-09	time	12.11		24.04		37.16		51.70	51.70	8 / 5							
reaction time 0.166	interval			11.93		13.12		14.54		# of strides	12.11	11.93	13.12	14.54	24.04	27.66	3.62
	velocity	8.26		8.38		7.62		6.88	7.74		8.26	8.38	7.62	6.88	8.32	7.23	

Brown, Michelle (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 NCAA Championships (Eugene, OR)																	
																	Track Newsletter (2014) - NCAA women's championships
date 13-Jun-14	time			24.5		37.7		51.7	51.70	/ 5							
reaction time	interval					13.20		14.00	PB	# of strides			13.20	14.00	24.50	27.20	2.70
	velocity			8.16		7.58		7.14	7.74				7.58	7.14	8.16	7.35	

Muir, Carline (CAN) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2015 IAAF World Championships (Beijing, CHN)																	
																	Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims
date 24-Aug-15	time	6.89	12.45	18.18	24.14	30.39	36.96	44.04	51.70	51.70	4 / 5						
reaction time 0.229	interval		5.56	5.73	5.96	6.25	6.57	7.08	7.66		# of strides	12.45	11.69	12.82	14.74	24.14	27.56	3.42
	velocity	7.26	8.99	8.73	8.39	8.00	7.61	7.06	6.53	7.74	195.7	8.03	8.55	7.80	6.78	8.29	7.26	

Nielsen, Laviai (GBR) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Müller Anniversary Games (London, GBR)																	
																	Omega Timing (2018) - diamond league race analysis
date 22-Jul-18	time			12.6		24.6		37.2		51.70	51.70	3 / 8						
reaction time 0.154	interval					12.0		12.6		14.5	PB	# of strides	12.60	12.00	12.60	14.50	24.60	27.10	2.50
	velocity			7.94		8.33		7.94		6.90	7.74		7.94	8.33	7.94	6.90	8.13	7.38	

Nielsen, Laviai (GBR) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Weltklasse (Zürich, SUI)																	
																	Omega Timing (2019) - diamond league race analysis
date 29-Aug-19	time	6.8	12.4	18.4	24.6	31.0	37.5	44.3	51.70	51.70	7 / 5						
reaction time 0.157	interval		5.6	6.0	6.2	6.4	6.5	6.8	7.4		# of strides	12.40	12.20	12.90	14.20	24.60	27.10	2.50
	velocity	7.35	8.93	8.33	8.06	7.81	7.69	7.35	6.76	7.74	194.5	8.06	8.20	7.75	7.04	8.13	7.38	

Simwaka, Asimenye (MAW) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																	
																	Longines Timing (2022) - commonwealth games race analysis
date 05-Aug-22	time	6.5	11.9	17.5	23.6	30.1	36.9	43.9	51.70	51.70	9 / 2						
reaction time 0.186	interval		5.40	5.60	6.10	6.50	6.80	7.00	7.80	NR PB	# of strides	11.90	11.70	13.30	14.80	23.60	28.10	4.50
	velocity	7.69	9.26	8.93	8.20	7.69	7.35	7.14	6.41	7.74	209.0	8.40	8.55	7.52	6.76	8.47	7.12	

Morauskaité, Modesta Justé (LTU) (1!

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)																	
																	European Athletics (2022) - european athletics championships race analysis
date 16-Aug-22	time		12.35		24.05		37.02		51.70	51.70	4 / 3						
reaction time 0.179	interval				11.70		12.97		14.68		# of strides	12.35	11.70	12.97	14.68	24.05	27.65	3.60
	velocity		8.10		8.55		7.71		6.81	7.74	191.0	8.10	8.55	7.71	6.81	8.32	7.23	

Mangione, Alice (ITA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2025 World Athletics Championships (Tokyo, JPN)																	
																	Seiko Timing (2025) - 2025 World Championships race analysis
date 14-Sep-25	time		12.74		24.89		37.81		51.70	51.70	9 / 5						
reaction time 0.162	interval				12.15		12.92		13.89		# of strides	12.74	12.15	12.92	13.89	24.89	26.81	1.92
	velocity		7.85		8.23		7.74		7.20	7.74		7.85	8.23	7.74	7.20	8.04	7.46	

Guei, Floria (FRA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Meeting de Paris (Paris, FRA)																	
																	Omega Timing (2018) - diamond league race analysis
date 30-Jun-18	time		12.5		24.4		37.2		51.71	51.71	7 / 7						
reaction time 0.184	interval				11.9		12.8		14.5		# of strides	12.50	11.90	12.80	14.51	24.40	27.31	2.91
	velocity		8.00		8.40		7.81		6.89	7.74	195.0	8.00	8.40	7.81	6.89	8.20	7.32	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																	
																	Omega Timing (2021) - diamond league race analysis
date 13-Jun-21	time	7.0	12.7	18.6	24.8	31.3	37.9	44.6	51.71	51.71	6 / 4						
reaction time 0.151	interval		5.70	5.90	6.20	6.50	6.60	6.70	7.11		# of strides	12.70	12.10	13.10	13.81	24.80	26.91	2.11
	velocity	7.14	8.77	8.47	8.06	7.69	7.58	7.46	7.03	7.74		7.87	8.26	7.63	7.24	8.06	7.43	

Mangione, Alice (ITA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 European Athletics Championships (Roma, ITA)																	
																	European Athletics (2024) - 2024 european athletics championships - results book
date 08-Jun-24	time		12.70		24.97		37.94		51.71	51.71	5 / 2						
reaction time 0.287	interval				12.27		12.97		13.77		# of strides	12.70	12.27	12.97	13.77	24.97	26.74	1.77
	velocity		7.87		8.15		7.71		7.26	7.74		7.87	8.15	7.71	7.26	8.01	7.48	

Robinson, Moushaumi (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)																	
																	USATF Women's Sprint Development (2004)
date 15-Jul-04	time		12.16			30.15	37.07	43.91	51.72	51.72	2 / 3						
reaction time	interval					17.99	6.92	6.84	7.81	PB	# of strides	12.16			14.65			

		velocity		8.22			8.34	7.23	7.31	6.40	7.73		8.22			6.83			

Beard, Jessica (USA) (1989)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 2 - 2009 IAAF World Championships (Berlin, GER)																			*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date	15-Aug-09	time		12.55		24.54		37.54		51.72	51.72	7 / 2							
reaction time	0.239	interval				11.99		13.00		14.18		# of strides	12.55	11.99	13.00	14.18	24.54	27.18	2.64
		velocity		7.97		8.34		7.69		7.05	7.73		7.97	8.34	7.69	7.05	8.15	7.36	

Bamgbose, Margaret (USA) (1993)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2014 NCAA Championships (Eugene, OR)																			*Track Newsletter (2014) - NCAA women's championships*
date	13-Jun-14	time				24.5		37.7		51.7	51.72	/ 6							
reaction time		interval						13.20		14.00	**PB**	# of strides			13.20	14.00	24.50	27.20	2.70
		velocity				8.16		7.58		7.14	7.73				7.58	7.14	8.16	7.35	

Gordon, Chrisann (JAM) (1994)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2016 NCAA Championships (Eugene, OR)																			*Track Newsletter (2016) - NCAA women's championships*
date	11-Jun-16	time				25.0		37.8		51.7	51.72	/ 5							
reaction time		interval						12.80		13.90		# of strides			12.80	13.90	25.00	26.70	1.70
		velocity				8.00		7.81		7.19	7.73				7.81	7.19	8.00	7.49	

McPherson, Stephenie (JAM) (1988)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Memorial van Damme (Brussels, BEL)																			*Omega Timing (2017) - diamond league race analysis*
date	01-Sep-17	time		12.4	18.2	24.2	30.6	37.3	44.3	51.72	51.72	5 / 7							
reaction time	0.140	interval			5.80	6.00	6.40	6.70	7.00	7.42		# of strides	12.40	11.80	13.10	14.42	24.20	27.52	3.32
		velocity		8.06	8.62	8.33	7.81	7.46	7.14	6.74	7.73	186.0	8.06	8.47	7.63	6.93	8.26	7.27	

Schwab, Corinna (GER) (1999)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																			*Omega Timing (2022) - diamond league race analysis*
date	06-Aug-22	time	6.87	12.52	18.45	24.72	31.02	37.50	44.29	51.72	51.72	2 / 7							
reaction time	0.209	interval		5.65	5.93	6.27	6.30	6.48	6.79	7.43		# of strides	12.52	12.20	12.78	14.22	24.72	27.00	2.28
		velocity	7.28	8.85	8.43	7.97	7.94	7.72	7.36	6.73	7.73		7.99	8.20	7.82	7.03	8.09	7.41	

Bobb, Caitiyn (BER) (2003)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2025 World Athletics Championships (Tokyo, JPN)																			*Seiko Timing (2025) - 2025 World Championships race analysis*
date	14-Sep-25	time		12.47		24.24		37.26		51.72	51.72	4 / 5							
reaction time	0.207	interval				11.77		13.02		14.46		# of strides	12.47	11.77	13.02	14.46	24.24	27.48	3.24
		velocity		8.02		8.50		7.68		6.92	7.73	201.5	8.02	8.50	7.68	6.92	8.25	7.28	

Dixon, Diane (USA) (1964)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1991 IAAF World Championships (Tokyo, JPN)																			*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date	27-Aug-91	time				24.17				51.73	51.73	1 / 8							
reaction time		interval								27.56		# of strides					24.17	27.56	3.39
		velocity				8.27				7.26	7.73						8.27	7.26	

Hennagan, Monique (USA) (1976)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)																			*USATF Women's Sprint Development with HPC (2008)*
date	29-Jun-08	time		12.62	18.53	24.71	30.98	37.62	44.29	51.73	51.73	7 / 4							
reaction time		interval			5.91	6.18	6.27	6.64	6.67	7.44		# of strides	12.62	12.09	12.91	14.11	24.71	27.02	2.31
		velocity		7.92	8.46	8.09	7.97	7.53	7.50	6.72	7.73		7.92	8.27	7.75	7.09	8.09	7.40	

Święty-Ersetic, Justyna (POL) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2019 Athletissima (Lausanne, SUI)																			*Omega Timing (2019) - diamond league race analysis*
date	05-Jul-19	time		12.8		24.9		37.7		51.73	51.73	2 / 6							
reaction time	0.204	interval				12.1		12.8		14.0		# of strides	12.80	12.10	12.80	14.03	24.90	26.83	1.93
		velocity		7.81		8.26		7.81		7.13	7.73		7.81	8.26	7.81	7.13	8.03	7.45	

Klaver, Lieke (NED) (1998)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2021 Athletissima (Lausanne, SUI)																			*Omega Timing (2021) - diamond league race analysis*
date	26-Aug-21	time	6.7	12.3	18.2	24.4	30.8	37.5	44.5	51.73	51.73	2 / 6							
reaction time	0.170	interval		5.60	5.90	6.20	6.40	6.70	7.00	7.23		# of strides	12.30	12.10	13.10	14.23	24.40	27.33	2.93
		velocity	7.46	8.93	8.47	8.06	7.81	7.46	7.14	6.92	7.73		8.13	8.26	7.63	7.03	8.20	7.32	

Walli, Susanne (AUT) (1996)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 2 - 2022 European Athletics Championships (Munich, GER)																			*European Athletics (2022) - european athletics championships race analysis*
date	15-Aug-22	time		12.35		24.23		37.25		51.73	51.73	3 / 3							
reaction time	0.250	interval				11.88		13.02		14.48		# of strides	12.35	11.88	13.02	14.48	24.23	27.50	3.27
		velocity		8.10		8.42		7.68		6.91	7.73	194.0	8.10	8.42	7.68	6.91	8.25	7.27	

McPherson, Stephenie (JAM) (1988)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 Memorial van Damme (Brussels, BEL)																			*Omega Timing (2022) - diamond league race analysis*
date	02-Sep-22	time	6.70	12.22	17.95	23.84	29.96	36.56	43.66	51.73	51.73	1 / 8							
reaction time	0.136	interval		5.52	5.73	5.89	6.12	6.60	7.10	8.07		# of strides	12.22	11.62	12.72	15.17	23.84	27.89	4.05
		velocity	7.46	9.06	8.73	8.49	8.17	7.58	7.04	6.20	7.73	190.7	8.18	8.61	7.86	6.59	8.39	7.17	

Lewis, Lauren (USA) (2005)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		12.60		24.56		37.73		51.73	51.73	6 / 4							
reaction time		interval				11.96		13.17		14.00		# of strides	12.60	11.96	13.17	14.00	24.56	27.17	2.61
		velocity		7.94		8.36		7.59		7.14	7.73	197.0	7.94	8.36	7.59	7.14	8.14	7.36	

Saalberg, Eveline (NED) (1998)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2025 World Athletics Championships (Tokyo, JPN)																			*Seiko Timing (2025) - 2025 World Championships race analysis*
date	14-Sep-25	time		12.75		24.66		37.84		51.73	51.73	3 / 6							
reaction time	0.205	interval				11.91		13.18		13.89		# of strides	12.75	11.91	13.18	13.89	24.66	27.07	2.41
		velocity		7.84		8.40		7.59		7.20	7.73		7.84	8.40	7.59	7.20	8.11	7.39	

Howard-Hill, Denean (USA) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 17-Jun-96	time	12.05		23.78		36.65	43.85	51.74	51.74	2 / 6							
reaction time	interval			11.73		12.87	7.20	7.89		# of strides	12.05	11.73	12.87	15.09	23.78	27.96	4.18
	velocity	8.30		8.53		7.77	6.94	6.34	7.73		8.30	8.53	7.77	6.63	8.41	7.15	

Richards, Sanya (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 20-Jun-03	time			23.96		37.17	44.01	51.74	51.74	7 / 1							
reaction time	interval					13.21	6.84	7.73		# of strides			13.21	14.57	23.96	27.78	3.82
	velocity			8.35		7.57	7.31	6.47	7.73				7.57	6.86	8.35	7.20	

Nwachukwu, Sorina (GER) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 15-Aug-09	time	12.87		25.07		37.74		51.74	51.74	6 / 3							
reaction time 0.208	interval			12.20		12.67		14.00		# of strides	12.87	12.20	12.67	14.00	25.07	26.67	1.60
	velocity	7.77		8.20		7.89		7.14	7.73		7.77	8.20	7.89	7.14	7.98	7.50	

Baisden, Kendall (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 NCAA Championships (Eugene, OR)																	*Track Newsletter (2015) - NCAA women's championships*
date 13-Jun-15	time			25.5				51.7	51.74	4 / 2							
reaction time	interval							26.20		# of strides					25.50	26.20	0.70
	velocity			7.84				7.63	7.73						7.84	7.63	

Roberson, Daye Shon (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 NCAA Championships (Eugene, OR)																	*Track Newsletter (2015) - NCAA women's championships*
date 13-Jun-15	time			25.5				51.7	51.74	7 / 3							
reaction time	interval							26.20		# of strides					25.50	26.20	0.70
	velocity			7.84				7.63	7.73						7.84	7.63	

George, Regina (NGR) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time	6.84	12.51	18.42	24.54	31.01	37.55	44.41	51.74	51.74	9 / 4						
reaction time 0.192	interval		5.67	5.91	6.12	6.47	6.54	6.86	7.33		# of strides	12.51	12.03	13.01	14.19	24.54	27.20	2.66
	velocity	7.31	8.82	8.46	8.17	7.73	7.65	7.29	6.82	7.73		7.99	8.31	7.69	7.05	8.15	7.35	

Hołub, Małgorzata (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15	time	7.04	12.78	18.55	24.49	30.70	37.21	44.15	51.74	51.74	4 / 5						
reaction time 0.200	interval		5.74	5.77	5.94	6.21	6.51	6.94	7.59	PB	# of strides	12.78	11.71	12.72	14.53	24.49	27.25	2.76
	velocity	7.10	8.71	8.67	8.42	8.05	7.68	7.20	6.59	7.73		7.82	8.54	7.86	6.88	8.17	7.34	

Bolingo, Cynthia (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2022) - diamond league race analysis*
date 02-Sep-22	time	6.87	12.51	18.34	24.40	30.64	37.17	44.20	51.74	51.74	2 / 1						
reaction time 0.176	interval		5.64	5.83	6.06	6.24	6.53	7.03	7.54		# of strides	12.51	11.89	12.77	14.57	24.40	27.34	2.94
	velocity	7.28	8.87	8.58	8.25	8.01	7.66	7.11	6.63	7.73		7.99	8.41	7.83	6.86	8.20	7.32	

Walli, Susanne (AUT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Weltklasse (Zürich, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 08-Sep-22	time	7.04	12.73	18.59	24.59	30.86	37.53	44.53	51.74	51.74	4 / 2						
reaction time 0.148	interval		5.69	5.86	6.00	6.27	6.67	7.00	7.21		# of strides	12.73	11.86	12.94	14.21	24.59	27.15	2.56
	velocity	7.10	8.79	8.53	8.33	7.97	7.50	7.14	6.93	7.73		7.86	8.43	7.73	7.04	8.13	7.37	

Jonathas, Wadeline (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)																	*Omega Timing (2023) - continental tour race analysis*
date 04-Jun-23	time	6.68	12.36	18.32	24.49	30.88	37.50	44.39	51.74	51.74	6 / 2						
reaction time 0.178	interval		5.68	5.96	6.17	6.39	6.62	6.89	7.35		# of strides	12.36	12.13	13.01	14.24	24.49	27.25	2.76
	velocity	7.49	8.80	8.39	8.10	7.82	7.55	7.26	6.80	7.73	179.0	8.09	8.24	7.69	7.02	8.17	7.34	

Molnár, Janka (HUN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time		12.59		24.64		37.95		51.74	51.74	8 / 3						
reaction time 0.264	interval				12.05		13.31		13.79	PB	# of strides	12.59	12.05	13.31	13.79	24.64	27.10	2.46
	velocity		7.94		8.30		7.51		7.25	7.73	188.0	7.94	8.30	7.51	7.25	8.12	7.38	

Holmes, Alexis (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Athlos (Randalls Island, NY)																	*Athlos and Karmarush (2025). Athlos results and race analysis*
date 10-Oct-25	time		12.29		24.44		37.68		51.74	51.74	4 / 4						
reaction time	interval				12.15		13.24		14.06		# of strides	12.29	12.15	13.24	14.06	24.44	27.30	2.86
	velocity		8.14		8.23		7.55		7.11	7.73		8.14	8.23	7.55	7.11	8.18	7.33	

Abugan, Folasade (NGR) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 16-Aug-09	time		12.09		24.04		37.25		51.75	51.75	1 / 6						
reaction time 0.229	interval				11.95		13.21		14.50		# of strides	12.09	11.95	13.21	14.50	24.04	27.71	3.67
	velocity		8.27		8.37		7.57		6.90	7.73		8.27	8.37	7.57	6.90	8.32	7.22	

Constantine, Kyra (CAN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 07-Aug-22	time	6.8	12.6	18.7	25.0	31.2	37.8	44.6	51.75	51.75	7 / 7						
reaction time 0.129	interval		5.80	6.10	6.30	6.20	6.60	6.80	7.15		# of strides	12.60	12.40	12.80	13.95	25.00	26.75	1.75
	velocity	7.35	8.62	8.20	7.94	8.06	7.58	7.35	6.99	7.73	176.2	7.94	8.06	7.81	7.17	8.00	7.48	

McDowell, Jessica (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	22-Jun-24	time		12.24		23.84		36.93		51.75	51.75	2 / 8						
reaction time		interval				11.60		13.09		14.82		# of strides	12.24	11.60	13.09	14.82	23.84	27.91	4.07
		velocity		8.17		8.62		7.64		6.75	7.73		8.17	8.62	7.64	6.75	8.39	7.17	

Ponette, Helena (BEL) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24 time	7.03	12.58	18.30	24.21	30.42	36.96	44.05	51.75	51.75	2 / 6							
reaction time 0.160 interval		5.55	5.72	5.91	6.21	6.54	7.09	7.70		# of strides	12.58	11.63	12.75	14.79	24.21	27.54	3.33
velocity	7.11	9.01	8.74	8.46	8.05	7.65	7.05	6.49	7.73		7.95	8.60	7.84	6.76	8.26	7.26	

Prieto, Ana (ESP) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U23 Championships (Bergen, NOR)																	*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date 19-Jul-25 time	6.86	12.55	18.40	24.40	30.66	37.23	44.24	51.75	51.75	8 / 4							
reaction time 0.205 interval		5.69	5.85	6.00	6.26	6.57	7.01	7.51	PB	# of strides	12.55	11.85	12.83	14.52	24.40	27.35	2.95
velocity	7.29	8.79	8.55	8.33	7.99	7.61	7.13	6.66	7.73	203.0	7.97	8.44	7.79	6.89	8.20	7.31	

Schwab, Corinna (GER) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	*Omega Timing (2022) - continental tour race analysis*
date 06-Jun-22 time	6.6	12.1	17.9	23.9	30.1	36.8	43.9	51.76	51.76	3 / 4							
reaction time 0.201 interval		5.50	5.80	6.00	6.20	6.70	7.10	7.86		# of strides	12.10	11.80	12.90	14.96	23.90	27.86	3.96
velocity	7.58	9.09	8.62	8.33	8.06	7.46	7.04	6.36	7.73		8.26	8.47	7.75	6.68	8.37	7.18	

Hodgkinson, Keely (GBR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 14-Jul-23 time		12.75		24.86		38.17		51.76	51.76	5 / 3							
reaction time 0.233 interval				12.11		13.31		13.59	PB	# of strides	12.75	12.11	13.31	13.59	24.86	26.90	2.04
velocity		7.84		8.26		7.51		7.36	7.73	197.2	7.84	8.26	7.51	7.36	8.05	7.43	

van der Walt, Zenéy (RSA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		12.49		24.14		37.20		51.76	51.76	4 / 3							
reaction time 0.215 interval				11.65		13.06		14.56		# of strides	12.49	11.65	13.06	14.56	24.14	27.62	3.48
velocity		8.01		8.58		7.66		6.87	7.73	184.2	8.01	8.58	7.66	6.87	8.29	7.24	

Kielbasinska, Anna (POL) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)																	*Omega Timing (2023) - diamond league race analysis*
date 02-Jun-23 time	6.65	12.37	18.24	24.46	30.79	37.43	44.39	51.76	51.76	3 / 6							
reaction time 0.157 interval		5.72	5.87	6.22	6.33	6.64	6.96	7.37		# of strides	12.37	12.09	12.97	14.33	24.46	27.30	2.84
velocity	7.52	8.74	8.52	8.04	7.90	7.53	7.18	6.78	7.73		8.08	8.27	7.71	6.98	8.18	7.33	

Pipi, Ama (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Meeting de Paris (Paris, FRA)																	*Omega Timing (2023) - diamond league race analysis*
date 09-Jun-23 time	6.65	12.13	17.92	24.00	30.50	37.22	44.13	51.76	51.76	1 / 8							
reaction time 0.153 interval		5.48	5.79	6.08	6.50	6.72	6.91	7.63		# of strides	12.13	11.87	13.22	14.54	24.00	27.76	3.76
velocity	7.52	9.12	8.64	8.22	7.69	7.44	7.24	6.55	7.73		8.24	8.42	7.56	6.88	8.33	7.20	

Montoya, Emma (FRA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2024) - diamond league race analysis*
date 12-Jul-24 time	7.04	12.79	18.66	24.74	30.97	37.44	44.30	51.76	51.76	8 / 6							
reaction time 0.178 interval		5.75	5.87	6.08	6.23	6.47	6.86	7.46	PB	# of strides	12.79	11.95	12.70	14.32	24.74	27.02	2.28
velocity	7.10	8.70	8.52	8.22	8.03	7.73	7.29	6.70	7.73		7.82	8.37	7.87	6.98	8.08	7.40	

Henderson, Monique (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																	*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date 10-Aug-05 time						36.3		51.8	51.77	1 / 7							
reaction time 0.201 interval								15.5		# of strides				15.47			
velocity						8.26		6.46	7.73					6.46			

Spelmeyer, Ruth Sophia (GER) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*
date 07-Aug-17 time		12.74		24.76		37.59	44.34	51.61	51.77	3 / ~~5~~ 4							
reaction time 0.164 interval				12.02		12.83	6.75	7.27		# of strides	12.74	12.02	12.83	14.02	24.76	26.85	2.09
velocity		7.85		8.32		7.79	7.41	6.88	7.73	189.7	7.85	8.32	7.79	7.13	8.08	7.45	

Yeargin, Nicole (GBR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 13-Jun-21 time	6.9	12.5	18.3	24.4	30.7	37.4	44.3	51.77	51.77	3 / 5							
reaction time 0.162 interval		5.60	5.80	6.10	6.30	6.70	6.90	7.47		# of strides	12.50	11.90	13.00	14.37	24.40	27.37	2.97
velocity	7.25	8.93	8.62	8.20	7.94	7.46	7.25	6.69	7.73	198.5	8.00	8.40	7.69	6.96	8.20	7.31	

Trotter, De'Hashia (Dee Dee) (USA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 21-Jun-03 time				24.39		37.37	44.31	51.78	51.78	2 / 3							
reaction time interval						12.98	6.94	7.47		# of strides			12.98	14.41	24.39	27.39	3.00
velocity				8.20		7.70	7.20	6.69	7.72				7.70	6.94	8.20	7.30	

Ellis-Watson, Taylor (USA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 USATF National Championships (Sacramento, CA)																	*Track Newsletter (2014) - USATF women's championships*
date 28-Jun-14 time		13.0		24.8		37.9		51.8	51.78	/ ~~8~~ 7							
reaction time interval				11.8		13.1		13.9	PB	# of strides	13.00	11.80	13.10	13.90	24.80	27.00	2.20
velocity		7.69		8.47		7.63		7.19	7.72		7.69	8.47	7.63	7.19	8.06	7.41	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting de Paris (Paris, FRA)																	*Omega Timing (2022) - diamond league race analysis*
date 18-Jun-22 time	6.78	12.52	18.45	24.57	30.85	37.37	44.28	51.78	51.78	3 / 7							
reaction time 0.147 interval		5.74	5.93	6.12	6.28	6.52	6.91	7.50		# of strides	12.52	12.05	12.80	14.41	24.57	27.21	2.64

		velocity	7.37	8.71	8.43	8.17	7.96	7.67	7.24	6.67	7.72	201.5	7.99	8.30	7.81	6.94	8.14	7.35	

Irby, Lynna (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 World Athletics Championships (Eugene, OR)																	
date 17-Jul-22 time		12.32		24.82		37.68		51.78	51.78	6 / 3							
reaction time 0.178 interval				12.50		12.86		14.10		# of strides	12.32	12.50	12.86	14.10	24.82	26.96	2.14
velocity		8.12		8.00		7.78		7.09	7.72	187.0	8.12	8.00	7.78	7.09	8.06	7.42	

Timing by Seiko (2022) - world athletics championships race analysis

Constantine, Kyra (CAN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																	
date 05-Aug-22 time	6.7	12.3	18.2	24.4	30.9	37.7	44.5	51.78	51.78	7 / 2							
reaction time 0.138 interval		5.60	5.90	6.20	6.50	6.80	6.80	7.28		# of strides	12.30	12.10	13.30	14.08	24.40	27.38	2.98
velocity	7.46	8.93	8.47	8.06	7.69	7.35	7.35	6.87	7.72	177.0	8.13	8.26	7.52	7.10	8.20	7.30	

Longines Timing (2022) - commonwealth games race analysis

Mawdsley, Sharlene (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																	
date 21-Aug-23 time		12.47		24.13		37.24		51.78	51.78	2 / 7							
reaction time 0.177 interval				11.66		13.11		14.54		# of strides	12.47	11.66	13.11	14.54	24.13	27.65	3.52
velocity		8.02		8.58		7.63		6.88	7.72		8.02	8.58	7.63	6.88	8.29	7.23	

Seiko Timing (2023) - world championship race analysis

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)																	
date 09-Jun-24 time		12.79		24.96		37.60		51.78	51.78	9 / 4							
reaction time 0.205 interval				12.17		12.64		14.18		# of strides	12.79	12.17	12.64	14.18	24.96	26.82	1.86
velocity		7.82		8.22		7.91		7.05	7.72	205.0	7.82	8.22	7.91	7.05	8.01	7.46	

European Athletics (2024) - 2024 european athletics championships - results book

Henderson, Monique (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2000 USA Olympic Trials (Sacramento, CA)																	
date 16-Jul-00 time		12.6		24.3		37.1		51.79	51.79	2 / 8							
reaction time interval				11.7		12.8		14.7		# of strides	12.60	11.70	12.80	14.69	24.30	27.49	3.19
velocity		7.94		8.55		7.81		6.81	7.72		7.94	8.55	7.81	6.81	8.23	7.28	

Hymans (2008) - history of the US olympic trials - track and field

Azevedo, Cátia (POR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)																	
date 20-Jul-22 time		12.75		24.73		37.66		51.79	51.79	1 / 7							
reaction time 0.169 interval				11.98		12.93		14.13		# of strides	12.75	11.98	12.93	14.13	24.73	27.06	2.33
velocity		7.84		8.35		7.73		7.08	7.72		7.84	8.35	7.73	7.08	8.09	7.39	

Timing by Seiko (2022) - world athletics championships race analysis

Abrams, Aliyah (GUY) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																	
date 20-Jul-22 time		12.46		24.54		37.52		51.79	51.79	6 / 6							
reaction time 0.157 interval				12.08		12.98		14.27		# of strides	12.46	12.08	12.98	14.27	24.54	27.25	2.71
velocity		8.03		8.28		7.70		7.01	7.72	198.0	8.03	8.28	7.70	7.01	8.15	7.34	

Timing by Seiko (2022) - world athletics championships race analysis

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																	
date 21-Jun-24 time		12.78		24.96		38.01		51.79	51.79	9 / 5							
reaction time interval				12.18		13.05		13.78		# of strides	12.78	12.18	13.05	13.78	24.96	26.83	1.87
velocity		7.82		8.21		7.66		7.26	7.72	197.0	7.82	8.21	7.66	7.26	8.01	7.45	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Whitney, Kaylin (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																	
date 22-Jun-24 time		12.45		24.02		37.05		51.79	51.79	1 / 7							
reaction time interval				11.57		13.03		14.74		# of strides	12.45	11.57	13.03	14.74	24.02	27.77	3.75
velocity		8.03		8.64		7.67		6.78	7.72		8.03	8.64	7.67	6.78	8.33	7.20	

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

Weil, Martina (CHI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 2 - 2024 Olympic Games (Paris, FRA)																	
date 06-Aug-24 time	6.68	12.21	17.81	23.72	29.98	36.58	43.73	51.79	51.79	3 / 6							
reaction time 0.178 interval		5.53	5.60	5.91	6.26	6.60	7.15	8.06		# of strides	12.21	11.51	12.86	15.21	23.72	28.07	4.35
velocity	7.49	9.04	8.93	8.46	7.99	7.58	6.99	6.20	7.72	193.0	8.19	8.69	7.78	6.57	8.43	7.13	

Paris 2024 Olympic Games - Results Book (2024)

Tanno, Asami (JPN) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)																	
date 19-Sep-05 time		12.83		25.14		37.80	44.62	51.80	51.80	4 / 4							
reaction time interval				12.31		12.66	6.82	7.18	NR	# of strides	12.83	12.31	12.66	14.00	25.14	26.66	1.52
velocity		7.79		8.12		7.90	7.33	6.96	7.72		7.79	8.12	7.90	7.14	7.96	7.50	

Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

Hayes, Quanera (USA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 USA Olympic Trials (Eugene, OR)																	
date 03-Jul-16 time		12.40		24.6		37.5		51.8	51.80	1 / 8							
reaction time 0.357 interval				12.20		12.90		14.30		# of strides	12.40	12.20	12.90	14.30	24.60	27.20	2.60
velocity		8.06		8.20		7.75		6.99	7.72		8.06	8.20	7.75	6.99	8.13	7.35	

Track Newsletter (2016) - US olympic trials women

Yang Huizhen (CHN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Chinese National Games (Tianjin, CHN)																	
date 03-Sep-17 time		12.80		24.86		37.76		51.80	51.80	/ 1							
reaction time interval				12.06		12.90		14.04	PB	# of strides	12.80	12.06	12.90	14.04	24.86	26.94	2.08
velocity		7.81		8.29		7.75		7.12	7.72	196.0	7.81	8.29	7.75	7.12	8.05	7.42	

Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m

de Witte, Lisanne (NED) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)																	
date 18-May-19 time		12.9		24.9		37.8		51.80	51.80	2 / 6							
reaction time 0.180 interval				12.0		12.9		14.0		# of strides	12.90	12.00	12.90	14.00	24.90	26.90	2.00
velocity		7.75		8.33		7.75		7.14	7.72	193.2	7.75	8.33	7.75	7.14	8.03	7.43	

Omega Timing (2019) - diamond league race analysis

Šerkšniene, Agné (LTU) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2020) - diamond league race analysis*
date 17-Sep-20 time	6.8	12.5	18.5	24.6	30.8	37.3	44.2	51.80	51.80	7 / 2							
reaction time 0.160 interval		5.70	6.00	6.10	6.20	6.50	6.90	7.60		# of strides	12.50	12.10	12.70	14.50	24.60	27.20	2.60
velocity	7.35	8.77	8.33	8.20	8.06	7.69	7.25	6.58	7.72		8.00	8.26	7.87	6.90	8.13	7.35	

Saalberg, Eveline (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	*Omega Timing (2022) - continental tour race analysis*
date 06-Jun-22 time	6.9	12.5	18.3	24.4	30.7	37.6	44.5	51.80	51.80	4 / 5							
reaction time 0.181 interval		5.60	5.80	6.10	6.30	6.90	6.90	7.30		# of strides	12.50	11.90	13.20	14.20	24.40	27.40	3.00
velocity	7.25	8.93	8.62	8.20	7.94	7.25	7.25	6.85	7.72		8.00	8.40	7.58	7.04	8.20	7.30	

Pipi, Ama (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2022) - diamond league race analysis*
date 30-Jun-22 time	6.90	12.50	18.26	24.28	30.69	37.40	44.28	51.80	51.80	3 / 3							
reaction time 0.191 interval		5.60	5.76	6.02	6.41	6.71	6.88	7.52		# of strides	12.50	11.78	13.12	14.40	24.28	27.52	3.24
velocity	7.25	8.93	8.68	8.31	7.80	7.45	7.27	6.65	7.72		8.00	8.49	7.62	6.94	8.24	7.27	

Horvat, Anita (SLO) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23 time		12.82		24.75		37.79		51.80	51.80	9 / 4							
reaction time 0.204 interval				11.93		13.04		14.01		# of strides	12.82	11.93	13.04	14.01	24.75	27.05	2.30
velocity		7.80		8.38		7.67		7.14	7.72	187.0	7.80	8.38	7.67	7.14	8.08	7.39	

John, Yemi Mary (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23 time		13.15		25.56		38.72		51.80	51.80	4 / 1							
reaction time 0.203 interval				12.41		13.16		13.08		# of strides	13.15	12.41	13.16	13.08	25.56	26.24	0.68
velocity		7.60		8.06		7.60		7.65	7.72		7.60	8.06	7.60	7.65	7.82	7.62	

Vondrová, Lada (CZE) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24 time	6.80	12.43	18.24	24.33	30.63	37.21	44.20	51.80	51.80	6 / 5							
reaction time 0.179 interval		5.63	5.81	6.09	6.30	6.58	6.99	7.60		# of strides	12.43	11.90	12.88	14.59	24.33	27.47	3.14
velocity	7.35	8.88	8.61	8.21	7.94	7.60	7.15	6.58	7.72	194.0	8.05	8.40	7.76	6.85	8.22	7.28	

Knight, Andrenette (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																	*Grand Slam Track (2025) - results and splits by race*
date 04-May-25 time		12.63		24.85		37.72		51.80	51.80	7 / 3							
reaction time 0.220 interval				12.22		12.87		14.08		# of strides	12.63	12.22	12.87	14.08	24.85	26.95	2.10
velocity		7.92		8.18		7.77		7.10	7.72		7.92	8.18	7.77	7.10	8.05	7.42	

Święty-Ersetic, Justyna (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25 time		12.78		24.79		37.71		51.80	51.80	3 / 5							
reaction time 0.218 interval				12.01		12.92		14.09		# of strides	12.78	12.01	12.92	14.09	24.79	27.01	2.22
velocity		7.82		8.33		7.74		7.10	7.72		7.82	8.33	7.74	7.10	8.07	7.40	

Tanno, Asami (JPN) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2007 IAAF World Championships (Osaka, JPN)																	*Mochida (2008) - biomechanical analysis of the 400m final race at ehe 2007 world championships in athletics*
date 27-Aug-07 time	6.84	12.58	18.54	24.76	31.06	37.63	44.57	51.81	51.81	3 / 8							
reaction time 0.199 interval		5.74	5.96	6.22	6.30	6.57	6.94	7.24		# of strides	12.58	12.18	12.87	14.18	24.76	27.05	2.29
velocity	7.31	8.71	8.39	8.04	7.94	7.61	7.20	6.91	7.72	203.7	7.95	8.21	7.77	7.05	8.08	7.39	

Baumgart, Iga (POL) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*
date 07-Aug-17 time		12.71		24.79		37.62	44.35	51.59	51.81	2 / ~~6~~ 5							
reaction time 0.213 interval				12.08		12.83	6.73	7.24		# of strides	12.71	12.08	12.83	13.97	24.79	26.80	2.01
velocity		7.87		8.28		7.79	7.43	6.91	7.72	183.9	7.87	8.28	7.79	7.16	8.07	7.46	

Clark, Zoey (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*
date 07-Aug-17 time		12.41		24.38		37.38	44.23	51.61	51.81	8 / ~~7~~ 6							
reaction time 0.188 interval				11.97		13.00	6.85	7.38	PB	# of strides	12.41	11.97	13.00	14.23	24.38	27.23	2.85
velocity		8.06		8.35		7.69	7.30	6.78	7.72	206.5	8.06	8.35	7.69	7.03	8.20	7.34	

Saalberg, Eveline (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		12.55		24.38		37.59		51.81	51.81	5 / 2							
reaction time 0.267 interval				11.83		13.21		14.22		# of strides	12.55	11.83	13.21	14.22	24.38	27.43	3.05
velocity		7.97		8.45		7.57		7.03	7.72		7.97	8.45	7.57	7.03	8.20	7.29	

Rubie, Anneliese (AUS) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 20-May-18 time	6.76	12.62	18.75	25.02	31.49	38.11	44.81	51.82	51.82	3 / 3							
reaction time 0.184 interval		5.86	6.13	6.27	6.47	6.62	6.70	7.01		# of strides	12.62	12.40	13.09	13.71	25.02	26.80	1.78
velocity	7.40	8.53	8.16	7.97	7.73	7.55	7.46	7.13	7.72		7.92	8.06	7.64	7.29	7.99	7.46	

Ponette, Helena (BEL) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2022) - diamond league race analysis*
date 02-Sep-22 time	6.97	12.60	18.35	24.38	30.72	37.46	44.40	51.82	51.82	6 / 2							
reaction time 0.146 interval		5.63	5.75	6.03	6.34	6.74	6.94	7.42	PB	# of strides	12.60	11.78	13.08	14.36	24.38	27.44	3.06
velocity	7.17	8.88	8.70	8.29	7.89	7.42	7.20	6.74	7.72		7.94	8.49	7.65	6.96	8.20	7.29	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2025 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2025) - diamond league race analysis*

date	22-Aug-25	time	6.93	12.66	18.57	24.75	31.09	37.72	44.51	51.82	51.82	7 / 4						
reaction time	0.236	interval		5.73	5.91	6.18	6.34	6.63	6.79	7.31		# of strides	12.66	12.09	12.97	14.10	24.75	27.07	2.32
		velocity	7.22	8.73	8.46	8.09	7.89	7.54	7.36	6.84	7.72		7.90	8.27	7.71	7.09	8.08	7.39	

Nekhubui, Shirley (RSA) (2000)

Heat 5 - 2025 World Athletics Championships (Tokyo, JPN)

Seiko Timing (2025) - 2025 World Championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 14-Sep-25	time	11.97		23.24		36.28		51.82	51.82	3 / 6							
reaction time 0.174	interval			11.27		13.04		15.54		# of strides	11.97	11.27	13.04	15.54	23.24	28.58	5.34
	velocity	8.35		8.87		7.67		6.44	7.72	189.0	8.35	8.87	7.67	6.44	8.61	7.00	

Smith, Stephanie (USA) (1985)

FINAL - 2005 USATF National Championship (Carson, CA)

USATF Women's Sprint Development (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 25-Jun-05	time	12.86	18.87	24.93	31.15	37.63	44.49	51.83	51.83	8 / 8							
reaction time	interval		6.01	6.06	6.22	6.48	6.86	7.34		# of strides	12.86	12.07	12.70	14.20	24.93	26.90	1.97
	velocity	7.78	8.32	8.25	8.04	7.72	7.29	6.81	7.72		7.78	8.29	7.87	7.04	8.02	7.43	

Latiševa-Čudare, Gunta (LAT) (1995)

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 20-May-18	time	6.75	12.55	18.45	24.60	30.96	37.65	44.49	51.83	51.83	4 / 4						
reaction time 0.203	interval		5.80	5.90	6.15	6.36	6.69	6.84	7.34		# of strides	12.55	12.05	13.05	14.18	24.60	27.23	2.63
	velocity	7.41	8.62	8.47	8.13	7.86	7.47	7.31	6.81	7.72		7.97	8.30	7.66	7.05	8.13	7.34	

de Witte, Lisanne (NED) (1992)

FINAL - 2019 Meeting de Paris (Paris, FRA)

Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 24-Aug-19	time		12.8		25.0		37.9		51.83	51.83	8 / 5						
reaction time 0.196	interval				12.2		12.9		13.9		# of strides	12.80	12.20	12.90	13.93	25.00	26.83	1.83
	velocity		7.81		8.20		7.75		7.18	7.72	194.0	7.81	8.20	7.75	7.18	8.00	7.45	

Williams, Jodie (GBR) (1993)

FINAL - 2019 The Match - Europe v USA (Minsk, BLR)

European Athletics (2019) - race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 09-Sep-19	time		12.31		24.28		37.36		51.83	51.83	9 / 4						
reaction time 0.174	interval				11.97		13.08		14.47		# of strides	12.31	11.97	13.08	14.47	24.28	27.55	3.27
	velocity		8.12		8.35		7.65		6.91	7.72	188.0	8.12	8.35	7.65	6.91	8.24	7.26	

Vondrová, Lada (CZE) (1999)

Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-Aug-22	time		12.37		24.34		37.28		51.83	51.83	3 / 4						
reaction time 0.258	interval				11.97		12.94		14.55		# of strides	12.37	11.97	12.94	14.55	24.34	27.49	3.15
	velocity		8.08		8.35		7.73		6.87	7.72	196.0	8.08	8.35	7.73	6.87	8.22	7.28	

Miller-Uibo, Shaunae (BAH) (1994)

FINAL - 2023 Weltklasse (Zürich, SUI)

Omega Timing (2023) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 31-Aug-23	time	6.78	12.39	18.27	24.48	30.83	37.32	44.20	51.83	51.83	6 / 1						
reaction time 0.156	interval		5.61	5.88	6.21	6.35	6.49	6.88	7.63		# of strides	12.39	12.09	12.84	14.51	24.48	27.35	2.87
	velocity	7.37	8.91	8.50	8.05	7.87	7.70	7.27	6.55	7.72	177.0	8.07	8.27	7.79	6.89	8.17	7.31	

Lear, Bailey (USA) (2001)

FINAL - 2025 Prefontaine Classic (Eugene, OR)

Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 05-Jul-25	time	6.85	12.62	18.38	24.52	30.87	37.49	44.41	51.83	51.83	8 / 7						
reaction time 0.144	interval		5.77	5.76	6.14	6.35	6.62	6.92	7.42		# of strides	12.62	11.90	12.97	14.34	24.52	27.31	2.79
	velocity	7.30	8.67	8.68	8.14	7.87	7.55	7.23	6.74	7.72		7.92	8.40	7.71	6.97	8.16	7.32	

Seidler, Helga (GDR) (1949)

FINAL - 1972 Olympic Games (Munich, FRG)

Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 07-Sep-72	time				24.4				51.9	51.84	6 / 4						
reaction time	interval								27.5		# of strides					24.40	27.50	3.10
	velocity				8.20				7.27	7.72	195.2					8.20	7.27	

Dunn, Debbie (USA) (1978)

Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)

USATF Women's Sprint Development (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Jul-04	time		12.76		24.78	30.75	37.15	43.91	51.84	51.84	8 / 4						
reaction time	interval				12.02	5.97	6.40	6.76	7.93		# of strides	12.76	12.02	12.37	14.69	24.78	27.06	2.28
	velocity		7.84		8.32	8.38	7.81	7.40	6.31	7.72	192.2	7.84	8.32	8.08	6.81	8.07	7.39	

Reynolds, Robin (USA) (1994)

FINAL - 2016 NCAA Championships (Eugene, OR)

Track Newsletter (2016) - NCAA women's championships

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 11-Jun-16	time				24.9		37.7		51.8	51.84	/ 6						
reaction time	interval						12.80		14.10		# of strides			12.80	14.10	24.90	26.90	2.00
	velocity				8.03		7.81		7.09	7.72				7.81	7.09	8.03	7.43	

Barnett, Sharrika (JAM) (1997)

FINAL - 2017 NCAA Championships (Eugene, OR)

Track Newsletter (2017) - NCAA women's championships

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 10-Jun-17	time				24.3		37.5		51.8	51.84	/ 5						
reaction time	interval						13.20		14.30		# of strides			13.20	14.30	24.30	27.50	3.20
	velocity				8.23		7.58		6.99	7.72				7.58	6.99	8.23	7.27	

Guei, Floria (FRA) (1990)

FINAL - 2018 Bislett Games (Oslo, NOR)

Omega Timing (2018) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 07-Jun-18	time		12.4		24.5		37.7		51.84	51.84	1 / 8						
reaction time 0.194	interval				12.1		13.2		14.1		# of strides	12.40	12.10	13.20	14.14	24.50	27.34	2.84
	velocity		8.06		8.26		7.58		7.07	7.72	197.0	8.06	8.26	7.58	7.07	8.16	7.32	

Miller-Uibo, Shaunae (BAH) (1994)

FINAL - 2022 Doha Diamond League (Doha, QAT)

Omega Timing (2022) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 13-May-22	time	6.4	10.7	18.1	24.7	31.1	37.5	44.1	51.84	51.84	5 / 3						
reaction time 0.143	interval		4.30	7.40	6.60	6.40	6.40	6.60	7.74		# of strides	10.70	14.00	12.80	14.34	24.70	27.14	2.44

		velocity	7.81	11.63	6.76	7.58	7.81	7.81	7.58	6.46	7.72	180.0	9.35	7.14	7.81	6.97	8.10	7.37

Becker, Sophie (IRL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)																	
																	Omega Timing (2022) - diamond league race analysis
date 05-Jun-22	time	6.53	12.29	18.28	24.63	31.23	37.94	44.62	51.84	51.84	4 / 4						
reaction time 0.156	interval		5.76	5.99	6.35	6.60	6.71	6.68	7.22		# of strides	12.29	12.34	13.31	13.90	24.63	27.21	2.58
	velocity	7.66	8.68	8.35	7.87	7.58	7.45	7.49	6.93	7.72		8.14	8.10	7.51	7.19	8.12	7.35	

Young, Charokee (JAM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 World Athletics Championships (Eugene, OR)																	
																	Timing by Seiko (2022) - world athletics championships race analysis
date 17-Jul-22	time		12.70		24.80		37.57		51.84	51.84	4 / 4						
reaction time 0.199	interval				12.10		12.77		14.27		# of strides	12.70	12.10	12.77	14.27	24.80	27.04	2.24
	velocity		7.87		8.26		7.83		7.01	7.72	197.7	7.87	8.26	7.83	7.01	8.06	7.40	

Becker, Sophie (IRL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 Olympic Games (Paris, FRA)																	
																	Paris 2024 Olympic Games - Results Book (2024)
date 05-Aug-24	time	6.65	12.14	17.81	23.85	30.25	36.98	44.11	51.84	51.84	6 / 6						
reaction time 0.165	interval		5.49	5.67	6.04	6.40	6.73	7.13	7.73		# of strides	12.14	11.71	13.13	14.86	23.85	27.99	4.14
	velocity	7.52	9.11	8.82	8.28	7.81	7.43	7.01	6.47	7.72	199.2	8.24	8.54	7.62	6.73	8.39	7.15	

Abrams, Aliyah (GUY) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 1 - 2024 Olympic Games (Paris, FRA)																	
																	Paris 2024 Olympic Games - Results Book (2024)
date 06-Aug-24	time	6.81	12.45	18.31	24.33	30.61	37.18	44.20	51.84	51.84	8 / 5						
reaction time 0.174	interval		5.64	5.86	6.02	6.28	6.57	7.02	7.64		# of strides	12.45	11.88	12.85	14.66	24.33	27.51	3.18
	velocity	7.34	8.87	8.53	8.31	7.96	7.61	7.12	6.54	7.72	203.0	8.03	8.42	7.78	6.82	8.22	7.27	

Little, Shamier (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																	
																	Grand Slam Track (2025) - results and splits by race
date 04-May-25	time		12.45		24.37		37.61		51.84	51.84	6 / 4						
reaction time 0.230	interval				11.92		13.24		14.23		# of strides	12.45	11.92	13.24	14.23	24.37	27.47	3.10
	velocity		8.03		8.39		7.55		7.03	7.72		8.03	8.39	7.55	7.03	8.21	7.28	

Halkia, Faní (GRE) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)																	
																	Graubner (2007) - http://www.fgs.uni-halle.de
date 23-Jun-07	time		12.92		24.78		37.46		51.85	51.85	/ 1						
reaction time 0.180	interval				11.86		12.68		14.39		# of strides	12.92	11.86	12.68	14.39	24.78	27.07	2.29
	velocity		7.74		8.43		7.89		6.95	7.71		7.74	8.43	7.89	6.95	8.07	7.39	

Firova, Tatyana (RUS) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)																	
																	Graubner (2009) - http://www.fgs.uni-halle.de
date 14-Sep-08	time		13.21		25.44		38.29		51.85	51.85	7 / 7						
reaction time 0.192	interval				12.23		12.85		13.56		# of strides	13.21	12.23	12.85	13.56	25.44	26.41	0.97
	velocity		7.57		8.18		7.78		7.37	7.71		7.57	8.18	7.78	7.37	7.86	7.57	

Baisden, Kendall (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 IAAF World Junior Championships (Eugene, OR)																	
																	Track Newsletter (2014) - World Junior championships women
date 25-Jul-14	time				24.9		38.1		51.9	51.85	/ 1						
reaction time 0.250	interval						13.2		13.8		# of strides			13.20	13.80	24.90	27.00	2.10
	velocity				8.03		7.58		7.25	7.71				7.58	7.25	8.03	7.41	

Święty-Ersetic, Justyna (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)																	
																	Omega Timing (2019) - diamond league race analysis
date 18-May-19	time		12.9		25.0		37.8		51.85	51.85	8 / 7						
reaction time 0.172	interval				12.1		12.8		14.1		# of strides	12.90	12.10	12.80	14.05	25.00	26.85	1.85
	velocity		7.75		8.26		7.81		7.12	7.71		7.75	8.26	7.81	7.12	8.00	7.45	

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Athletissima (Lausanne, SUI)																	
																	Omega Timing (2019) - diamond league race analysis
date 05-Jul-19	time		12.5		24.1		36.7		51.85	51.85	8 / 7						
reaction time 0.217	interval				11.6		12.6		15.2		# of strides	12.50	11.60	12.60	15.15	24.10	27.75	3.65
	velocity		8.00		8.62		7.94		6.60	7.71		8.00	8.62	7.94	6.60	8.30	7.21	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																	
																	Timing by Seiko (2022) - world athletics championships race analysis
date 17-Jul-22	time		12.94		25.14		38.01		51.85	51.85	6 / 3						
reaction time 0.190	interval				12.20		12.87		13.84		# of strides	12.94	12.20	12.87	13.84	25.14	26.71	1.57
	velocity		7.73		8.20		7.77		7.23	7.71	188.0	7.73	8.20	7.77	7.23	7.96	7.49	

Whyte, Madison (USA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																	
																	USATF and Karmarush (2024) - USA Olympic trials results and race analysis
date 21-Jun-24	time		12.35		24.51		37.39		51.85	51.85	6 / 4						
reaction time	interval				12.16		12.88		14.46		# of strides	12.35	12.16	12.88	14.46	24.51	27.34	2.83
	velocity		8.10		8.22		7.76		6.92	7.71	182.0	8.10	8.22	7.76	6.92	8.16	7.32	

Licona, Lina (COL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 Olympic Games (Paris, FRA)																	
																	Paris 2024 Olympic Games - Results Book (2024)
date 05-Aug-24	time	6.90	12.49	18.27	24.37	30.65	37.16	44.18	51.85	51.85	5 / 6						
reaction time 0.242	interval		5.59	5.78	6.10	6.28	6.51	7.02	7.67		# of strides	12.49	11.88	12.79	14.69	24.37	27.48	3.11
	velocity	7.25	8.94	8.65	8.20	7.96	7.68	7.12	6.52	7.71	204.0	8.01	8.42	7.82	6.81	8.21	7.28	

Lloyd, Shereefa (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 IAAF World Athletics Final (Stuttgart, GER)																	
																	Graubner (2009) - http://www.fgs.uni-halle.de
date 14-Sep-08	time		12.70		24.45		37.38		51.86	51.86	2 / 8						
reaction time 0.206	interval				11.75		12.93		14.48		# of strides	12.70	11.75	12.93	14.48	24.45	27.41	2.96
	velocity		7.87		8.51		7.73		6.91	7.71		7.87	8.51	7.73	6.91	8.18	7.30	

González, Norma (COL) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2009 IAAF World Championships (Berlin, GER)											*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*						
date 15-Aug-09 time		12.38		24.80		37.06		51.86	51.86	3 / 4							
reaction time 0.187 interval				12.42		12.26		14.80	PB	# of strides	12.38	12.42	12.26	14.80	24.80	27.06	2.26
velocity		8.08		8.05		8.16		6.76	7.71		8.08	8.05	8.16	6.76	8.06	7.39	

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)											*Omega Timing (2021) - diamond league race analysis*						
date 23-May-21 time	7.3	12.9	18.7	24.6	30.7	37.4	44.6	51.86	51.86	5 / 1							
reaction time 0.179 interval		5.60	5.80	5.90	6.10	6.70	7.20	7.26		# of strides	12.90	11.70	12.80	14.46	24.60	27.26	2.66
velocity	6.85	8.93	8.62	8.47	8.20	7.46	6.94	6.89	7.71	189.5	7.75	8.55	7.81	6.92	8.13	7.34	

Kidd, Ashlee (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 NCAA Championships (Sacramento, CA)											*Track Newsletter (2005) - NCAA women's championships*						
date 11-Jun-05 time				24.8		38.1		51.9	51.87	8 / 5							
reaction time interval						13.30		13.80		# of strides			13.30	13.80	24.80	27.10	2.30
velocity				8.06		7.52		7.25	7.71				7.52	7.25	8.06	7.38	

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 NCAA Championships (Sacramento, CA)											*Track Newsletter (2005) - NCAA women's championships*						
date 11-Jun-05 time						37.6		51.9	51.87	2 / 6							
reaction time interval								14.30	PB	# of strides				14.30			
velocity						7.98		6.99	7.71					6.99			

Kashcheyeva, Zhanna (RUS) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)											*Graubner (2007) - http://www.fgs.uni-halle.de*						
date 23-Jun-07 time		12.70		24.58		37.34		51.87	51.87	/ 2							
reaction time 0.150 interval				11.88		12.76		14.53		# of strides	12.70	11.88	12.76	14.53	24.58	27.29	2.71
velocity		7.87		8.42		7.84		6.88	7.71		7.87	8.42	7.84	6.88	8.14	7.33	

Terrero, Indira (CUB) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)											*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*						
date 16-Aug-09 time		12.73		24.77		37.46		51.87	51.87	7 / 5							
reaction time 0.273 interval				12.04		12.69		14.41		# of strides	12.73	12.04	12.69	14.41	24.77	27.10	2.33
velocity		7.86		8.31		7.88		6.94	7.71	187.0	7.86	8.31	7.88	6.94	8.07	7.38	

Abbott, Chloe (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)											*Track Newsletter (2018) - NCAA women's championships*						
date 09-Jun-18 time						37.9		51.9	51.87	/ 5							
reaction time interval								14.00		# of strides				14.00			
velocity						5.28		7.14	7.71					7.14			

Ponette, Helena (BEL) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Memorial van Damme (Brussels, BEL)											*Seiko Timing (2023) - world championship race analysis*						
date 08-Sep-23 time	7.02	12.55	18.33	24.42	30.74	37.29	44.25	51.87	51.87	2 / 7							
reaction time 0.148 interval		5.53	5.78	6.09	6.32	6.55	6.96	7.62		# of strides	12.55	11.87	12.87	14.58	24.42	27.45	3.03
velocity	7.12	9.04	8.65	8.21	7.91	7.63	7.18	6.56	7.71		7.97	8.42	7.77	6.86	8.19	7.29	

Pipi, Ama (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)											*Omega Timing (2024) - diamond league race analysis*						
date 20-Jul-24 time	6.81	12.48	18.35	24.47	30.93	37.63	44.45	51.87	51.87	3 / 3							
reaction time 0.149 interval		5.67	5.87	6.12	6.46	6.70	6.82	7.42		# of strides	12.48	11.99	13.16	14.24	24.47	27.40	2.93
velocity	7.34	8.82	8.52	8.17	7.74	7.46	7.33	6.74	7.71		8.01	8.34	7.60	7.02	8.17	7.30	

Danner, Mary (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)											*USATF Women's Sprint Development (2004)*						
date 12-Jul-04 time		12.19		23.92		37.15	44.06	51.88	51.88	5 / 3							
reaction time interval				11.73		13.23	6.91	7.82		# of strides	12.19	11.73	13.23	14.73	23.92	27.96	4.04
velocity		8.20		8.53		7.56	7.24	6.39	7.71	181.2	8.20	8.53	7.56	6.79	8.36	7.15	

Clark, Zoey (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)											*Omega Timing (2022) - diamond league race analysis*						
date 21-May-22 time	6.6	12.1	18.0	24.1	30.6	37.5	44.4	51.88	51.88	4 / 1							
reaction time 0.159 interval		5.50	5.90	6.10	6.50	6.90	6.90	7.48		# of strides	12.10	12.00	13.40	14.38	24.10	27.78	3.68
velocity	7.58	9.09	8.47	8.20	7.69	7.25	7.25	6.68	7.71		8.26	8.33	7.46	6.95	8.30	7.20	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)											*USATF Women's Sprint Development (2006)*						
date 24-Jun-06 time		13.13	18.85	25.67	32.02	38.42	44.95	51.89	51.89	6 / 1							
reaction time interval			5.72	6.82	6.35	6.40	6.53	6.94	PB	# of strides	13.13	12.54	12.75	13.47	25.67	26.22	0.55
velocity		7.62	8.74	7.33	7.87	7.81	7.66	7.20	7.71		7.62	7.97	7.84	7.42	7.79	7.63	

Diamond, Emily (GBR) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Müller British Grand Prix (Gateshead, GBR)											*Omega Timing (2021) - diamond league race analysis*						
date 13-Jun-21 time	7.1	12.9	18.9	25.1	31.4	37.9	44.7	51.89	51.89	5 / 1							
reaction time 0.164 interval		5.80	6.00	6.20	6.30	6.50	6.80	7.19		# of strides	12.90	12.20	12.80	13.99	25.10	26.79	1.69
velocity	7.04	8.62	8.33	8.06	7.94	7.69	7.35	6.95	7.71		7.75	8.20	7.81	7.15	7.97	7.47	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Weltklasse (Zürich, SUI)											*Omega Timing (2019) - diamond league race analysis*						
date 29-Aug-19 time	6.9	12.5	18.4	24.4	30.7	37.3	44.3	51.90	51.90	5 / 6							
reaction time 0.126 interval		5.6	5.9	6.0	6.3	6.6	7.0	7.6		# of strides	12.50	11.90	12.90	14.60	24.40	27.50	3.10
velocity	7.25	8.93	8.47	8.33	7.94	7.58	7.14	6.58	7.71	190.0	8.00	8.40	7.75	6.85	8.20	7.27	

Clark, Zoey (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Commonwealth Games (Birmingham, GBR)											*Longines Timing (2022) - commonwealth games race analysis*						

date	07-Aug-22	time	6.6	12.2	18.1	24.2	30.6	37.3	44.3	51.90	51.90	2 / 8						
reaction time	0.169	interval		5.60	5.90	6.10	6.40	6.70	7.00	7.60		# of strides	12.20	12.00	13.10	14.60	24.20	27.70	3.50
		velocity	7.58	8.93	8.47	8.20	7.81	7.46	7.14	6.58	7.71	204.0	8.20	8.33	7.63	6.85	8.26	7.22	

Licona, Lina (COL) (1998)

Repechage 4 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Aug-24 time	6.93	12.55	18.33	24.41	30.64	37.16	44.18	51.90	51.90	4 / 4							
reaction time 0.169 interval		5.62	5.78	6.08	6.23	6.52	7.02	7.72		# of strides	12.55	11.86	12.75	14.74	24.41	27.49	3.08
velocity	7.22	8.90	8.65	8.22	8.03	7.67	7.12	6.48	7.71	207.0	7.97	8.43	7.84	6.78	8.19	7.28	

Vondrová, Lada (CZE) (1999)

Heat 4 - 2025 World Athletics Championships (Tokyo, JPN)

Seiko Timing (2025) - 2025 World Championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 14-Sep-25 time		12.46		24.40		37.28		51.90	51.90	2 / 6							
reaction time 0.243 interval				11.94		12.88		14.62		# of strides	12.46	11.94	12.88	14.62	24.40	27.50	3.10
velocity		8.03		8.38		7.76		6.84	7.71		8.03	8.38	7.76	6.84	8.20	7.27	

Washington, Demetria (USA) (1979)

Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)

USATF Women's Sprint Development (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 20-Jun-03 time				24.54		37.56	44.39	51.91	51.91	5 / 1							
reaction time interval						13.02	6.83	7.52		# of strides			13.02	14.35	24.54	27.37	2.83
velocity				8.15		7.68	7.32	6.65	7.71				7.68	6.97	8.15	7.31	

González, Norma (COL) (1982)

Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-Aug-09 time		12.21		23.92		37.15		51.91	51.91	1 / 6							
reaction time 0.193 interval				11.71		13.23		14.76		# of strides	12.21	11.71	13.23	14.76	23.92	27.99	4.07
velocity		8.19		8.54		7.56		6.78	7.71		8.19	8.54	7.56	6.78	8.36	7.15	

Jackson, Shericka (JAM) (1994)

FINAL - 2017 Meeting de Paris (Paris, FRA)

Omega Timing (2017) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 01-Jul-17 time		12.5	18.3	24.4	30.9	37.6	44.6	51.91	51.91	5 / 3							
reaction time 0.182 interval			5.8	6.1	6.5	6.7	7.0	7.3		# of strides	12.50	11.90	13.20	14.31	24.40	27.51	3.11
velocity		8.00	8.62	8.20	7.69	7.46	7.14	6.84	7.71	197.0	8.00	8.40	7.58	6.99	8.20	7.27	

Laus, Camille (BEL) (1993)

Heat 2 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Aug-22 time		12.67		24.92		37.99		51.91	51.91	8 / 4							
reaction time 0.248 interval				12.25		13.07		13.92		# of strides	12.67	12.25	13.07	13.92	24.92	26.99	2.07
velocity		7.89		8.16		7.65		7.18	7.71	198.0	7.89	8.16	7.65	7.18	8.03	7.41	

Gogl-Walli, Susanne (AUT) (1996)

FINAL - 2025 Jetour Doha Meeting (Doha, QAT)

Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-May-25 time	6.85	12.54	18.60	24.95	31.45	38.12	44.82	51.91	51.91	2 / 6							
reaction time 0.197 interval		5.69	6.06	6.35	6.50	6.67	6.70	7.09		# of strides	12.54	12.41	13.17	13.79	24.95	26.96	2.01
velocity	7.30	8.79	8.25	7.87	7.69	7.50	7.46	7.05	7.71		7.97	8.06	7.59	7.25	8.02	7.42	

Miklós, Andrea (ROU) (1999)

FINAL - 2025 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Jun-25 time	6.71	12.55	18.43	24.59	30.99	37.70	44.55	51.91	51.91	1 / 8							
reaction time 0.162 interval		5.84	5.88	6.16	6.40	6.71	6.85	7.36		# of strides	12.55	12.04	13.11	14.21	24.59	27.32	2.73
velocity	7.45	8.56	8.50	8.12	7.81	7.45	7.30	6.79	7.71		7.97	8.31	7.63	7.04	8.13	7.32	

Carabalí, Norfalia (COL) (1964)

FINAL - 1993 IAAF World Championships (Stuttgart, GER)

Grgic (2019) - final result prediction in female 400m track event based on results achieved at certain race segments

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 17-Aug-93 time		12.79		24.85		37.85		51.92	51.92	8 / --							
reaction time interval				12.06		13.00		14.07	DQ	# of strides	12.79	12.06	13.00	14.07	24.85	27.07	2.22
velocity		7.82		8.29		7.69		7.11	7.70		7.82	8.29	7.69	7.11	8.05	7.39	

Cousins, Jessica (USA) (1985)

FINAL - 2007 NCAA Championships (Sacramento, CA)

Track Newsletter (2007) - NCAA women's championships

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 09-Jun-07 time				24.7		37.9		51.9	51.92	2 / 4							
reaction time interval						13.20		14.00	PB	# of strides			13.20	14.00	24.70	27.20	2.50
velocity				8.10		7.58		7.14	7.70				7.58	7.14	8.10	7.35	

Ellis, Kendall (USA) (1996)

FINAL - 2019 Weltklasse (Zürich, SUI)

Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 29-Aug-19 time	6.8	12.5	18.3	24.4	30.9	37.7	44.7	51.92	51.92	2 / 7							
reaction time 0.202 interval		5.7	5.8	6.1	6.5	6.8	7.0	7.2		# of strides	12.50	11.90	13.30	14.22	24.40	27.52	3.12
velocity	7.35	8.77	8.62	8.20	7.69	7.35	7.14	6.93	7.70		8.00	8.40	7.52	7.03	8.20	7.27	

Mangione, Alice (ITA) (1997)

Heat 2 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Aug-22 time		12.77		24.96		37.89		51.92	51.92	7 / 5							
reaction time 0.181 interval				12.19		12.93		14.03		# of strides	12.77	12.19	12.93	14.03	24.96	26.96	2.00
velocity		7.83		8.20		7.73		7.13	7.70	195.0	7.83	8.20	7.73	7.13	8.01	7.42	

Segura, Berta (ESP) (2003)

Heat 2 - 2024 European Athletics Championships (Roma, ITA)

European Athletics (2024) - 2024 european athletics championships - results book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 08-Jun-24 time		12.70		24.58		37.54		51.92	51.92	3 / 3							
reaction time 0.296 interval				11.88		12.96		14.38	PB	# of strides	12.70	11.88	12.96	14.38	24.58	27.34	2.76
velocity		7.87		8.42		7.72		6.95	7.70		7.87	8.42	7.72	6.95	8.14	7.32	

Petržilková, Tereza (CZE) (1993)

Heat 1 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 05-Aug-24 time	6.97	12.61	18.53	24.70	31.00	37.54	44.44	51.92	51.92	9 / 7							
reaction time 0.192 interval		5.64	5.92	6.17	6.30	6.54	6.90	7.48		# of strides	12.61	12.09	12.84	14.38	24.70	27.22	2.52

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.17	8.87	8.45	8.10	7.94	7.65	7.25	6.68	7.70		7.93	8.27	7.79	6.95	8.10	7.35	

Baas, Mette (FIN) (2000)

Heat 1 - 2025 World Athletics Championships (Tokyo, JPN) — *Seiko Timing (2025) - 2025 World Championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.32		24.10		37.18		51.92	51.92	2 / 6							
reaction time	0.179	interval				11.78		13.08		14.74		# of strides	12.32	11.78	13.08	14.74	24.10	27.82	3.72
		velocity		8.12		8.49		7.65		6.78	7.70		8.12	8.49	7.65	6.78	8.30	7.19	

Malone, Maicel (USA) (1969)

FINAL - 1988 USA Olympic Trials (Indianapolis, IN) — *Hymans (2008) - history of the US olympic trials - track and field*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Jul-88	time				23.4				51.93	51.93	6 / 6							
reaction time		interval								28.5		# of strides					23.40	28.53	5.13
		velocity				8.55				7.01	7.70						8.55	7.01	

Robinson, Moushaumi (USA) (1981)

FINAL - 2003 USATF National Championship (Palo Alto, CA) — *USATF Women's Sprint Development (2003)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-03	time				25.01		38.04	44.66	51.93	51.93	7 / 4							
reaction time		interval						13.03	6.62	7.27		# of strides			13.03	13.89	25.01	26.92	1.91
		velocity				8.00		7.67	7.55	6.88	7.70				7.67	7.20	8.00	7.43	

Dunn, Debbie (USA) (1978)

FINAL - 2004 USA Olympic Trials (Sacramento, CA) — *USATF Women's Sprint Development (2004)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-04	time		12.06		23.47	29.61	36.32	43.50	51.93	51.93	1 / 8							
reaction time		interval				11.41	6.14	6.71	7.18	8.43		# of strides	12.06	11.41	12.85	15.61	23.47	28.46	4.99
		velocity		8.29		8.76	8.14	7.45	6.96	5.93	7.70		8.29	8.76	7.78	6.41	8.52	7.03	

Jefferson, Kyra (USA) (1994)

FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-22	time	6.73	12.38	18.24	24.47	30.87	37.46	44.35	51.93	51.93	1 / 8							
reaction time	0.195	interval		5.65	5.86	6.23	6.40	6.59	6.89	7.58		# of strides	12.38	12.09	12.99	14.47	24.47	27.46	2.99
		velocity	7.43	8.85	8.53	8.03	7.81	7.59	7.26	6.60	7.70		8.08	8.27	7.70	6.91	8.17	7.28	

Azevedo, Cátia (POR) (1994)

A FINAL - 2023 European Team Championships, First Division (Chorzów, POL) — *European Athletics (2023) - 3rd european games, athletics - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-23	time		12.76		24.65		37.70		51.93	51.93	9 / 7							
reaction time	0.326	interval				11.89		13.05		14.23		# of strides	12.76	11.89	13.05	14.23	24.65	27.28	2.63
		velocity		7.84		8.41		7.66		7.03	7.70	196.7	7.84	8.41	7.66	7.03	8.11	7.33	

Azevedo, Cátia (POR) (1994)

Heat 3 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.79		24.72		37.63		51.93	51.93	5 / 4							
reaction time	0.191	interval				11.93		12.91		14.30		# of strides	12.79	11.93	12.91	14.30	24.72	27.21	2.49
		velocity		7.82		8.38		7.75		6.99	7.70	193.7	7.82	8.38	7.75	6.99	8.09	7.35	

Bromfield, Junelle (JAM) (1998)

Semi-Final 1 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Aug-24	time	6.75	12.26	17.97	23.92	30.16	36.86	44.05	51.93	51.93	9 / 8							
reaction time	0.187	interval		5.51	5.71	5.95	6.24	6.70	7.19	7.88		# of strides	12.26	11.66	12.94	15.07	23.92	28.01	4.09
		velocity	7.41	9.07	8.76	8.40	8.01	7.46	6.95	6.35	7.70		8.16	8.58	7.73	6.64	8.36	7.14	

Irby-Jackson, Lynna (USA) (1998)

FINAL - 2025 Athlos (Randalls Island, NY) — *Athlos and Karmarush (2025). Athlos results and race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Oct-25	time		12.10		24.31		37.38		51.93	51.93	3 / 5							
reaction time		interval				12.21		13.07		14.55		# of strides	12.10	12.21	13.07	14.55	24.31	27.62	3.31
		velocity		8.26		8.19		7.65		6.87	7.70		8.26	8.19	7.65	6.87	8.23	7.24	

Alexander, Kineke (VIN) (1986)

FINAL - 2005 NCAA Championships (Sacramento, CA) — *Track Newsletter (2005) - NCAA women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-05	time						37.6		51.9	51.94	3 / 7							
reaction time		interval								14.30		# of strides				14.30			
		velocity						7.98		6.99	7.70					6.99			

Hargrove, Monica (USA) (1982)

FINAL - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jul-08	time		12.28	17.40	24.20	30.40	37.10	44.30	51.94	51.94	2 / 7							
reaction time		interval			5.12	6.80	6.20	6.70	7.20	7.64		# of strides	12.28	11.92	12.90	14.84	24.20	27.74	3.54
		velocity		8.14	9.77	7.35	8.06	7.46	6.94	6.54	7.70		8.14	8.39	7.75	6.74	8.26	7.21	

Felix, Allyson (USA) (1985)

FINAL - 2019 USATF National Championships (Des Moines, IA) — *Track Newsletter (2019) - USATF championships women*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jul-19	time				24.9		38.0		51.9	51.94	/ 6							
reaction time		interval						13.10		13.90		# of strides			13.10	13.90	24.90	27.00	2.10
		velocity				8.03		7.63		7.19	7.70				7.63	7.19	8.03	7.41	

Jonathas, Wadeline (USA) (1998)

FINAL - 2020 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2020) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.9	12.6	18.5	24.5	30.7	37.3	44.2	51.94	51.94	6 / 1							
reaction time	0.190	interval		5.70	5.90	6.00	6.20	6.60	6.90	7.74		# of strides	12.60	11.90	12.80	14.64	24.50	27.44	2.94
		velocity	7.25	8.77	8.47	8.33	8.06	7.58	7.25	6.46	7.70	194.0	7.94	8.40	7.81	6.83	8.16	7.29	

Święty-Ersetic, Justyna (POL) (1992)

FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) — *Omega Timing (2020) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Sep-20	time	7.1	13.0	19.0	25.0	31.1	37.7	44.6	51.94	51.94	5 / 3							
reaction time	0.209	interval		5.90	6.00	6.00	6.10	6.60	6.90	7.34		# of strides	13.00	12.00	12.70	14.24	25.00	26.94	1.94
		velocity	7.04	8.47	8.33	8.33	8.20	7.58	7.25	6.81	7.70		7.69	8.33	7.87	7.02	8.00	7.42	

Petržilková, Tereza (CZE) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 3 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

date	21-Aug-23	time	12.83	24.86	37.87	51.94	51.94	9 / 8								
reaction time	0.192	interval		12.03	13.01	14.07		# of strides	12.83	12.03	13.01	14.07	24.86	27.08	2.22	
		velocity	7.79	8.31	7.69	7.11	7.70		7.79	8.31	7.69	7.11	8.05	7.39		

Brossier, Amandine (FRA) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2024 Memorial van damme (Brussels, BEL) — *Omega Timing (2024) - diamond league race analysis*

date	13-Sep-24	time	6.90	12.59	18.49	24.62	30.95	37.59	44.53	51.94	51.94	1 / ~~7~~ 6						
reaction time	0.208	interval		5.69	5.90	6.13	6.33	6.64	6.94	7.41		# of strides	12.59	12.03	12.97	14.35	24.62	27.32	2.70
		velocity	7.25	8.79	8.47	8.16	7.90	7.53	7.20	6.75	7.70		7.94	8.31	7.71	6.97	8.12	7.32	

Green, Nicole (USA) (1971)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

date	19-Jun-96	time	12.59	24.56	37.28	44.30	51.95	51.95	8 / 7							
reaction time		interval		11.97	12.72	7.02	7.65		# of strides	12.59	11.97	12.72	14.67	24.56	27.39	2.83
		velocity	7.94	8.35	7.86	7.12	6.54	7.70		7.94	8.35	7.86	6.82	8.14	7.30	

Pipi, Ama (GBR) (1995)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

date	05-Aug-22	time	6.8	12.3	18.2	24.3	30.7	37.4	44.3	51.95	51.95	6 / 3						
reaction time	0.176	interval		5.50	5.90	6.10	6.40	6.70	6.90	7.65		# of strides	12.30	12.00	13.10	14.55	24.30	27.65	3.35
		velocity	7.35	9.09	8.47	8.20	7.81	7.46	7.25	6.54	7.70	200.5	8.13	8.33	7.63	6.87	8.23	7.23	

Henrich, Charlotte (GBR) (2006)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

National FINAL - 2025 London Athletics Meet (London, GBR) — *Omega Timing (2025) - diamond league race analysis*

date	19-Jul-25	time	6.92	12.64	18.51	24.67	31.02	37.57	44.37	51.95	51.95	3 / 2						
reaction time	0.158	interval		5.72	5.87	6.16	6.35	6.55	6.80	7.58	PB	# of strides	12.64	12.03	12.90	14.38	24.67	27.28	2.61
		velocity	7.23	8.74	8.52	8.12	7.87	7.63	7.35	6.60	7.70		7.91	8.31	7.75	6.95	8.11	7.33	

Fergerson, Mable (USA) (1955)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1972 Olympic Games (Munich, FRG) — *Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*

date	07-Sep-72	time			24.8			52.0	51.96	3 / 5						
reaction time		interval						27.2		# of strides					24.80	27.20	2.40
		velocity			8.06			7.35	7.70	186.0					8.06	7.35	

Yefremova, Antonina (UKR) (1981)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 2 - 2002 European Championships (Munich, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

date	07-Aug-02	time		13.12	24.94		37.72		51.96	51.96	/ 1							
reaction time	0.175	interval			11.82		12.78		14.24		# of strides	13.12	11.82	12.78	14.24	24.94	27.02	2.08
		velocity		7.62	8.46		7.82		7.02	7.70		7.62	8.46	7.82	7.02	8.02	7.40	

Cross, Brandi (USA) (1988)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2006 USATF National Junior Championship (Indianapolis, IN) — *USATF Women's Sprint Development (2006)*

date	24-Jun-06	time	12.78	18.80	24.19	31.29	37.80	44.60	51.96	51.96	4 / 2							
reaction time		interval		6.02	5.39	7.10	6.51	6.80	7.36	PB	# of strides	12.78	11.41	13.61	14.16	24.19	27.77	3.58
		velocity	7.82	8.31	9.28	7.04	7.68	7.35	6.79	7.70		7.82	8.76	7.35	7.06	8.27	7.20	

Jele, Lydia (BOT) (1990)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2017 Meeting de Paris (Paris, FRA) — *Omega Timing (2017) - diamond league race analysis*

date	01-Jul-17	time	12.7	18.7	24.9	31.2	37.7	44.5	51.96	51.96	8 / 4							
reaction time	0.161	interval		6.0	6.2	6.3	6.5	6.8	7.5		# of strides	12.70	12.20	12.80	14.26	24.90	27.06	2.16
		velocity	7.87	8.33	8.06	7.94	7.69	7.35	6.70	7.70	194.5	7.87	8.20	7.81	7.01	8.03	7.39	

McPherson, Stephenie (JAM) (1988)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 2021 Müller Grand Prix (Gateshead, GBR) — *Omega Timing (2021) - diamond league race analysis*

date	23-May-21	time	7.4	13.2	19.0	25.0	31.1	37.8	44.9	51.96	51.96	6 / 2						
reaction time	0.129	interval		5.80	5.80	6.00	6.10	6.70	7.10	7.06		# of strides	13.20	11.80	12.80	14.16	25.00	26.96	1.96
		velocity	6.76	8.62	8.62	8.33	8.20	7.46	7.04	7.08	7.70	194.0	7.58	8.47	7.81	7.06	8.00	7.42	

Petržilková, Tereza (CZE) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 3 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time		12.70		24.85		37.76		51.96	51.96	3 / 1						
reaction time	0.222	interval				12.15		12.91		14.20		# of strides	12.70	12.15	12.91	14.20	24.85	27.11	2.26
		velocity		7.87		8.23		7.75		7.04	7.70		7.87	8.23	7.75	7.04	8.05	7.38	

Holman, Ziyah (USA) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 1 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time		12.56		24.59		37.66		51.96	51.96	7 / 5						
reaction time		interval				12.03		13.07		14.30		# of strides	12.56	12.03	13.07	14.30	24.59	27.37	2.78
		velocity		7.96		8.31		7.65		6.99	7.70	196.0	7.96	8.31	7.65	6.99	8.13	7.31	

Stevens, Rochelle (USA) (1966)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

FINAL - 1995 USATF National Championships (Sacramento, CA) — *Track Newsletter (1995) - USATF National Championships*

date	17-Jun-95	time		12.9		25.6		38.3		52.0	51.97	/ 4						
reaction time		interval				12.70		12.70		13.70		# of strides	12.90	12.70	12.70	13.70	25.60	26.40	0.80
		velocity		7.75		7.87		7.87		7.30	7.70		7.75	7.87	7.87	7.30	7.81	7.58	

Trotter, De'Hashia (Dee Dee) (USA) (1

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

date	29-Jun-08	time			19.53	25.72	31.92	38.43	44.83	51.97	51.97	8 / 1						
reaction time		interval				6.19	6.20	6.51	6.40	7.14		# of strides			12.71	13.54	25.72	26.25	0.53
		velocity			7.68	8.08	8.06	7.68	7.81	7.00	7.70				7.87	7.39	7.78	7.62	

Hurtis, Muriel (FRA) (1979)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

Heat 3 - 2010 European Championships (Barcelona, ESP) — *Le Bras (2013) - analyse de la perfromance et conception de dispositifs d'entraînement*

date	28-Jul-10	time	12.2	24.1	36.8	52.0	51.97	/ 3									
reaction time		interval		12.0	12.6	15.2		# of strides	12.15	11.97	12.63	15.20	24.12	27.83	3.71		
		velocity	8.23	8.35	7.92	6.58	7.70		8.23	8.35	7.92	6.58	8.29	7.19			

Scott, Gabby (PUR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 20-Jul-22	time	12.59		24.65		37.69		51.97	51.97	7 / 7							
reaction time 0.215	interval			12.06		13.04		14.28		# of strides	12.59	12.06	13.04	14.28	24.65	27.32	2.67
	velocity	7.94		8.29		7.67		7.00	7.70	188.7	7.94	8.29	7.67	7.00	8.11	7.32	

Fahr, Annina (SUI) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Weltklasse (Zürich, SUI)																	*Omega Timing (2023) - diamond league race analysis*
date 31-Aug-23	time	6.87	12.58	18.47	24.61	30.94	37.48	44.39	51.97	51.97	3 / 2						
reaction time 0.156	interval		5.71	5.89	6.14	6.33	6.54	6.91	7.58		# of strides	12.58	12.03	12.87	14.49	24.61	27.36	2.75
	velocity	7.28	8.76	8.49	8.14	7.90	7.65	7.24	6.60	7.70		7.95	8.31	7.77	6.90	8.13	7.31	

Abrams, Aliyah (GUY) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Prefontaine Classic (Eugene, OR)																	*Omega Timing (2023) - diamond league race analysis*
date 17-Sep-23	time	6.77	12.37	18.15	24.29	30.62	37.27	44.31	51.97	51.97	2 / 8						
reaction time 0.137	interval		5.60	5.78	6.14	6.33	6.65	7.04	7.66		# of strides	12.37	11.92	12.98	14.70	24.29	27.68	3.39
	velocity	7.39	8.93	8.65	8.14	7.90	7.52	7.10	6.53	7.70		8.08	8.39	7.70	6.80	8.23	7.23	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Apr-24	time	6.62	12.25	17.98	23.98	30.34	37.05	44.17	51.97	51.97	4 / 4						
reaction time 0.179	interval		5.63	5.73	6.00	6.36	6.71	7.12	7.80		# of strides	12.25	11.73	13.07	14.92	23.98	27.99	4.01
	velocity	7.55	8.88	8.73	8.33	7.86	7.45	7.02	6.41	7.70	194.0	8.16	8.53	7.65	6.70	8.34	7.15	

Sherar, Zoe (CAN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time	6.99	12.71	18.48	24.52	30.73	37.20	44.17	51.97	51.97	3 / 7						
reaction time 0.160	interval		5.72	5.77	6.04	6.21	6.47	6.97	7.80		# of strides	12.71	11.81	12.68	14.77	24.52	27.45	2.93
	velocity	7.15	8.74	8.67	8.28	8.05	7.73	7.17	6.41	7.70		7.87	8.47	7.89	6.77	8.16	7.29	

Terrero, Indira (CUB) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 15-Aug-09	time		12.85		24.96		37.89		51.98	51.98	2 / 3						
reaction time 0.301	interval				12.11		12.93		14.09		# of strides	12.85	12.11	12.93	14.09	24.96	27.02	2.06
	velocity		7.78		8.26		7.73		7.10	7.70		7.78	8.26	7.73	7.10	8.01	7.40	

Nwachukwu, Sorina (GER) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 16-Aug-09	time		12.56		24.90		37.74		51.98	51.98	8 / 6						
reaction time 0.210	interval				12.34		12.84		14.24		# of strides	12.56	12.34	12.84	14.24	24.90	27.08	2.18
	velocity		7.96		8.10		7.79		7.02	7.70	182.5	7.96	8.10	7.79	7.02	8.03	7.39	

Richardson, Syaira (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)																	*Track Newsletter (2019) - NCAA women's championships*
date 07-Jun-19	time					37.6		52.0	51.98	/ 7							
reaction time 0.273	interval							14.40		# of strides				14.40			
	velocity					5.32		6.94	7.70					6.94			

Grebo, Shana (FRA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting de Paris (Paris, FRA)																	*Omega Timing (2022) - diamond league race analysis*
date 18-Jun-22	time	6.75	12.39	18.33	24.45	30.87	37.60	44.55	51.98	51.98	1 / 8						
reaction time 0.166	interval		5.64	5.94	6.12	6.42	6.73	6.95	7.43		# of strides	12.39	12.06	13.15	14.38	24.45	27.53	3.08
	velocity	7.41	8.87	8.42	8.17	7.79	7.43	7.19	6.73	7.70		8.07	8.29	7.60	6.95	8.18	7.26	

Abrams, Aliyah (GUY) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time		12.51		24.81		37.86		51.98	51.98	6 / 2						
reaction time 0.148	interval				12.30		13.05		14.12		# of strides	12.51	12.30	13.05	14.12	24.81	27.17	2.36
	velocity		7.99		8.13		7.66		7.08	7.70	196.2	7.99	8.13	7.66	7.08	8.06	7.36	

Williams, Jodie (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 05-Aug-22	time	6.6	12.1	17.9	24.0	30.4	37.2	44.2	51.98	51.98	8 / 3						
reaction time 0.128	interval		5.50	5.80	6.10	6.40	6.80	7.00	7.78		# of strides	12.10	11.90	13.20	14.78	24.00	27.98	3.98
	velocity	7.58	9.09	8.62	8.20	7.81	7.35	7.14	6.43	7.70	192.5	8.26	8.40	7.58	6.77	8.33	7.15	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23	time		12.81		24.76		37.56		51.98	51.98	7 / 5						
reaction time 0.183	interval				11.95		12.80		14.42		# of strides	12.81	11.95	12.80	14.42	24.76	27.22	2.46
	velocity		7.81		8.37		7.81		6.93	7.70	204.0	7.81	8.37	7.81	6.93	8.08	7.35	

Proctor, Dianna (CAN) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25	time		12.56		24.64		37.75		51.98	51.98	3 / 7						
reaction time 0.187	interval				12.08		13.11		14.23		# of strides	12.56	12.08	13.11	14.23	24.64	27.34	2.70
	velocity		7.96		8.28		7.63		7.03	7.70		7.96	8.28	7.63	7.03	8.12	7.32	

Rendina, Charlene (AUS) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 Olympic Games (Munich, FRG)																	*Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016*
date 07-Sep-72	time				25.0			52.0	51.99	8 / 6							
reaction time	interval							27.0		# of strides					25.00	27.00	2.00

		velocity			8.00			7.41	7.69							8.00	7.41		
Curbishley, Allison (GBR) (1976)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2001 European Cup (Bremen, GER)																		*Graubner (2007) - http://www.fgs.uni-halle.de*	
date	23-Jun-01	time		12.73		24.74		37.84		51.99	51.99	/ 5							
reaction time		interval				12.01		13.10		14.15		# of strides	12.73	12.01	13.10	14.15	24.74	27.25	2.51
		velocity		7.86		8.33		7.63		7.07	7.69		7.86	8.33	7.63	7.07	8.08	7.34	
Iuel, Amalie (NOR) (1994)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2018 Müller Anniversary Games (London, GBR)																		*Omega Timing (2018) - diamond league race analysis*	
date	22-Jul-18	time		13.2		25.5		38.3		51.99	51.99	1 / 9							
reaction time	0.183	interval				12.3		12.8		13.7		# of strides	13.20	12.30	12.80	13.69	25.50	26.49	0.99
		velocity		7.58		8.13		7.81		7.30	7.69		7.58	8.13	7.81	7.30	7.84	7.55	
Clark, Zoey (GBR) (1994)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																		*Longines Timing (2022) - commonwealth games race analysis*	
date	05-Aug-22	time	6.7	12.2	18.3	24.5	31.0	37.7	44.5	51.99	51.99	7 / 4							
reaction time	0.153	interval		5.50	6.10	6.20	6.50	6.70	6.80	7.49		# of strides	12.20	12.30	13.20	14.29	24.50	27.49	2.99
		velocity	7.46	9.09	8.20	8.06	7.69	7.46	7.35	6.68	7.69	201.7	8.20	8.13	7.58	7.00	8.16	7.28	
Shostak, Maryana (UKR) (2000)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																		*European Athletics (2024) - 2024 european athletics championships - results book*	
date	09-Jun-24	time		12.70		24.79		37.83		51.99	51.99	2 / 5							
reaction time	0.158	interval				12.09		13.04		14.16	PB	# of strides	12.70	12.09	13.04	14.16	24.79	27.20	2.41
		velocity		7.87		8.27		7.67		7.06	7.69	193.0	7.87	8.27	7.67	7.06	8.07	7.35	
Dabney, Sharon (USA) (1957)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1980 USA Olympic Trials (Eugene, OR)																		*Track Newsletter (1980) - US olympic trials*	
date	25-Jun-80	time				24.6				52.0	52.00	/ 4							
reaction time		interval								27.40		# of strides					24.60	27.40	2.80
		velocity				8.13				7.30	7.69						8.13	7.30	
Zemlyak, Olha (UKR) (1990)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)																		*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*	
date	24-Aug-15	time	6.89	12.59	18.44	24.56	30.90	37.51	44.46	52.00	52.00	9 / 5							
reaction time	0.197	interval		5.70	5.85	6.12	6.34	6.61	6.95	7.54		# of strides	12.59	11.97	12.95	14.49	24.56	27.44	2.88
		velocity	7.26	8.77	8.55	8.17	7.89	7.56	7.19	6.63	7.69		7.94	8.35	7.72	6.90	8.14	7.29	
Vervaet, Imke (BEL) (1993)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
B Race - 2023 Memorial van Damme (Brussels, BEL)																		*Seiko Timing (2023) - world championship race analysis*	
date	08-Sep-23	time	6.76	12.39	18.21	24.34	30.84	37.62	44.64	52.00	52.00	6 / 2							
reaction time	0.157	interval		5.63	5.82	6.13	6.50	6.78	7.02	7.36		# of strides	12.39	11.95	13.28	14.38	24.34	27.66	3.32
		velocity	7.40	8.88	8.59	8.16	7.69	7.37	7.12	6.79	7.69		8.07	8.37	7.53	6.95	8.22	7.23	
Morauskaité, Modesta Justé (LTU) (1!			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 1 - 2024 Olympic Games (Paris, FRA)																		*Paris 2024 Olympic Games - Results Book (2024)*	
date	05-Aug-24	time	6.83	12.41	18.20	24.27	30.52	37.06	44.11	52.00	52.00	7 / 8							
reaction time	0.175	interval		5.58	5.79	6.07	6.25	6.54	7.05	7.89		# of strides	12.41	11.86	12.79	14.94	24.27	27.73	3.46
		velocity	7.32	8.96	8.64	8.24	8.00	7.65	7.09	6.34	7.69	198.0	8.06	8.43	7.82	6.69	8.24	7.21	
van der Schoot, Myrte (NED) (2004)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2025 European Athletics U23 Championships (Bergen, NOR)																		*European Athletics (2025) - 2025 european athletics U23 championships- results book*	
date	18-Jul-25	time	6.86	12.54	18.42	24.49	30.74	37.45	44.49	52.00	52.00	4 / 2							
reaction time	0.192	interval		5.68	5.88	6.07	6.25	6.71	7.04	7.51	PB	# of strides	12.54	11.95	12.96	14.55	24.49	27.51	3.02
		velocity	7.29	8.80	8.50	8.24	8.00	7.45	7.10	6.66	7.69	191.7	7.97	8.37	7.72	6.87	8.17	7.27	
Malik, Poppy (GBR) (2003)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2025 European Athletics U23 Championships (Bergen, NOR)																		*European Athletics (2025) - 2025 european athletics U23 championships- results book*	
date	18-Jul-25	time	6.85	12.70	18.77	25.01	31.30	37.81	44.55	52.00	52.00	7 / 3							
reaction time	0.178	interval		5.85	6.07	6.24	6.29	6.51	6.74	7.45		# of strides	12.70	12.31	12.80	14.19	25.01	26.99	1.98
		velocity	7.30	8.55	8.24	8.01	7.95	7.68	7.42	6.71	7.69	196.0	7.87	8.12	7.81	7.05	8.00	7.41	
Martin, Johanna (GER) (2006)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2025 European Athletics U20 Championships (Tampere, FIN)																		*European Athletics (2025) - 2025 european athletics U20 championships - results book*	
date	09-Aug-25	time	7.21	12.85	18.62	24.70	31.05	37.70	44.64	52.00	52.00	8 / 2							
reaction time	0.177	interval		5.64	5.77	6.08	6.35	6.65	6.94	7.36		# of strides	12.85	11.85	13.00	14.30	24.70	27.30	2.60
		velocity	6.93	8.87	8.67	8.22	7.87	7.52	7.20	6.79	7.69	200.0	7.78	8.44	7.69	6.99	8.10	7.33	
Valcourt, Javonya (BAH) (2004)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2025 World Athletics Championships (Tokyo, JPN)																		*Seiko Timing (2025) - 2025 World Championships race analysis*	
date	14-Sep-25	time		12.44		24.18		37.24		52.00	52.00	5 / 7							
reaction time	0.201	interval				11.74		13.06		14.76		# of strides	12.44	11.74	13.06	14.76	24.18	27.82	3.64
		velocity		8.04		8.52		7.66		6.78	7.69	184.0	8.04	8.52	7.66	6.78	8.27	7.19	
Prokopek, Grażyna (POL) (1977)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 2 - 2002 European Championships (Munich, GER)																		*Graubner (2009) - http://www.fgs.uni-halle.de*	
date	07-Aug-02	time		12.76		24.66		37.41		52.01	52.01	/ 2							
reaction time	0.181	interval				11.90		12.75		14.60		# of strides	12.76	11.90	12.75	14.60	24.66	27.35	2.69
		velocity		7.84		8.40		7.84		6.85	7.69		7.84	8.40	7.84	6.85	8.11	7.31	
Atkins, Joanna (USA) (1989)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2010 NCAA Championships (Eugene, OR)																		*Track Newsletter (2010) - NCAA women's championships*	
date	11-Jun-10	time				23.7		36.7		52.0	52.01	/ 3							
reaction time		interval						13.0		15.3		# of strides			13.00	15.30	23.70	28.30	4.60
		velocity				8.44		7.69		6.54	7.69				7.69	6.54	8.44	7.07	

Ellis-Watson, Taylor (USA) (1993)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 NCAA Championships (Eugene, OR)																		*Track Newsletter (2015) - NCAA women's championships*
date	13-Jun-15	time			25.3				52.0	52.01	/ 4							
reaction time		interval							26.70		# of strides					25.30	26.70	1.40
		velocity			7.91				7.49	7.69						7.91	7.49	

Gómez, Roxana (CUB) (1999)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																		*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*
date	07-Aug-17	time		12.60		24.59		37.38	44.28	51.76	52.01	3 / 5							
reaction time	0.251	interval				11.99		12.79	6.90	7.48		# of strides	12.60	11.99	12.79	14.38	24.59	27.17	2.58
		velocity		7.94		8.34		7.82	7.25	6.68	7.69	190.3	7.94	8.34	7.82	6.95	8.13	7.36	

Święty-Ersetic, Justyna (POL) (1992)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 European Athletics Championships (Roma, ITA)																		*European Athletics (2024) - 2024 european athletics championships - results book*
date	08-Jun-24	time		12.92		25.31		38.29		52.01	52.01	9 / 4							
reaction time	0.285	interval				12.39		12.98		13.72		# of strides	12.92	12.39	12.98	13.72	25.31	26.70	1.39
		velocity		7.74		8.07		7.70		7.29	7.69		7.74	8.07	7.70	7.29	7.90	7.49	

Nielsen, Laviai (GBR) (1988)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)																		*Grand Slam Track (2025) - results and splits by race*
date	31-May-25	time		12.34		24.40		37.48		52.01	52.01	4 / ~~7~~ 6							
reaction time	0.380	interval				12.06		13.08		14.53		# of strides	12.34	12.06	13.08	14.53	24.40	27.61	3.21
		velocity		8.10		8.29		7.65		6.88	7.69		8.10	8.29	7.65	6.88	8.20	7.24	

Sieger, Susanne (GDR) (1968)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1986 IAAF World Junior Championships (Athens, GRE)																		*Moravec (1986) - IAAF biomechanical research - Athens 1986 - sprints*
date	18-Jul-86	time		12.82		24.57		37.44		52.02	52.02	/ 1							
reaction time		interval				11.75		12.87		14.58	CR	# of strides	12.82	11.75	12.87	14.58	24.57	27.45	2.88
		velocity		7.80		8.51		7.77		6.86	7.69		7.80	8.51	7.77	6.86	8.14	7.29	

Yefremova, Antonina (UKR) (1981)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																		*Graubner (2009) - http://www.fgs.uni-halle.de*
date	08-Aug-02	time		13.00		24.97		37.75		52.02	52.02	5 / 6							
reaction time	0.162	interval				11.97		12.78		14.27		# of strides	13.00	11.97	12.78	14.27	24.97	27.05	2.08
		velocity		7.69		8.35		7.82		7.01	7.69		7.69	8.35	7.82	7.01	8.01	7.39	

Robinson, Moushaumi (USA) (1981)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 2 - 2008 USA Olympic Trials (Atlanta, GA)																		*USATF Women's Sprint Development with HPC (2008)*
date	29-Jun-08	time		12.16	18.09	24.26	30.70	37.35	44.21	52.02	52.02	4 / 4							
reaction time		interval			5.93	6.17	6.44	6.65	6.86	7.81		# of strides	12.16	12.10	13.09	14.67	24.26	27.76	3.50
		velocity		8.22	8.43	8.10	7.76	7.52	7.29	6.40	7.69		8.22	8.26	7.64	6.82	8.24	7.20	

Reynolds, Robin (USA) (1994)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 NCAA Championships (Eugene, OR)																		*Track Newsletter (2014) - NCAA women's championships*
date	13-Jun-14	time				24.1		37.2		52.0	52.02	/ 7							
reaction time		interval						13.10		14.80		# of strides			13.10	14.80	24.10	27.90	3.80
		velocity				8.30		7.63		6.76	7.69				7.63	6.76	8.30	7.17	

Baumgart, Iga (POL) (1989)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)																		*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date	24-Aug-15	time	7.01	12.70	18.59	24.77	31.10	37.65	44.60	52.02	52.02	6 / 6							
reaction time	0.228	interval		5.69	5.89	6.18	6.33	6.55	6.95	7.42	PB	# of strides	12.70	12.07	12.88	14.37	24.77	27.25	2.48
		velocity	7.13	8.79	8.49	8.09	7.90	7.63	7.19	6.74	7.69		7.87	8.29	7.76	6.96	8.07	7.34	

Botlogetswe, Christine (BOT) (1995)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting de Paris (Paris, FRA)																		*Omega Timing (2019) - diamond league race analysis*
date	24-Aug-19	time		12.7		24.9		37.8		52.02	52.02	2 / 6							
reaction time	0.199	interval				12.2		12.9		14.2		# of strides	12.70	12.20	12.90	14.22	24.90	27.12	2.22
		velocity		7.87		8.20		7.75		7.03	7.69	185.0	7.87	8.20	7.75	7.03	8.03	7.37	

Mangione, Alice (ITA) (1997)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)																		*European Athletics (2022) - european athletics championships race analysis*
date	16-Aug-22	time		12.78		24.87		38.02		52.02	52.02	7 / 5							
reaction time	0.179	interval				12.09		13.15		14.00		# of strides	12.78	12.09	13.15	14.00	24.87	27.15	2.28
		velocity		7.82		8.27		7.60		7.14	7.69	194.7	7.82	8.27	7.60	7.14	8.04	7.37	

Clayton, Rushell (JAM) (1992)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Memorial van Damme (Brussels, BEL)																		*Omega Timing (2022) - diamond league race analysis*
date	02-Sep-22	time	6.98	12.64	18.53	24.69	31.03	37.71	44.69	52.02	52.02	8 / 3							
reaction time	0.233	interval		5.66	5.89	6.16	6.34	6.68	6.98	7.33	PB	# of strides	12.64	12.05	13.02	14.31	24.69	27.33	2.64
		velocity	7.16	8.83	8.49	8.12	7.89	7.49	7.16	6.82	7.69		7.91	8.30	7.68	6.99	8.10	7.32	

Sedney, Zoë (NED) (2001)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																		*European Athletics (2023) - european athletics U23 championships results book*
date	14-Jul-23	time		12.39		24.46		37.52		52.02	52.02	4 / 4							
reaction time	0.175	interval				12.07		13.06		14.50	PB	# of strides	12.39	12.07	13.06	14.50	24.46	27.56	3.10
		velocity		8.07		8.29		7.66		6.90	7.69	193.5	8.07	8.29	7.66	6.90	8.18	7.26	

Grebo, Shana (FRA) (2000)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Herculis Meeting International d'Athlétisme (Monaco, MON)																		*Omega Timing (2024) - diamond league race analysis*
date	12-Jul-24	time	6.84	12.45	18.24	24.27	30.71	37.43	44.47	52.02	52.02	2 / 7							
reaction time	0.194	interval		5.61	5.79	6.03	6.44	6.72	7.04	7.55		# of strides	12.45	11.82	13.16	14.59	24.27	27.75	3.48
		velocity	7.31	8.91	8.64	8.29	7.76	7.44	7.10	6.62	7.69		8.03	8.46	7.60	6.85	8.24	7.21	

Nielsen, Laviai (GBR) (1988)

		50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Jetour Doha Meeting (Doha, QAT)																		*Omega Timing (2025) - diamond league race analysis*

date	16-May-25	time	6.71	12.50	18.59	25.07	31.65	38.24	44.86	52.02	52.02	3 / 7						
reaction time	0.175	interval		5.79	6.09	6.48	6.58	6.59	6.62	7.16		# of strides	12.50	12.57	13.17	13.78	25.07	26.95	1.88
		velocity	7.45	8.64	8.21	7.72	7.60	7.59	7.55	6.98	7.69		8.00	7.96	7.59	7.26	7.98	7.42	

Collins, Michelle (USA) (1971)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 17-Jun-96	time		12.68		24.70		37.35	44.28	52.03	52.03	8 / 5							
reaction time	interval				12.02		12.65	6.93	7.75		# of strides	12.68	12.02	12.65	14.68	24.70	27.33	2.63
	velocity		7.89		8.32		7.91	7.22	6.45	7.69		7.89	8.32	7.91	6.81	8.10	7.32	

Williams, Clora (JAM) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 NCAA Championships (Sacramento, CA)																	*Track Newsletter (2007) - NCAA women's championships*
date 09-Jun-07	time			24.9		37.9		52.0	52.03	7 / 5							
reaction time	interval					13.00		14.10		# of strides			13.00	14.10	24.90	27.10	2.20
	velocity			8.03		7.69		7.09	7.69				7.69	7.09	8.03	7.38	

Klaver, Lieke (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 23-May-21	time	7.3	12.9	18.7	24.6	30.8	37.6	44.8	52.03	52.03	2 / 3							
reaction time 0.167	interval		5.60	5.80	5.90	6.20	6.80	7.20	7.23		# of strides	12.90	11.70	13.00	14.43	24.60	27.43	2.83
	velocity	6.85	8.93	8.62	8.47	8.06	7.35	6.94	6.92	7.69		7.75	8.55	7.69	6.93	8.13	7.29	

Lemmens, Silke (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Weltklasse (Zürich, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 08-Sep-22	time	6.71	12.39	18.27	24.46	30.92	37.67	44.64	52.03	52.03	7 / 3							
reaction time 0.172	interval		5.68	5.88	6.19	6.46	6.75	6.97	7.39		# of strides	12.39	12.07	13.21	14.36	24.46	27.57	3.11
	velocity	7.45	8.80	8.50	8.08	7.74	7.41	7.17	6.77	7.69		8.07	8.29	7.57	6.96	8.18	7.25	

Claes, Hanne (BEL) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2024 Memorial van damme (Brussels, BEL)																	*Omega Timing (2024) - diamond league race analysis*
date 13-Sep-24	time	6.84	12.62	18.65	24.91	31.34	37.96	44.77	52.03	52.03	3 / 5							
reaction time 0.219	interval		5.78	6.03	6.26	6.43	6.62	6.81	7.26		# of strides	12.62	12.29	13.05	14.07	24.91	27.12	2.21
	velocity	7.31	8.65	8.29	7.99	7.78	7.55	7.34	6.89	7.69	193.7	7.92	8.14	7.66	7.11	8.03	7.37	

Malik, Poppy (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U23 Championships (Bergen, NOR)																	*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date 19-Jul-25	time	6.77	12.56	18.52	24.63	30.91	37.41	44.39	52.03	52.03	3 / 5							
reaction time 0.166	interval		5.79	5.96	6.11	6.28	6.50	6.98	7.64		# of strides	12.56	12.07	12.78	14.62	24.63	27.40	2.77
	velocity	7.39	8.64	8.39	8.18	7.96	7.69	7.16	6.54	7.69		7.96	8.29	7.82	6.84	8.12	7.30	

Oblad, Sami (USA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2025 USATF Championships (Eugene, OR)																	*USATF and Karmarush (2025) - USATF championships results and race analysis*
date 01-Aug-25	time		12.34		24.44		37.51		52.03	52.03	5 / 4							
reaction time	interval				12.10		13.07		14.52		# of strides	12.34	12.10	13.07	14.52	24.44	27.59	3.15
	velocity		8.10		8.26		7.65		6.89	7.69		8.10	8.26	7.65	6.89	8.18	7.25	

Barber, Me'Lisa (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 21-Jun-03	time				25.34		38.10	44.07	52.04	52.04	6 / 5							
reaction time	interval						12.76	5.97	7.97		# of strides			12.76	13.94	25.34	26.70	1.36
	velocity				7.89		7.84	8.38	6.27	7.69				7.84	7.17	7.89	7.49	

Smith, Stephanie (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 22-Jun-03	time				24.07		37.25	44.26	52.04	52.04	7 / 1							
reaction time	interval						13.18	7.01	7.78	PB	# of strides			13.18	14.79	24.07	27.97	3.90
	velocity				8.31		7.59	7.13	6.43	7.69				7.59	6.76	8.31	7.15	

Święty-Ersetic, Justyna (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2019) - diamond league race analysis*
date 06-Jun-19	time		12.8		24.9		37.8		52.04	52.04	7 / 5							
reaction time 0.184	interval				12.1		12.9		14.2		# of strides	12.80	12.10	12.90	14.24	24.90	27.14	2.24
	velocity		7.81		8.26		7.75		7.02	7.69	211.0	7.81	8.26	7.75	7.02	8.03	7.37	

Sananes, Déborah (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting de Paris (Paris, FRA)																	*Omega Timing (2019) - diamond league race analysis*
date 24-Aug-19	time		12.5		24.5		37.6		52.04	52.04	3 / 7							
reaction time 0.227	interval				12.0		13.1		14.4		# of strides	12.50	12.00	13.10	14.44	24.50	27.54	3.04
	velocity		8.00		8.33		7.63		6.93	7.69	195.2	8.00	8.33	7.63	6.93	8.16	7.26	

Williams, Kiah (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time		12.37		24.59		37.64		52.04	52.04	6 / 5							
reaction time	interval				12.22		13.05		14.40		# of strides	12.37	12.22	13.05	14.40	24.59	27.45	2.86
	velocity		8.08		8.18		7.66		6.94	7.69	186.7	8.08	8.18	7.66	6.94	8.13	7.29	

Azevedo, Cátia (POR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24	time	6.99	12.68	18.42	24.47	30.81	37.47	44.47	52.04	52.04	5 / 5							
reaction time 0.198	interval		5.69	5.74	6.05	6.34	6.66	7.00	7.57		# of strides	12.68	11.79	13.00	14.57	24.47	27.57	3.10
	velocity	7.15	8.79	8.71	8.26	7.89	7.51	7.14	6.61	7.69	195.0	7.89	8.48	7.69	6.86	8.17	7.25	

Oliver, Ilrey (JAM) (1962)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1985 NCAA Championships (Austin, TX)																	*Track Newsletter (1985) - NCAA Championships*
date 01-Jun-85	time				23.7				52.1	52.05	3 / 2							
reaction time	interval								28.40	PB	# of strides					23.70	28.40	4.70

		velocity			8.44				7.04	7.68							8.44	7.04	

Bromfield, Junelle (JAM) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 21-Jul-16	time	6.96	12.55	18.40	24.51	30.90	37.44	44.43	52.05	52.05	4 / 3						
reaction time 0.324	interval		5.59	5.85	6.11	6.39	6.54	6.99	7.62		# of strides	12.55	11.96	12.93	14.61	24.51	27.54	3.03
	velocity	7.18	8.94	8.55	8.18	7.82	7.65	7.15	6.56	7.68		7.97	8.36	7.73	6.84	8.16	7.26	

Thorton, Jess (AUS) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 21-Jul-16	time	6.69	12.21	18.15	24.43	30.87	37.57	44.54	52.05	52.05	6 / 4						
reaction time 0.159	interval		5.52	5.94	6.28	6.44	6.70	6.97	7.51	PB	# of strides	12.21	12.22	13.14	14.48	24.43	27.62	3.19
	velocity	7.47	9.06	8.42	7.96	7.76	7.46	7.17	6.66	7.68		8.19	8.18	7.61	6.91	8.19	7.24	

Scott, Gabby (PUR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 World Athletics Championships (Eugene, OR)											*Timing by Seiko (2022) - world athletics championships race analysis*						
date 17-Jul-22	time		12.90		25.22		38.11		52.05	52.05	4 / 3						
reaction time 0.182	interval				12.32		12.89		13.94		# of strides	12.90	12.32	12.89	13.94	25.22	26.83	1.61
	velocity		7.75		8.12		7.76		7.17	7.68	189.0	7.75	8.12	7.76	7.17	7.93	7.45	

Fahr, Annina (SUI) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Weltklasse (Zürich, SUI)											*Omega Timing (2022) - diamond league race analysis*						
date 08-Sep-22	time	6.96	12.80	18.82	24.97	31.24	37.78	44.62	52.05	52.05	8 / 4						
reaction time 0.167	interval		5.84	6.02	6.15	6.27	6.54	6.84	7.43	PB	# of strides	12.80	12.17	12.81	14.27	24.97	27.08	2.11
	velocity	7.18	8.56	8.31	8.13	7.97	7.65	7.31	6.73	7.68		7.81	8.22	7.81	7.01	8.01	7.39	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)											*Omega Timing (2023) - diamond league race analysis*						
date 05-May-23	time	6.74	12.40	18.40	24.63	30.95	37.58	44.52	52.05	52.05	4 / 4						
reaction time 0.184	interval		5.66	6.00	6.23	6.32	6.63	6.94	7.53		# of strides	12.40	12.23	12.95	14.47	24.63	27.42	2.79
	velocity	7.42	8.83	8.33	8.03	7.91	7.54	7.20	6.64	7.68	193.5	8.06	8.18	7.72	6.91	8.12	7.29	

Petržilková, Tereza (CZE) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)											*European Athletics (2024) - 2024 european athletics championships - results book*						
date 09-Jun-24	time		12.76		25.00		37.99		52.05	52.05	9 / 5						
reaction time 0.206	interval				12.24		12.99		14.06		# of strides	12.76	12.24	12.99	14.06	25.00	27.05	2.05
	velocity		7.84		8.17		7.70		7.11	7.68	195.0	7.84	8.17	7.70	7.11	8.00	7.39	

Diggs, Talitha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Kingston (Kingston, JAM)											*Grand Slam Track (2025) - results and splits by race*						
date 05-Apr-25	time		12.33		24.50		37.43		52.05	52.05	2 / 7						
reaction time 0.180	interval				12.17		12.93		14.62		# of strides	12.33	12.17	12.93	14.62	24.50	27.55	3.05
	velocity		8.11		8.22		7.73		6.84	7.68		8.11	8.22	7.73	6.84	8.16	7.26	

Perkins, Angel (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)											*USATF Women's Sprint Development (2003)*						
date 22-Jun-03	time				24.42		37.67	44.70	52.06	52.06	6 / 2						
reaction time	interval						13.25	7.03	7.36	PB	# of strides			13.25	14.39	24.42	27.64	3.22
	velocity				8.19		7.55	7.11	6.79	7.68				7.55	6.95	8.19	7.24	

Wyciszkiewicz, Patrycja (POL) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)											*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
date 20-May-18	time	6.96	12.74	18.67	24.81	31.14	37.80	44.73	52.06	52.06	7 / 5						
reaction time 0.190	interval		5.78	5.93	6.14	6.33	6.66	6.93	7.33		# of strides	12.74	12.07	12.99	14.26	24.81	27.25	2.44
	velocity	7.18	8.65	8.43	8.14	7.90	7.51	7.22	6.82	7.68	197.0	7.85	8.29	7.70	7.01	8.06	7.34	

Polinari, Anna (ITA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 European Athletics Championships (Roma, ITA)											*European Athletics (2024) - 2024 european athletics championships - results book*						
date 08-Jun-24	time		12.98		25.14		37.90		52.06	52.06	8 / 2						
reaction time 0.199	interval				12.16		12.76		14.16		# of strides	12.98	12.16	12.76	14.16	25.14	26.92	1.78
	velocity		7.70		8.22		7.84		7.06	7.68		7.70	8.22	7.84	7.06	7.96	7.43	

Williams, Jodie (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)											*Omega Timing (2024) - diamond league race analysis*						
date 20-Jul-24	time	6.88	12.66	18.61	24.82	31.27	37.88	44.68	52.06	52.06	5 / 4						
reaction time 0.163	interval		5.78	5.95	6.21	6.45	6.61	6.80	7.38		# of strides	12.66	12.16	13.06	14.18	24.82	27.24	2.42
	velocity	7.27	8.65	8.40	8.05	7.75	7.56	7.35	6.78	7.68		7.90	8.22	7.66	7.05	8.06	7.34	

Probert-Scutt, Michelle (GBR) (1960)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1984 Olympic Games (Los Angeles, CA) (*TV Analysis*)											*Adams (1984) - 1984 olympic games - 200m & 400m*						
date 05-Aug-84	time				24.41				52.07	52.07	4 / 6						
reaction time	interval								27.66		# of strides					24.41	27.66	3.25
	velocity				8.19				7.23	7.68						8.19	7.23	

Cox, Crystal (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Championship (Palo Alto, CA)											*USATF Women's Sprint Development (2003)*						
date 21-Jun-03	time				23.99		37.12	44.18	52.07	52.07	3 / 6						
reaction time	interval						13.13	7.06	7.89		# of strides			13.13	14.95	23.99	28.08	4.09
	velocity				8.34		7.62	7.08	6.34	7.68				7.62	6.69	8.34	7.12	

Miklos, Andrea (ROU) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)											*Koyama (2018) - research on athlete performance and technique- 2018 data book*						
date 12-Jul-18	time	6.93	12.70	18.65	24.86	31.31	37.99	44.81	52.07	52.07	3 / 2						
reaction time 0.198	interval		5.77	5.95	6.21	6.45	6.68	6.82	7.26	PB	# of strides	12.70	12.16	13.13	14.08	24.86	27.21	2.35
	velocity	7.22	8.67	8.40	8.05	7.75	7.49	7.33	6.89	7.68	195.0	7.87	8.22	7.62	7.10	8.05	7.35	

Vondrová, Lada (CZE) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)																	*Omega Timing (2022) - diamond league race analysis*
date 05-Jun-22 time	6.74	12.46	18.49	24.76	31.13	37.84	44.65	52.07	52.07	2 / 5							
reaction time 0.205 interval		5.72	6.03	6.27	6.37	6.71	6.81	7.42		# of strides	12.46	12.30	13.08	14.23	24.76	27.31	2.55
velocity	7.42	8.74	8.29	7.97	7.85	7.45	7.34	6.74	7.68		8.03	8.13	7.65	7.03	8.08	7.32	

Ohuruogu, Victoria (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24 time		12.43		24.23		37.25		52.07	52.07	6 / 6							
reaction time 0.224 interval				11.80		13.02		14.82		# of strides	12.43	11.80	13.02	14.82	24.23	27.84	3.61
velocity		8.05		8.47		7.68		6.75	7.68	194.7	8.05	8.47	7.68	6.75	8.25	7.18	

Shostak, Maryana (UKR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 08-Jun-24 time		12.98		25.35		38.28		52.07	52.07	7 / 5							
reaction time 0.173 interval				12.37		12.93		13.79	PB	# of strides	12.98	12.37	12.93	13.79	25.35	26.72	1.37
velocity		7.70		8.08		7.73		7.25	7.68		7.70	8.08	7.73	7.25	7.89	7.49	

Kozak, Anna (BLR) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 European Cup (Bremen, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Jun-01 time		12.49		24.04		36.66		52.08	52.08	/ 6							
reaction time interval				11.55		12.62		15.42		# of strides	12.49	11.55	12.62	15.42	24.04	28.04	4.00
velocity		8.01		8.66		7.92		6.49	7.68		8.01	8.66	7.92	6.49	8.32	7.13	

Chapple, Jerrika (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA																	*USATF Women's Sprint Development (2004)*
date 15-Jul-04 time		12.73		24.81	31.13	37.84	44.60	52.08	52.08	1 / 5							
reaction time interval				12.08	6.32	6.71	6.76	7.48		# of strides	12.73	12.08	13.03	14.24	24.81	27.27	2.46
velocity		7.86		8.28	7.91	7.45	7.40	6.68	7.68		7.86	8.28	7.67	7.02	8.06	7.33	

Wimbley, Shakima (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 NCAA Championships (Eugene, OR)																	*Track Newsletter (2015) - NCAA women's championships*
date 13-Jun-15 time				26.0				52.1	52.08	/ 5							
reaction time interval								26.10		# of strides					26.00	26.10	0.10
velocity				7.69				7.66	7.68						7.69	7.66	

Müller, Laura (GER) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)																	*Omega Timing (2023) - continental tour race analysis*
date 04-Jun-23 time	6.81	12.37	18.10	24.14	30.52	37.22	44.37	52.08	52.08	8 / 3							
reaction time 0.235 interval		5.56	5.73	6.04	6.38	6.70	7.15	7.71		# of strides	12.37	11.77	13.08	14.86	24.14	27.94	3.80
velocity	7.34	8.99	8.73	8.28	7.84	7.46	6.99	6.49	7.68		8.08	8.50	7.65	6.73	8.29	7.16	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	*European Athletics (2025) - 2025 european team championships, first division - results book*
date 27-Jun-25 time	6.79	12.49	18.51	24.68	31.04	37.50	44.54	52.08	52.08	1 / 8							
reaction time 0.214 interval		5.70	6.02	6.17	6.36	6.46	7.04	7.54		# of strides	12.49	12.19	12.82	14.58	24.68	27.40	2.72
velocity	7.36	8.77	8.31	8.10	7.86	7.74	7.10	6.63	7.68		8.01	8.20	7.80	6.86	8.10	7.30	

Anderson, Andrea (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 USATF National Championship (Eugene, OR)																	*Track Newsletter (1999) - USATF National Championships*
date 26-Jun-99 time				24.2				52.1	52.09	/ 4							
reaction time interval								27.90		# of strides					24.20	27.90	3.70
velocity				8.26				7.17	7.68						8.26	7.17	

Hastings, Natasha (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 22-Jun-03 time				24.89		38.06	44.78	52.09	52.09	4 / 3							
reaction time interval						13.17	6.72	7.31	PB	# of strides			13.17	14.03	24.89	27.20	2.31
velocity				8.04		7.59	7.44	6.84	7.68				7.59	7.13	8.04	7.35	

Yushchanka, Yulyana (BLR) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Jun-07 time		12.66		24.55		37.38		52.09	52.09	/ 3							
reaction time 0.217 interval				11.89		12.83		14.71		# of strides	12.66	11.89	12.83	14.71	24.55	27.54	2.99
velocity		7.90		8.41		7.79		6.80	7.68		7.90	8.41	7.79	6.80	8.15	7.26	

Thomas, Maureen (KEN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Jul-16 time	6.97	12.67	18.59	24.86	31.27	37.91	44.79	52.09	52.09	2 / 5							
reaction time 0.164 interval		5.70	5.92	6.27	6.41	6.64	6.88	7.30	PB	# of strides	12.67	12.19	13.05	14.18	24.86	27.23	2.37
velocity	7.17	8.77	8.45	7.97	7.80	7.53	7.27	6.85	7.68		7.89	8.20	7.66	7.05	8.05	7.34	

Răzor, Bianca (ROU) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																	*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*
date 07-Aug-17 time		12.58		24.58		37.63	44.55	51.91	52.09	2 / 6							
reaction time 0.180 interval				12.00		13.05	6.92	7.36		# of strides	12.58	12.00	13.05	14.28	24.58	27.33	2.75
velocity		7.95		8.33		7.66	7.23	6.79	7.68	202.4	7.95	8.33	7.66	7.00	8.14	7.32	

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2019) - diamond league race analysis*
date 06-Jun-19 time		12.2		24.3		37.1		52.09	52.09	9 / 6							
reaction time 0.217 interval				12.1		12.8		15.0		# of strides	12.20	12.10	12.80	14.99	24.30	27.79	3.49
velocity		8.20		8.26		7.81		6.67	7.68	189.2	8.20	8.26	7.81	6.67	8.23	7.20	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Doha Diamond League (Doha, QAT)																	*Omega Timing (2022) - diamond league race analysis*

date	13-May-22	time	6.6	12.6	18.8	25.1	31.5	38.0	44.7	52.09	52.09	7 / 4						
reaction time	0.186	interval		6.00	6.20	6.30	6.40	6.50	6.70	7.39		# of strides	12.60	12.50	12.90	14.09	25.10	26.99	1.89
		velocity	7.58	8.33	8.06	7.94	7.81	7.69	7.46	6.77	7.68	196.2	7.94	8.00	7.75	7.10	7.97	7.41	

Yeargin, Nicole (GBR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)																	
date 16-Aug-22 time		12.69		24.71		37.78		52.09	52.09	5 / 5							
reaction time 0.238 interval				12.02		13.07		14.31		# of strides	12.69	12.02	13.07	14.31	24.71	27.38	2.67
velocity		7.88		8.32		7.65		6.99	7.68	194.0	7.88	8.32	7.65	6.99	8.09	7.30	

European Athletics (2022) - european athletics championships race analysis

McLeod, Candice (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)																	
date 02-Jun-23 time	6.71	12.28	18.08	24.20	30.44	37.01	44.16	52.09	52.09	5 / 7							
reaction time 0.132 interval		5.57	5.80	6.12	6.24	6.57	7.15	7.93		# of strides	12.28	11.92	12.81	15.08	24.20	27.89	3.69
velocity	7.45	8.98	8.62	8.17	8.01	7.61	6.99	6.31	7.68	204.0	8.14	8.39	7.81	6.63	8.26	7.17	

Omega Timing (2023) - diamond league race analysis

Knight, Andrenette (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)																	
date 06-Apr-25 time		12.46		24.51		37.33		52.09	52.09	4 / 2							
reaction time 0.180 interval				12.05		12.82		14.76		# of strides	12.46	12.05	12.82	14.76	24.51	27.58	3.07
velocity		8.03		8.30		7.80		6.78	7.68		8.03	8.30	7.80	6.78	8.16	7.25	

Grand Slam Track (2025) - results and splits by race

Warren, Youlanda (USA) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USA Olympic Trials (Atlanta, GA)																	
date 19-Jun-96 time		12.38		24.26		37.26	44.30	52.10	52.10	3 / 8							
reaction time interval				11.88		13.00	7.04	7.80		# of strides	12.38	11.88	13.00	14.84	24.26	27.84	3.58
velocity		8.08		8.42		7.69	7.10	6.41	7.68		8.08	8.42	7.69	6.74	8.24	7.18	

USATF Women's Sprint Development (1996)

Usovich, Sviatlana (BLR) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	
date 08-Aug-02 time		12.91		24.96		38.19		52.10	52.10	2 / 7							
reaction time 0.164 interval				12.05		13.23		13.91		# of strides	12.91	12.05	13.23	13.91	24.96	27.14	2.18
velocity		7.75		8.30		7.56		7.19	7.68		7.75	8.30	7.56	7.19	8.01	7.37	

Graubner (2009) - http://www.fgs.uni-halle.de

Barber, Me'Lisa (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)																	
date 15-Jul-04 time		12.62		24.72	30.88	37.57	44.60	52.10	52.10	2 / 6							
reaction time interval				12.10	6.16	6.69	7.03	7.50		# of strides	12.62	12.10	12.85	14.53	24.72	27.38	2.66
velocity		7.92		8.26	8.12	7.47	7.11	6.67	7.68		7.92	8.26	7.78	6.88	8.09	7.30	

USATF Women's Sprint Development (2004)

Ajayi, Yinka (NGR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)																	
date 07-Aug-17 time		12.56		24.74		37.71	44.55	51.85	52.10	8 / 6							
reaction time 0.247 interval				12.18		12.97	6.84	7.30		# of strides	12.56	12.18	12.97	14.14	24.74	27.11	2.37
velocity		7.96		8.21		7.71	7.31	6.85	7.68	198.2	7.96	8.21	7.71	7.07	8.08	7.38	

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

Desrosiers, Briyahna (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)																	
date 09-Jun-18 time						37.8		52.1	52.10	/ 6							
reaction time interval								14.30		# of strides				14.30			
velocity						5.29		6.99	7.68					6.99			

Track Newsletter (2018) - NCAA women's championships

Kuś, Anastazja (POL) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)																	
date 05-Sep-24 time	7.15	13.17	19.36	25.47	31.78	38.30	45.04	52.10	52.10	1 / 3							
reaction time 0.150 interval		6.02	6.19	6.11	6.31	6.52	6.74	7.06		# of strides	13.17	12.30	12.83	13.80	25.47	26.63	1.16
velocity	6.99	8.31	8.08	8.18	7.92	7.67	7.42	7.08	7.68		7.59	8.13	7.79	7.25	7.85	7.51	

Omega Timing (2024) - diamond league race analysis

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Meeting de Paris (Paris, FRA)																	
date 20-Jun-25 time	6.75	12.31	18.19	24.26	30.54	37.21	44.34	52.10	52.10	1 / 8							
reaction time 0.200 interval		5.56	5.88	6.07	6.28	6.67	7.13	7.76		# of strides	12.31	11.95	12.95	14.89	24.26	27.84	3.58
velocity	7.41	8.99	8.50	8.24	7.96	7.50	7.01	6.44	7.68		8.12	8.37	7.72	6.72	8.24	7.18	

Omega Timing (2025) - diamond league race analysis

Sedney, Zoë (NED) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)																	
date 13-Jul-23 time		12.56		24.87		38.29		52.11	52.11	1 / 1							
reaction time 0.176 interval				12.31		13.42		13.82	PB	# of strides	12.56	12.31	13.42	13.82	24.87	27.24	2.37
velocity		7.96		8.12		7.45		7.24	7.68		7.96	8.12	7.45	7.24	8.04	7.34	

European Athletics (2023) - european athletics U23 championships results book

Niederberger, Julia (SUI) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Weltklasse (Zürich, SUI)																	
date 31-Aug-23 time	6.86	12.59	18.48	24.63	31.03	37.77	44.75	52.11	52.11	5 / 3							
reaction time 0.153 interval		5.73	5.89	6.15	6.40	6.74	6.98	7.36		# of strides	12.59	12.04	13.14	14.34	24.63	27.48	2.85
velocity	7.29	8.73	8.49	8.13	7.81	7.42	7.16	6.79	7.68		7.94	8.31	7.61	6.97	8.12	7.28	

Omega Timing (2023) - diamond league race analysis

Whitney, Kaylin (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Memorial van Damme (Brussels, BEL)																	
date 08-Sep-23 time	7.03	12.87	18.86	25.06	31.56	38.20	44.99	52.11	52.11	3 / 3							
reaction time 0.215 interval		5.84	5.99	6.20	6.50	6.64	6.79	7.12		# of strides	12.87	12.19	13.14	13.91	25.06	27.05	1.99
velocity	7.11	8.56	8.35	8.06	7.69	7.53	7.36	7.02	7.68		7.77	8.20	7.61	7.19	7.98	7.39	

Seiko Timing (2023) - world championship race analysis

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)																	
date 22-Jun-24 time		12.48		24.22		37.33		52.11	52.11	2 / 8							
reaction time interval				11.74		13.11		14.78		# of strides	12.48	11.74	13.11	14.78	24.22	27.89	3.67

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		velocity		8.01		8.52		7.63		6.77	7.68		8.01	8.52	7.63	6.77	8.26	7.17	

Prieto, Ana (ESP) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U23 Championships (Bergen, NOR)											*European Athletics (2025) - 2025 european athletics U23 championships- results book*						
date 18-Jul-25	time	7.10	12.93	18.91	25.00	31.39	37.93	44.73	52.11	52.11	7 / 3							
reaction time 0.204	interval		5.83	5.98	6.09	6.39	6.54	6.80	7.38	PB	# of strides	12.93	12.07	12.93	14.18	25.00	27.11	2.11
	velocity	7.04	8.58	8.36	8.21	7.82	7.65	7.35	6.78	7.68	201.0	7.73	8.29	7.73	7.05	8.00	7.38	

Schwab, Corinna (GER) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)											*Omega Timing (2020) - diamond league race analysis*						
date 17-Sep-20	time	6.8	12.6	18.6	24.8	31.0	37.6	44.6	52.12	52.12	8 / 4							
reaction time 0.155	interval		5.80	6.00	6.20	6.20	6.60	7.00	7.52		# of strides	12.60	12.20	12.80	14.52	24.80	27.32	2.52
	velocity	7.35	8.62	8.33	8.06	8.06	7.58	7.14	6.65	7.67		7.94	8.20	7.81	6.89	8.06	7.32	

Williams, Jodie (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)											*Omega Timing (2021) - diamond league race analysis*						
date 26-Aug-21	time	6.8	12.5	18.4	24.6	30.9	37.5	44.5	52.12	52.12	3 / 7							
reaction time 0.165	interval		5.70	5.90	6.20	6.30	6.60	7.00	7.62		# of strides	12.50	12.10	12.90	14.62	24.60	27.52	2.92
	velocity	7.35	8.77	8.47	8.06	7.94	7.58	7.14	6.56	7.67		8.00	8.26	7.75	6.84	8.13	7.27	

Vaičule, Gunta (LAT) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)											*European Athletics (2023) - 3rd european games, athletics - results book*						
date 20-Jun-23	time		12.71		24.46		37.66		52.12	52.12	5 / 5							
reaction time 0.195	interval				11.75		13.20		14.46		# of strides	12.71	11.75	13.20	14.46	24.46	27.66	3.20
	velocity		7.87		8.51		7.58		6.92	7.67		7.87	8.51	7.58	6.92	8.18	7.23	

Geldenhuys, Zenéy (RSA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)											*Omega Timing (2024) - diamond league race analysis*						
date 02-Jun-24	time	6.79	12.47	18.33	24.50	30.94	37.56	44.61	52.12	52.12	2 / 2							
reaction time 0.160	interval		5.68	5.86	6.17	6.44	6.62	7.05	7.51		# of strides	12.47	12.03	13.06	14.56	24.50	27.62	3.12
	velocity	7.36	8.80	8.53	8.10	7.76	7.55	7.09	6.66	7.67		8.02	8.31	7.66	6.87	8.16	7.24	

Martin, Jania (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)											*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*						
date 21-Jun-24	time		12.52		24.61		37.71		52.12	52.12	9 / 6							
reaction time	interval				12.09		13.10		14.41		# of strides	12.52	12.09	13.10	14.41	24.61	27.51	2.90
	velocity		7.99		8.27		7.63		6.94	7.67		7.99	8.27	7.63	6.94	8.13	7.27	

McDowell, Jessica (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)											*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*						
date 21-Jun-24	time		12.10		23.90		37.20		52.12	52.12	4 / 5							
reaction time	interval				11.80		13.30		14.92		# of strides	12.10	11.80	13.30	14.92	23.90	28.22	4.32
	velocity		8.26		8.47		7.52		6.70	7.67	196.0	8.26	8.47	7.52	6.70	8.37	7.09	

Li Guilian (CHN) (1970)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1990 Asian Games (Beijing, CHN)											*Feng (1992) - Beijing asian games women's 100m, 200m, 400m technical analysis*						
date 02-Oct-90	time		12.72		24.35		37.07		52.13	52.13	/ 1							
reaction time	interval				11.63		12.72		15.06		# of strides	12.72	11.63	12.72	15.06	24.35	27.78	3.43
	velocity		7.86		8.60		7.86		6.64	7.67	185.6	7.86	8.60	7.86	6.64	8.21	7.20	

Perpoli, Danielle (ITA) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 European Cup (Bremen, GER)											*Graubner (2007) - http://www.fgs.uni-halle.de*						
date 23-Jun-01	time		12.73		25.12		38.34		52.13	52.13	/ 7							
reaction time	interval				12.39		13.22		13.79	PB	# of strides	12.73	12.39	13.22	13.79	25.12	27.01	1.89
	velocity		7.86		8.07		7.56		7.25	7.67		7.86	8.07	7.56	7.25	7.96	7.40	

Washington, Demetria (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2004 USA Olympic Trials (Sacramento, CA)											*USATF Women's Sprint Development (2004)*						
date 12-Jul-04	time		12.08		23.79		37.07	44.24	52.13	52.13	7 / 1							
reaction time	interval				11.71		13.28	7.17	7.89		# of strides	12.08	11.71	13.28	15.06	23.79	28.34	4.55
	velocity		8.28		8.54		7.53	6.97	6.34	7.67	192.7	8.28	8.54	7.53	6.64	8.41	7.06	

Alexander, Kineke (VIN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 NCAA Championships (Sacramento, CA)											*Track Newsletter (2007) - NCAA women's championships*						
date 09-Jun-07	time				24.8		37.5		52.1	52.13	6 / 6							
reaction time	interval						12.70		14.60		# of strides			12.70	14.60	24.80	27.30	2.50
	velocity				8.06		7.87		6.85	7.67				7.87	6.85	8.06	7.33	

Bamgbose, Margaret (USA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 NCAA Championships (Eugene, OR)											*Track Newsletter (2015) - NCAA women's championships*						
date 13-Jun-15	time				25.1				52.1	52.13	/ 6							
reaction time	interval								27.00		# of strides					25.10	27.00	1.90
	velocity				7.97				7.41	7.67						7.97	7.41	

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Memorial van Damme (Brussels, BEL)											*Omega Timing (2019) - diamond league race analysis*						
date 06-Sep-19	time	7.0	12.7	18.6	24.7	31.1	37.7	44.6	52.13	52.13	6 / 1							
reaction time 0.213	interval		5.7	5.9	6.1	6.4	6.6	6.9	7.5		# of strides	12.70	12.00	13.00	14.43	24.70	27.43	2.73
	velocity	7.14	8.77	8.47	8.20	7.81	7.58	7.25	6.64	7.67		7.87	8.33	7.69	6.93	8.10	7.29	

Baumgart-Witan, Iga (POL) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Memorial Van Damme (Brussels, BEL)											*Omega Timing (2020) - diamond league race analysis*						
date 04-Sep-20	time	7.1	12.9	18.9	25.0	31.3	37.9	44.8	52.13	52.13	5 / 1							
reaction time 0.157	interval		5.80	6.00	6.10	6.30	6.60	6.90	7.33		# of strides	12.90	12.10	12.90	14.23	25.00	27.13	2.13
	velocity	7.04	8.62	8.33	8.20	7.94	7.58	7.25	6.82	7.67	183.2	7.75	8.26	7.75	7.03	8.00	7.37	

Clark, Zoey (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Müller British Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 13-Jun-21 time	6.8	12.5	18.5	24.8	31.4	38.2	45.0	52.13	52.13	3 / 2							
reaction time 0.145 interval		5.70	6.00	6.30	6.60	6.80	6.80	7.13		# of strides	12.50	12.30	13.40	13.93	24.80	27.33	2.53
velocity	7.35	8.77	8.33	7.94	7.58	7.35	7.35	7.01	7.67		8.00	8.13	7.46	7.18	8.06	7.32	

Joseph, Rachel (USA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24 time	6.72	12.25	18.06	24.17	30.46	37.12	44.32	52.13	52.13	8 / ~~7~~							
reaction time 0.219 interval		5.53	5.81	6.11	6.29	6.66	7.20	7.81	DQ	# of strides	12.25	11.92	12.95	15.01	24.17	27.96	3.79
velocity	7.44	9.04	8.61	8.18	7.95	7.51	6.94	6.40	7.67		8.16	8.39	7.72	6.66	8.27	7.15	

Cuthbert, Betty (AUS) (1938)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Tokyo, JPN)																	*Müller (1965) - die leichtathletik-wettkampfe der XVIII olympiischen sommerspielen Tokio 1964 - 400m lauf*
date 17-Oct-64 time				24.3				52.0	52.0	2 / 1							
reaction time interval								27.7	OR	# of strides					24.30	27.70	3.40
velocity				8.23				7.22	7.69	*(52.01)*					8.23	7.22	

Robinson, Moushaumi (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 12-Jul-04 time		12.43		24.14		36.88	44.11	52.14	52.14	3 / 4							
reaction time interval				11.71		12.74	7.23	8.03		# of strides	12.43	11.71	12.74	15.26	24.14	28.00	3.86
velocity		8.05		8.54		7.85	6.92	6.23	7.67		8.05	8.54	7.85	6.55	8.29	7.14	

Dyer, Tonette (USA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 12-Jul-04 time		11.92		23.17		36.30	43.86	52.14	52.14	3 / 2							
reaction time interval				11.25		13.13	7.56	8.28		# of strides	11.92	11.25	13.13	15.84	23.17	28.97	5.80
velocity		8.39		8.89		7.62	6.61	6.04	7.67	196.7	8.39	8.89	7.62	6.31	8.63	6.90	

Mawdsley, Sharlene (IRL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)																	*Omega Timing (2023) - continental tour race analysis*
date 04-Jun-23 time	6.74	12.40	18.36	24.54	30.91	37.62	44.66	52.14	52.14	5 / 4							
reaction time 0.143 interval		5.66	5.96	6.18	6.37	6.71	7.04	7.48		# of strides	12.40	12.14	13.08	14.52	24.54	27.60	3.06
velocity	7.42	8.83	8.39	8.09	7.85	7.45	7.10	6.68	7.67	192.5	8.06	8.24	7.65	6.89	8.15	7.25	

Morauskaité, Modesta Justé (LTU) (1!

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 21-Aug-23 time		12.42		24.13		37.21		52.15	52.15	3 / 8							
reaction time 0.160 interval				11.71		13.08		14.94		# of strides	12.42	11.71	13.08	14.94	24.13	28.02	3.89
velocity		8.05		8.54		7.65		6.69	7.67		8.05	8.54	7.65	6.69	8.29	7.14	

Vondrová, Lada (CZE) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 4 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24 time	6.86	12.44	18.21	24.23	30.51	37.17	44.31	52.15	52.15	5 / 5							
reaction time 0.197 interval		5.58	5.77	6.02	6.28	6.66	7.14	7.84		# of strides	12.44	11.79	12.94	14.98	24.23	27.92	3.69
velocity	7.29	8.96	8.67	8.31	7.96	7.51	7.00	6.38	7.67	198.7	8.04	8.48	7.73	6.68	8.25	7.16	

Asher-Smith, Dina (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Kingston (Kingston, JAM)																	*Grand Slam Track (2025) - results and splits by race*
date 05-Apr-25 time		11.97		23.73		36.74		52.15	52.15	1 / 8							
reaction time 0.170 interval				11.76		13.01		15.41	PB	# of strides	11.97	11.76	13.01	15.41	23.73	28.42	4.69
velocity		8.35		8.50		7.69		6.49	7.67		8.35	8.50	7.69	6.49	8.43	7.04	

Gubelmann, Catia (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	*European Athletics (2025) - 2025 european team championships, first division - results book*
date 27-Jun-25 time	6.75	12.41	18.28	24.42	30.84	37.65	44.66	52.15	52.15	/ 2							
reaction time 0.169 interval		5.66	5.87	6.14	6.42	6.81	7.01	7.49		# of strides	12.41	12.01	13.23	14.50	24.42	27.73	3.31
velocity	7.41	8.83	8.52	8.14	7.79	7.34	7.13	6.68	7.67		8.06	8.33	7.56	6.90	8.19	7.21	

Kelly, Hannah (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 London Athletics Meet (London, GBR)																	*Omega Timing (2025) - diamond league race analysis*
date 19-Jul-25 time	6.68	12.51	18.41	24.49	30.86	37.54	44.41	52.15	52.15	4 / 3							
reaction time 0.138 interval		5.83	5.90	6.08	6.37	6.68	6.87	7.74		# of strides	12.51	11.98	13.05	14.61	24.49	27.66	3.17
velocity	7.49	8.58	8.47	8.22	7.85	7.49	7.28	6.46	7.67		7.99	8.35	7.66	6.84	8.17	7.23	

Stevens, Rochelle (USA) (1966)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																	*Pascua (1990) - atletismo (I) carreras y marcha*
date 10-Sep-89 time		12.40		24.90		37.30		52.16	52.16	5 / ~~5~~ 4							
reaction time interval				12.50		12.40		14.86		# of strides	12.40	12.50	12.40	14.86	24.90	27.26	2.36
velocity		8.06		8.00		8.06		6.73	7.67		8.06	8.00	8.06	6.73	8.03	7.34	

Chapple, Jerrika (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 12-Jul-04 time		12.46		24.35		37.33	44.10	52.16	52.16	7 / 4							
reaction time interval				11.89		12.98	6.77	8.06		# of strides	12.46	11.89	12.98	14.83	24.35	27.81	3.46
velocity		8.03		8.41		7.70	7.39	6.20	7.67	195.0	8.03	8.41	7.70	6.74	8.21	7.19	

Mikhailyuk, Mariya (RUS) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15 time	6.91	12.69	18.64	24.90	31.29	37.74	44.57	52.16	52.16	5 / 3							
reaction time 0.229 interval		5.78	5.95	6.26	6.39	6.45	6.83	7.59		# of strides	12.69	12.21	12.84	14.42	24.90	27.26	2.36
velocity	7.24	8.65	8.40	7.99	7.82	7.75	7.32	6.59	7.67	5 / 3	7.88	8.19	7.79	6.93	8.03	7.34	

Nielsen, Laviai (GBR) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2020) - diamond league race analysis*

date	23-Aug-20	time	6.7	12.4	18.4	24.6	30.9	37.5	44.4	52.16	52.16	8 / 2						
reaction time	0.140	interval		5.70	6.00	6.20	6.30	6.60	6.90	7.76		# of strides	12.40	12.20	12.90	14.66	24.60	27.56	2.96
		velocity	7.46	8.77	8.33	8.06	7.94	7.58	7.25	6.44	7.67		8.06	8.20	7.75	6.82	8.13	7.26	

Miller, Polina (RUS) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21 time	6.7	12.3	18.3	24.4	30.6	37.2	44.3	52.16	52.16	4 / 1							
reaction time 0.139 interval		5.60	6.00	6.10	6.20	6.60	7.10	7.86		# of strides	12.30	12.10	12.80	14.96	24.40	27.76	3.36
velocity	7.46	8.93	8.33	8.20	8.06	7.58	7.04	6.36	7.67		8.13	8.26	7.81	6.68	8.20	7.20	

Senn, Giulia (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24 time		12.36		24.41		37.73		52.16	52.16	4 / 7							
reaction time 0.183 interval				12.05		13.32		14.43		# of strides	12.36	12.05	13.32	14.43	24.41	27.75	3.34
velocity		8.09		8.30		7.51		6.93	7.67	194.0	8.09	8.30	7.51	6.93	8.19	7.21	

Pesnopevtseva, Olga (URS) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1986 IAAF World Junior Championships (Athens, GRE)																	*Moravec (1986) - IAAF biomechanical research - Athens 1986 - sprints*
date 18-Jul-86 time		13.11		25.38		37.74		52.17	52.17	/ 2							
reaction time interval				12.27		12.36		14.43		# of strides	13.11	12.27	12.36	14.43	25.38	26.79	1.41
velocity		7.63		8.15		8.09		6.93	7.67		7.63	8.15	8.09	6.93	7.88	7.47	

Bartholomew, Trish (GRN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 NCAA Championships (Sacramento, CA)																	*Track Newsletter (2007) - NCAA women's championships*
date 09-Jun-07 time						37.8		52.2	52.17	8 / 7							
reaction time interval								14.40	PB	# of strides				14.40			
velocity						7.94		6.94	7.67					6.94			

Latiševa-Čudare, Gunta (LAT) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15 time	7.00	12.74	18.65	24.84	31.26	37.88	44.76	52.17	52.17	7 / 4							
reaction time 0.229 interval		5.74	5.91	6.19	6.42	6.62	6.88	7.41	NUR / PB	# of strides	12.74	12.10	13.04	14.29	24.84	27.33	2.49
velocity	7.14	8.71	8.46	8.08	7.79	7.55	7.27	6.75	7.67	7 / 4	7.85	8.26	7.67	7.00	8.05	7.32	

de Witte, Lisanne (NED) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2019) - diamond league race analysis*
date 06-Jun-19 time		13.0		25.3		38.4		52.17	52.17	3 / 7							
reaction time 0.190 interval				12.3		13.1		13.8		# of strides	13.00	12.30	13.10	13.77	25.30	26.87	1.57
velocity		7.69		8.13		7.63		7.26	7.67	194.0	7.69	8.13	7.63	7.26	7.91	7.44	

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2019) - diamond league race analysis*
date 06-Jun-19 time		12.6		24.7		37.6		52.17	52.17	2 / 8							
reaction time 0.222 interval				12.1		12.9		14.6		# of strides	12.60	12.10	12.90	14.57	24.70	27.47	2.77
velocity		7.94		8.26		7.75		6.86	7.67	198.7	7.94	8.26	7.75	6.86	8.10	7.28	

Malíková, Barbora (CZE) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2020) - diamond league race analysis*
date 17-Sep-20 time	7.2	13.1	19.1	25.2	31.3	37.8	44.7	52.17	52.17	3 / 5							
reaction time 0.133 interval		5.90	6.00	6.10	6.10	6.50	6.90	7.47		# of strides	13.10	12.10	12.60	14.37	25.20	26.97	1.77
velocity	6.94	8.47	8.33	8.20	8.20	7.69	7.25	6.69	7.67		7.63	8.26	7.94	6.96	7.94	7.42	

Jonathas, Wadeline (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	*Omega Timing (2022) - continental tour race analysis*
date 06-Jun-22 time	6.7	12.4	18.4	24.6	30.9	37.5	44.5	52.17	52.17	2 / 6							
reaction time 0.180 interval		5.70	6.00	6.20	6.30	6.60	7.00	7.67		# of strides	12.40	12.20	12.90	14.67	24.60	27.57	2.97
velocity	7.46	8.77	8.33	8.06	7.94	7.58	7.14	6.52	7.67		8.06	8.20	7.75	6.82	8.13	7.25	

de Carvalho, Tabata (BRA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22 time		12.57		24.52		37.85		52.17	52.17	3 / 6							
reaction time 0.158 interval				11.95		13.33		14.32		# of strides	12.57	11.95	13.33	14.32	24.52	27.65	3.13
velocity		7.96		8.37		7.50		6.98	7.67	182.0	7.96	8.37	7.50	6.98	8.16	7.23	

Święty-Ersetic, Justyna (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 16-Aug-22 time		12.96		25.07		38.10		52.17	52.17	3 / 6							
reaction time 0.284 interval				12.11		13.03		14.07		# of strides	12.96	12.11	13.03	14.07	25.07	27.10	2.03
velocity		7.72		8.26		7.67		7.11	7.67	209.0	7.72	8.26	7.67	7.11	7.98	7.38	

Becker, Sophie (IRL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2024) - diamond league race analysis*
date 02-Jun-24 time	6.72	12.32	18.21	24.52	31.09	37.90	44.80	52.17	52.17	7 / 3							
reaction time 0.170 interval		5.60	5.89	6.31	6.57	6.81	6.90	7.37		# of strides	12.32	12.20	13.38	14.27	24.52	27.65	3.13
velocity	7.44	8.93	8.49	7.92	7.61	7.34	7.25	6.78	7.67		8.12	8.20	7.47	7.01	8.16	7.23	

de Witte, Lisanne (NED) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2024) - diamond league race analysis*
date 02-Jun-24 time	7.09	12.98	18.87	25.12	31.58	38.19	45.01	52.17	52.17	3 / 4							
reaction time 0.182 interval		5.89	5.89	6.25	6.46	6.61	6.82	7.16		# of strides	12.98	12.14	13.07	13.98	25.12	27.05	1.93
velocity	7.05	8.49	8.49	8.00	7.74	7.56	7.33	6.98	7.67		7.70	8.24	7.65	7.15	7.96	7.39	

Iuel, Amalie (NOR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)																	*Omega Timing (2025) - diamond league race analysis*
date 03-May-25 time	7.08	12.87	18.84	25.13	31.50	38.15	44.96	52.17	52.17	6 / 1							
reaction time 0.153 interval		5.79	5.97	6.29	6.37	6.65	6.81	7.21		# of strides	12.87	12.26	13.02	14.02	25.13	27.04	1.91

	velocity	7.06	8.64	8.38	7.95	7.85	7.52	7.34	6.93	7.67		7.77	8.16	7.68	7.13	7.96	7.40	

Salmon, Shiann (JAM) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																	
																	Grand Slam Track (2025) - results and splits by race
date 04-May-25	time		12.41		24.43		37.60		52.17	52.17	3 / 5							
reaction time 0.300	interval				12.02		13.17		14.57		# of strides	12.41	12.02	13.17	14.57	24.43	27.74	3.31
	velocity		8.06		8.32		7.59		6.86	7.67		8.06	8.32	7.59	6.86	8.19	7.21	

Walli, Susanne (AUT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 World Athletics Championships (Eugene, OR)																	
																	Timing by Seiko (2022) - world athletics championships race analysis
date 17-Jul-22	time		12.50		24.66		37.82		52.18	52.18	3 / 4							
reaction time 0.170	interval				12.16		13.16		14.36		# of strides	12.50	12.16	13.16	14.36	24.66	27.52	2.86
	velocity		8.00		8.22		7.60		6.96	7.67	197.2	8.00	8.22	7.60	6.96	8.11	7.27	

Bromfield, Junelle (JAM) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																	
																	Longines Timing (2022) - commonwealth games race analysis
date 05-Aug-22	time	6.6	12.2	18.1	24.2	30.7	37.5	44.6	52.18	52.18	6 / 4							
reaction time 0.184	interval		5.60	5.90	6.10	6.50	6.80	7.10	7.58		# of strides	12.20	12.00	13.30	14.68	24.20	27.98	3.78
	velocity	7.58	8.93	8.47	8.20	7.69	7.35	7.04	6.60	7.67	185.0	8.20	8.33	7.52	6.81	8.26	7.15	

Baumgart-Witan, Iga (POL) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 European Athletics Championships (Roma, ITA)																	
																	European Athletics (2024) - 2024 european athletics championships - results book
date 08-Jun-24	time		12.95		24.89		37.68		52.18	52.18	7 / 2							
reaction time 0.180	interval				11.94		12.79		14.50		# of strides	12.95	11.94	12.79	14.50	24.89	27.29	2.40
	velocity		7.72		8.38		7.82		6.90	7.67		7.72	8.38	7.82	6.90	8.04	7.33	

Lilja, Lisa (SWE) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 European Athletics Championships (Roma, ITA)																	
																	European Athletics (2024) - 2024 european athletics championships - results book
date 08-Jun-24	time		12.91		25.13		37.96		52.18	52.18	6 / 6							
reaction time 0.193	interval				12.22		12.83		14.22	PB	# of strides	12.91	12.22	12.83	14.22	25.13	27.05	1.92
	velocity		7.75		8.18		7.79		7.03	7.67		7.75	8.18	7.79	7.03	7.96	7.39	

Święty-Ersetic, Justyna (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 European Athletics Championships (Roma, ITA)																	
																	European Athletics (2024) - 2024 european athletics championships - results book
date 09-Jun-24	time		12.67		24.65		37.75		52.18	52.18	3 / 8							
reaction time 0.197	interval				11.98		13.10		14.43		# of strides	12.67	11.98	13.10	14.43	24.65	27.53	2.88
	velocity		7.89		8.35		7.63		6.93	7.67	204.0	7.89	8.35	7.63	6.93	8.11	7.26	

Whitney, Kaylin (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 USA Olympic Trials (Eugene, OR)																	
																	USATF and Karmarush (2024) - USA Olympic trials results and race analysis
date 21-Jun-24	time		12.63		24.33		37.43		52.18	52.18	7 / 6							
reaction time	interval				11.70		13.10		14.75		# of strides	12.63	11.70	13.10	14.75	24.33	27.85	3.52
	velocity		7.92		8.55		7.63		6.78	7.67	184.0	7.92	8.55	7.63	6.78	8.22	7.18	

Käsling, Dagmar (GDR) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1972 Olympic Games (Munich, FRG)																	
																	Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016
date 07-Sep-72	time				24.7				52.2	52.19	1 / 7							
reaction time	interval								27.5		# of strides					24.70	27.50	2.80
	velocity				8.10				7.27	7.66	203.0					8.10	7.27	

Kerr, LaTashia (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 NCAA Championships (Sacramento, CA)																	
																	Track Newsletter (2006) - NCAA women's championships
date 10-Jun-06	time		12.4		25.0		38.0		52.2	52.19	2 / 7							
reaction time	interval				12.60		13.00		14.20		# of strides	12.40	12.60	13.00	14.20	25.00	27.20	2.20
	velocity		8.06		7.94		7.69		7.04	7.66		8.06	7.94	7.69	7.04	8.00	7.35	

Morauskaité, Modesta Justé (LTU) (1!

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)																	
																	Timing by Seiko (2022) - world athletics championships race analysis
date 20-Jul-22	time		12.37		24.49		37.11		52.19	52.19	4 / 7							
reaction time 0.176	interval				12.12		12.62		15.08		# of strides	12.37	12.12	12.62	15.08	24.49	27.70	3.21
	velocity		8.08		8.25		7.92		6.63	7.66	194.0	8.08	8.25	7.92	6.63	8.17	7.22	

Sherar, Zoe (CAN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 World Athletics Championships (Tokyo, JPN)																	
																	Seiko Timing (2025) - 2025 World Championships race analysis
date 14-Sep-25	time		12.34		24.26		37.56		52.19	52.19	2 / =6							
reaction time 0.185	interval				11.92		13.30		14.63		# of strides	12.34	11.92	13.30	14.63	24.26	27.93	3.67
	velocity		8.10		8.39		7.52		6.84	7.66		8.10	8.39	7.52	6.84	8.24	7.16	

van der Schoot, Myrte (NED) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 World Athletics Championships (Tokyo, JPN)																	
																	Seiko Timing (2025) - 2025 World Championships race analysis
date 14-Sep-25	time		12.64		24.65		37.77		52.19	52.19	3 / =6							
reaction time 0.208	interval				12.01		13.12		14.42		# of strides	12.64	12.01	13.12	14.42	24.65	27.54	2.89
	velocity		7.91		8.33		7.62		6.93	7.66		7.91	8.33	7.62	6.93	8.11	7.26	

Becker, Sophie (IRL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2025 World Athletics Championships (Tokyo, JPN)																	
																	Seiko Timing (2025) - 2025 World Championships race analysis
date 14-Sep-25	time		12.23		24.19		37.29		52.19	52.19	2 / 6							
reaction time 0.209	interval				11.96		13.10		14.90		# of strides	12.23	11.96	13.10	14.90	24.19	28.00	3.81
	velocity		8.18		8.36		7.63		6.71	7.66		8.18	8.36	7.63	6.71	8.27	7.14	

Dunn, Debbie (USA) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)																	
																	USATF Women's Sprint Development with HPC (2008)
date 29-Jun-08	time		12.66	19.07	25.40	31.70	38.37	44.86	52.20	52.20	7 / 2							
reaction time	interval			6.41	6.33	6.30	6.67	6.49	7.34		# of strides	12.66	12.74	12.97	13.83	25.40	26.80	1.40
	velocity		7.90	7.80	7.90	7.94	7.50	7.70	6.81	7.66		7.90	7.85	7.71	7.23	7.87	7.46	

Okolo, Courtney (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)																	*European Athletics (2019) - race analysis*
date 09-Sep-19	time	12.40		24.33		37.02		52.20	52.20	6 / 5							
reaction time 0.228	interval			11.93		12.69		15.18		# of strides	12.40	11.93	12.69	15.18	24.33	27.87	3.54
	velocity	8.06		8.38		7.88		6.59	7.66	202.7	8.06	8.38	7.88	6.59	8.22	7.18	

Peoples, Paris (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time	12.48		24.18		37.18		52.20	52.20	4 / 4							
reaction time	interval			11.70		13.00		15.02		# of strides	12.48	11.70	13.00	15.02	24.18	28.02	3.84
	velocity	8.01		8.55		7.69		6.66	7.66	194.5	8.01	8.55	7.69	6.66	8.27	7.14	

Manuel, Lurdes Gloria (CZE) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24	time	7.28	12.93	18.72	24.70	30.93	37.51	44.57	52.20	52.20	9 / 6							
reaction time 0.175	interval		5.65	5.79	5.98	6.23	6.58	7.06	7.63		# of strides	12.93	11.77	12.81	14.69	24.70	27.50	2.80
	velocity	6.87	8.85	8.64	8.36	8.03	7.60	7.08	6.55	7.66		7.73	8.50	7.81	6.81	8.10	7.27	

Baker, Keshia (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 USATF National Championships (Eugene, OR)																	*Track Newsletter (2011) - USATF women's championships*
date 25-Jun-11	time	12.4		24.6		37.4		52.2	52.21	/ 7							
reaction time	interval			12.20		12.80		14.80		# of strides	12.40	12.20	12.80	14.80	24.60	27.60	3.00
	velocity	8.06		8.20		7.81		6.76	7.66		8.06	8.20	7.81	6.76	8.13	7.25	

Vaičule, Gunta (LAT) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22	time	12.85		25.10		38.18		52.21	52.21	3 / 4							
reaction time 0.176	interval			12.25		13.08		14.03		# of strides	12.85	12.25	13.08	14.03	25.10	27.11	2.01
	velocity	7.78		8.16		7.65		7.13	7.66	192.0	7.78	8.16	7.65	7.13	7.97	7.38	

Muhammad, Dalilah (USA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)																	*Grand Slam Track (2025) - results and splits by race*
date 06-Apr-25	time	12.74		24.87		37.61		52.21	52.21	8 / 3							
reaction time 0.210	interval			12.13		12.74		14.60		# of strides	12.74	12.13	12.74	14.60	24.87	27.34	2.47
	velocity	7.85		8.24		7.85		6.85	7.66		7.85	8.24	7.85	6.85	8.04	7.32	

van der Schoot, Myrte (NED) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U23 Championships (Bergen, NOR)																	*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date 19-Jul-25	time	6.77	12.51	18.43	24.55	30.87	37.60	44.67	52.21	52.21	5 / 6							
reaction time 0.210	interval		5.74	5.92	6.12	6.32	6.73	7.07	7.54		# of strides	12.51	12.04	13.05	14.61	24.55	27.66	3.11
	velocity	7.39	8.71	8.45	8.17	7.91	7.43	7.07	6.63	7.66		7.99	8.31	7.66	6.84	8.15	7.23	

Thiam, Amy Mbacké (SEN) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 IAAF World Championships (Helsinki, FIN)																	*Butler (2013) - IAAF world championships statistics handbook- moscow 2013*
date 10-Aug-05	time					36.5		52.2	52.22	8 / 8							
reaction time 0.169	interval							15.7		# of strides				15.72			
	velocity					8.22		6.36	7.66					6.36			

McConnell, Lee (GBR) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 ISTAF (Berlin, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 14-Jun-09	time	12.49		24.76		37.77		52.22	52.22	/ 4							
reaction time 0.282	interval			12.27		13.01		14.45		# of strides	12.49	12.27	13.01	14.45	24.76	27.46	2.70
	velocity	8.01		8.15		7.69		6.92	7.66		8.01	8.15	7.69	6.92	8.08	7.28	

Senn, Giulia (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, First Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 23-Jun-23	time	12.63		24.63		37.83		52.22	52.22	5 / 2							
reaction time 0.197	interval			12.00		13.20		14.39	PB	# of strides	12.63	12.00	13.20	14.39	24.63	27.59	2.96
	velocity	7.92		8.33		7.58		6.95	7.66		7.92	8.33	7.58	6.95	8.12	7.25	

Trevisan, Giancaria (ITA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 08-Jun-24	time	12.63		24.69		37.78		52.22	52.22	4 / 3							
reaction time 0.192	interval			12.06		13.09		14.44		# of strides	12.63	12.06	13.09	14.44	24.69	27.53	2.84
	velocity	7.92		8.29		7.64		6.93	7.66		7.92	8.29	7.64	6.93	8.10	7.26	

Richards, Sandie (JAM) (1968)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1986 IAAF World Junior Championships (Athens, GRE)																	*Moravec (1986) - IAAF biomechanical research - Athens 1986 - sprints*
date 18-Jul-86	time	13.01		24.96		38.06		52.23	52.23	/ 3							
reaction time	interval			11.95		13.10		14.17		# of strides	13.01	11.95	13.10	14.17	24.96	27.27	2.31
	velocity	7.69		8.37		7.63		7.06	7.66		7.69	8.37	7.63	7.06	8.01	7.33	

Jones, Camara (USA) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1995 USATF National Championships (Sacramento, CA)																	*Track Newsletter (1995) - USATF National Championships*
date 17-Jun-95	time			25.4				52.3	52.23	/ 6							
reaction time	interval							26.90		# of strides					25.40	26.90	1.50
	velocity			7.87				7.43	7.66						7.87	7.43	

Cox, Shana (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 USATF National Championships (Indianapolis, IN)																	*Track Newsletter (2007) - USATF women's championships*
date 23-Jun-07	time					36.8		52.2	52.23	1 / 8							
reaction time	interval							15.40		# of strides				15.40			
	velocity					8.15		6.49	7.66					6.49			

Wilkins, Bobby-Gaye (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 ISTAF (Berlin, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*

date	14-Jun-09	time		12.74		24.75		37.63		52.23	52.23	/ 5						
reaction time	0.380	interval				12.01		12.88		14.60		# of strides	12.74	12.01	12.88	14.60	24.75	27.48	2.73
		velocity		7.85		8.33		7.76		6.85	7.66		7.85	8.33	7.76	6.85	8.08	7.28	

Huang Xiaoxiao (CHN) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Chinese National Games (Jinan, CHN)										*Wang (2012) - Research on the analysis of the speed distribution of China's outstanding female 400-meter runners*							
date 22-Oct-09	time		12.45		24.58		38.14		52.23	52.23	/ 1							
reaction time	interval				12.13		13.56		14.09		# of strides	12.45	12.13	13.56	14.09	24.58	27.65	3.07
	velocity		8.03		8.24		7.37		7.10	7.66		8.03	8.24	7.37	7.10	8.14	7.23	

Bamgbose, Margaret (NGR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2017 IAAF World Championships (London, GBR)										*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*							
date 07-Aug-17	time		12.24		23.97		37.10	44.31	51.97	52.23	9 / ~~8~~							
reaction time 0.262	interval				11.73		13.13	7.21	7.66	DV	# of strides	12.24	11.73	13.13	14.87	23.97	28.00	4.03
	velocity		8.17		8.53		7.62	6.93	6.53	7.66	188.2	8.17	8.53	7.62	6.72	8.34	7.14	

Misher, Rachel (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 NCAA Championships (Eugene, OR)										*Track Newsletter (2018) - NCAA women's championships*							
date 09-Jun-18	time					37.8		52.2	52.23	/ 7							
reaction time	interval							14.40		# of strides				14.40			
	velocity					5.29		6.94	7.66					6.94			

Azevedo, Cátia (POR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)										*Omega Timing (2022) - diamond league race analysis*							
date 05-Jun-22	time 6.97	12.74	18.58	24.76	31.22	38.03	44.86	52.23	52.23	3 / 6							
reaction time 0.194	interval	5.77	5.84	6.18	6.46	6.81	6.83	7.37		# of strides	12.74	12.02	13.27	14.20	24.76	27.47	2.71
	velocity 7.17	8.67	8.56	8.09	7.74	7.34	7.32	6.78	7.66		7.85	8.32	7.54	7.04	8.08	7.28	

de Witte, Lisanne (NED) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Weltklasse (Zürich, SUI)										*Omega Timing (2023) - diamond league race analysis*							
date 31-Aug-23	time 7.03	12.84	18.77	24.94	31.31	37.99	44.94	52.23	52.23	2 / 4							
reaction time 0.166	interval	5.81	5.93	6.17	6.37	6.68	6.95	7.29		# of strides	12.84	12.10	13.05	14.24	24.94	27.29	2.35
	velocity 7.11	8.61	8.43	8.10	7.85	7.49	7.19	6.86	7.66		7.79	8.26	7.66	7.02	8.02	7.33	

Malik, Poppy (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)										*Omega Timing (2024) - diamond league race analysis*							
date 20-Jul-24	time 6.80	12.58	18.51	24.79	31.27	37.89	44.66	52.23	52.23	1 / 5							
reaction time 0.163	interval	5.78	5.93	6.28	6.48	6.62	6.77	7.57	PB	# of strides	12.58	12.21	13.10	14.34	24.79	27.44	2.65
	velocity 7.35	8.65	8.43	7.96	7.72	7.55	7.39	6.61	7.66		7.95	8.19	7.63	6.97	8.07	7.29	

Kuś, Anastazja (POL) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U20 Championships (Tampere, FIN)										*European Athletics (2025) - 2025 european athletics U20 championships - results book*							
date 09-Aug-25	time 8.07	13.11	19.15	25.17	31.29	37.67	44.57	52.23	52.23	5 / 3							
reaction time 0.162	interval	5.04	6.04	6.02	6.12	6.38	6.90	7.66		# of strides	13.11	12.06	12.50	14.56	25.17	27.06	1.89
	velocity 6.20	9.92	8.28	8.31	8.17	7.84	7.25	6.53	7.66	188.0	7.63	8.29	8.00	6.87	7.95	7.39	

Henderson, Monique (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)										*USATF Women's Sprint Development with HPC (2008)*							
date 29-Jun-08	time		12.66	18.72	25.12	31.45	38.03	44.72	52.24	52.24	5 / 2							
reaction time	interval			6.06	6.40	6.33	6.58	6.69	7.52		# of strides	12.66	12.46	12.91	14.21	25.12	27.12	2.00
	velocity		7.90	8.25	7.81	7.90	7.60	7.47	6.65	7.66		7.90	8.03	7.75	7.04	7.96	7.37	

Alexander, Kineke (VIN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2015 IAAF World Championships (Beijing, CHN)										*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*							
date 24-Aug-15	time 6.92	12.74	18.82	25.14	31.65	38.24	44.98	52.24	52.24	8 / 6							
reaction time 0.217	interval	5.82	6.08	6.32	6.51	6.59	6.74	7.26		# of strides	12.74	12.40	13.10	14.00	25.14	27.10	1.96
	velocity 7.23	8.59	8.22	7.91	7.68	7.59	7.42	6.89	7.66		7.85	8.06	7.63	7.14	7.96	7.38	

Gómez, Roxana (CUB) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 21-Jul-16	time 7.19	12.86	18.79	24.89	31.13	37.67	44.53	52.24	52.24	9 / 6							
reaction time 0.227	interval	5.67	5.93	6.10	6.24	6.54	6.86	7.71	PB	# of strides	12.86	12.03	12.78	14.57	24.89	27.35	2.46
	velocity 6.95	8.82	8.43	8.20	8.01	7.65	7.29	6.49	7.66		7.78	8.31	7.82	6.86	8.04	7.31	

Becker, Sophie (IRL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*							
date 17-Jul-22	time		12.18		24.20		37.64		52.24	52.24	8 / 5							
reaction time 0.151	interval				12.02		13.44		14.60		# of strides	12.18	12.02	13.44	14.60	24.20	28.04	3.84
	velocity		8.21		8.32		7.44		6.85	7.66		8.21	8.32	7.44	6.85	8.26	7.13	

Yeargin, Nicole (GBR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)										*Longines Timing (2022) - commonwealth games race analysis*							
date 05-Aug-22	time 6.7	12.5	18.4	24.6	31.1	37.8	44.7	52.24	52.24	9 / 5							
reaction time 0.153	interval	5.80	5.90	6.20	6.50	6.70	6.90	7.54		# of strides	12.50	12.10	13.20	14.44	24.60	27.64	3.04
	velocity 7.46	8.62	8.47	8.06	7.69	7.46	7.25	6.63	7.66	200.2	8.00	8.26	7.58	6.93	8.13	7.24	

Uko, Imaobong Nse (NGR) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 20-Aug-23	time		12.89		25.13		38.35		52.24	52.24	2 / 6							
reaction time 0.206	interval				12.24		13.22		13.89		# of strides	12.89	12.24	13.22	13.89	25.13	27.11	1.98
	velocity		7.76		8.17		7.56		7.20	7.66	192.0	7.76	8.17	7.56	7.20	7.96	7.38	

Senn, Giulia (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 European Athletics Championships (Roma, ITA)										*European Athletics (2024) - 2024 european athletics championships - results book*							
date 08-Jun-24	time		12.62		25.03		38.08		52.24	52.24	4 / 7							
reaction time 0.176	interval				12.41		13.05		14.16		# of strides	12.62	12.41	13.05	14.16	25.03	27.21	2.18

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.92		8.06		7.66		7.06	7.66		7.92	8.06	7.66	7.06	7.99	7.35	

Chapple, Jerrika (USA) (1984)
FINAL - 2005 NCAA Championships (Sacramento, CA) — *Track Newsletter (2005) - NCAA women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-05	time						37.8		52.3	52.25	1 / 8							
reaction time		interval								14.50		# of strides				14.50			
		velocity						7.94		6.90	7.66					6.90			

Veitía, Lisneidy (CUB) (1994)
Heat 5 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-15	time	7.04	12.78	18.75	25.04	31.46	37.96	44.79	52.25	52.25	7 / 6							
reaction time	0.364	interval		5.74	5.97	6.29	6.42	6.50	6.83	7.46		# of strides	12.78	12.26	12.92	14.29	25.04	27.21	2.17
		velocity	7.10	8.71	8.38	7.95	7.79	7.69	7.32	6.70	7.66		7.82	8.16	7.74	7.00	7.99	7.35	

Guster, Elexis (USA) (1994)
FINAL - 2017 NCAA Championships (Eugene, OR) — *Track Newsletter (2017) - NCAA women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-17	time				24.8		37.9		52.3	52.25	/ 6							
reaction time		interval						13.10		14.40		# of strides			13.10	14.40	24.80	27.50	2.70
		velocity				8.06		7.63		6.94	7.66				7.63	6.94	8.06	7.27	

Salmon, Shiann (JAM) (1999)
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM) — *Grand Slam Track (2025) - results and splits by race*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Apr-25	time		12.66		24.76		37.53		52.25	52.25	7 / 4							
reaction time	0.210	interval				12.10		12.77		14.72		# of strides	12.66	12.10	12.77	14.72	24.76	27.49	2.73
		velocity		7.90		8.26		7.83		6.79	7.66		7.90	8.26	7.83	6.79	8.08	7.28	

Barnett-Burkart, Helen (GBR) (1958)
Semi-Final 2 - 1984 Olympic Games (Los Angeles, CA) (*TV Analysis*) — *Adams (1984) - 1984 olympic games - 200m & 400m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-84	time				23.88				52.26	52.26	7 / 8							
reaction time		interval								28.38	PB	# of strides				23.88	28.38	4.50	
		velocity				8.38				7.05	7.65					8.38	7.05		

Marx, Claudia (GER) (1978)
FINAL - 2001 ISTAF (Berlin, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-Aug-01	time		12.59		24.62		37.79		52.26	52.26	/ 3							
reaction time	0.160	interval				12.03		13.17		14.47		# of strides	12.59	12.03	13.17	14.47	24.62	27.64	3.02
		velocity		7.94		8.31		7.59		6.91	7.65		7.94	8.31	7.59	6.91	8.12	7.24	

Wineberg, Mary (USA) (1980)
FINAL - 2011 USATF National Championships (Eugene, OR) — *Track Newsletter (2011) - USATF women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-11	time		12.6		24.8		38.3		52.3	52.26	/ 8							
reaction time		interval				12.20		13.50		14.00		# of strides	12.60	12.20	13.50	14.00	24.80	27.50	2.70
		velocity		7.94		8.20		7.41		7.14	7.65		7.94	8.20	7.41	7.14	8.06	7.27	

Vaičule, Gunta (LAT) (1995)
Heat 3 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		12.77		24.71		37.80		52.26	52.26	4 / 2							
reaction time	0.249	interval				11.94		13.09		14.46		# of strides	12.77	11.94	13.09	14.46	24.71	27.55	2.84
		velocity		7.83		8.38		7.64		6.92	7.65	191.0	7.83	8.38	7.64	6.92	8.09	7.26	

van den Broeck, Naomi (BEL) (1996)
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL) — *Grand Slam Track (2025) - results and splits by race*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-May-25	time		12.74		25.06		38.28		52.26	52.26	4 / 6							
reaction time	0.200	interval				12.32		13.22		13.98		# of strides	12.74	12.32	13.22	13.98	25.06	27.20	2.14
		velocity		7.85		8.12		7.56		7.15	7.65		7.85	8.12	7.56	7.15	7.98	7.35	

Kwarteng, Victoria (FRA) (2007)
FINAL - 2025 European Athletics U20 Championships (Tampere, FIN) — *European Athletics (2025) - 2025 european athletics U20 championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Aug-25	time	6.96	12.67	18.65	24.94	31.51	38.24	44.91	52.26	52.26	6 / 4							
reaction time	0.140	interval		5.71	5.98	6.29	6.57	6.73	6.67	7.35	NJR PB	# of strides	12.67	12.27	13.30	14.02	24.94	27.32	2.38
		velocity	7.18	8.76	8.36	7.95	7.61	7.43	7.50	6.80	7.65	203.0	7.89	8.15	7.52	7.13	8.02	7.32	

Brown, Toya (USA) (1975)
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA) — *USATF Women's Sprint Development (1996)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		12.26		24.13		37.16	44.38	52.27	52.27	2 / 6							
reaction time		interval				11.87		13.03	7.22	7.89		# of strides	12.26	11.87	13.03	15.11	24.13	28.14	4.01
		velocity		8.16		8.42		7.67	6.93	6.34	7.65		8.16	8.42	7.67	6.62	8.29	7.11	

Washington, Demetria (USA) (1979)
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA) — *USATF Women's Sprint Development (2004)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-04	time		12.15		24.11	30.73	37.39	44.44	52.27	52.27	4 / 5							
reaction time		interval				11.96	6.62	6.66	7.05	7.83		# of strides	12.15	11.96	13.28	14.88	24.11	28.16	4.05
		velocity		8.23		8.36	7.55	7.51	7.09	6.39	7.65	192.7	8.23	8.36	7.53	6.72	8.30	7.10	

Davis, Kia (USA) (1976)
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA) — *USATF Women's Sprint Development (2004)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-04	time		12.41			30.64	37.39	44.96	52.27	52.27	1 / 6							
reaction time		interval					18.23	6.75	7.57	7.31		# of strides	12.41			14.88			
		velocity		8.06			8.23	7.41	6.61	6.84	7.65		8.06			6.72			

Lemmens, Silke (SUI) (1999)
Heat 1 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		12.39		24.42		37.60		52.27	52.27	4 / 3							
reaction time	0.231	interval				12.03		13.18		14.67		# of strides	12.39	12.03	13.18	14.67	24.42	27.85	3.43
		velocity		8.07		8.31		7.59		6.82	7.65		8.07	8.31	7.59	6.82	8.19	7.18	

Saalberg, Eveline (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 05-Sep-24 time	6.94	12.60	18.47	24.57	30.99	37.74	44.68	52.27	52.27	6 / 4							
reaction time 0.203 interval		5.66	5.87	6.10	6.42	6.75	6.94	7.59		# of strides	12.60	11.97	13.17	14.53	24.57	27.70	3.13
velocity	7.20	8.83	8.52	8.20	7.79	7.41	7.20	6.59	7.65		7.94	8.35	7.59	6.88	8.14	7.22	

Rockmeier, Birgit (GER) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 07-Aug-02 time		12.72		25.00		37.95		52.28	52.28	/ 2							
reaction time 0.137 interval				12.28		12.95		14.33		# of strides	12.72	12.28	12.95	14.33	25.00	27.28	2.28
velocity		7.86		8.14		7.72		6.98	7.65		7.86	8.14	7.72	6.98	8.00	7.33	

Manson, Taylor (USA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																	*Koyama (2018) - research on athlete performance and technique- 2018 data book*
date 12-Jul-18 time	6.78	12.41	18.28	24.57	31.02	37.63	44.63	52.28	52.28	6 / 3							
reaction time 0.150 interval		5.63	5.87	6.29	6.45	6.61	7.00	7.65		# of strides	12.41	12.16	13.06	14.65	24.57	27.71	3.14
velocity	7.37	8.88	8.52	7.95	7.75	7.56	7.14	6.54	7.65	190.0	8.06	8.22	7.66	6.83	8.14	7.22	

Healy, Phil (IRL) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)																	*Omega Timing (2022) - diamond league race analysis*
date 05-Jun-22 time	6.80	12.66	18.65	24.87	31.30	37.96	44.72	52.28	52.28	8 / 7							
reaction time 0.140 interval		5.86	5.99	6.22	6.43	6.66	6.76	7.56		# of strides	12.66	12.21	13.09	14.32	24.87	27.41	2.54
velocity	7.35	8.53	8.35	8.04	7.78	7.51	7.40	6.61	7.65	206.2	7.90	8.19	7.64	6.98	8.04	7.30	

Morán, Paola (MEX) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22 time		12.46		24.87		37.78		52.28	52.28	5 / 5							
reaction time 0.190 interval				12.41		12.91		14.50		# of strides	12.46	12.41	12.91	14.50	24.87	27.41	2.54
velocity		8.03		8.06		7.75		6.90	7.65	192.7	8.03	8.06	7.75	6.90	8.04	7.30	

Pipi, Ama (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 20-Jul-22 time		12.48		24.64		37.70		52.28	52.28	8 / 8							
reaction time 0.174 interval				12.16		13.06		14.58		# of strides	12.48	12.16	13.06	14.58	24.64	27.64	3.00
velocity		8.01		8.22		7.66		6.86	7.65		8.01	8.22	7.66	6.86	8.12	7.24	

Constantine, Kyra (CAN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		12.61		24.70		37.81		52.28	52.28	8 / 6							
reaction time 0.171 interval				12.09		13.11		14.47		# of strides	12.61	12.09	13.11	14.47	24.70	27.58	2.88
velocity		7.93		8.27		7.63		6.91	7.65		7.93	8.27	7.63	6.91	8.10	7.25	

Senn, Giulia (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Weltklasse (Zürich, SUI)																	*Omega Timing (2023) - diamond league race analysis*
date 31-Aug-23 time	6.83	12.71	18.79	24.98	31.31	37.93	44.91	52.28	52.28	7 / 5							
reaction time 0.168 interval		5.88	6.08	6.19	6.33	6.62	6.98	7.37		# of strides	12.71	12.27	12.95	14.35	24.98	27.30	2.32
velocity	7.32	8.50	8.22	8.08	7.90	7.55	7.16	6.78	7.65	191.2	7.87	8.15	7.72	6.97	8.01	7.33	

Pipion, Ceonna (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24 time		12.79		25.09		38.11		52.28	52.28	5 / 5							
reaction time interval				12.30		13.02		14.17		# of strides	12.79	12.30	13.02	14.17	25.09	27.19	2.10
velocity		7.82		8.13		7.68		7.06	7.65	198.8	7.82	8.13	7.68	7.06	7.97	7.36	

Maizvorewa, Vimbayi (ZIM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25 time		12.70		24.76		37.72		52.28	52.28	7 / 7							
reaction time 0.260 interval				12.06		12.96		14.56		# of strides	12.70	12.06	12.96	14.56	24.76	27.52	2.76
velocity		7.87		8.29		7.72		6.87	7.65		7.87	8.29	7.72	6.87	8.08	7.27	

De Angeli, Virna (ITA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 European Cup (Munich, GER)																	*Jung (2003) - http://www.fgs.uni-halle.de*
date 21-Jun-97 time		13.08		25.33		38.15		52.30	52.30	/ 4							
reaction time interval				12.25		12.82		14.15		# of strides	13.08	12.25	12.82	14.15	25.33	26.97	1.64
velocity		7.65		8.16		7.80		7.07	7.65		7.65	8.16	7.80	7.07	7.90	7.42	

Barber, Me'Lisa (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 12-Jul-04 time		11.82		23.42		36.68	43.87	52.30	52.30	4 / 5							
reaction time interval				11.60		13.26	7.19	8.43		# of strides	11.82	11.60	13.26	15.62	23.42	28.88	5.46
velocity		8.46		8.62		7.54	6.95	5.93	7.65	207.0	8.46	8.62	7.54	6.40	8.54	6.93	

Coetzee, Miranda (RSA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		12.34		24.06		37.01		52.30	52.30	3 / 7							
reaction time 0.184 interval				11.72		12.95		15.29		# of strides	12.34	11.72	12.95	15.29	24.06	28.24	4.18
velocity		8.10		8.53		7.72		6.54	7.65	196.0	8.10	8.53	7.72	6.54	8.31	7.08	

Kelly, Hannah (GBR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Jul-24 time	6.86	12.67	18.71	24.96	31.44	38.05	44.81	52.30	52.30	7 / 6							
reaction time 0.148 interval		5.81	6.04	6.25	6.48	6.61	6.76	7.49		# of strides	12.67	12.29	13.09	14.25	24.96	27.34	2.38
velocity	7.29	8.61	8.28	8.00	7.72	7.56	7.40	6.68	7.65		7.89	8.14	7.64	7.02	8.01	7.32	

Henderson, Monique (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 NCAA Championships (Baton Rouge, LA)																	*Track Newsletter (2002) - NCAA championships*

date	01-Jun-02	time			24.00		37.20		52.30	52.31	/ 7						
reaction time		interval					13.20		15.10		# of strides			13.20	15.10	24.00	28.30	4.30
		velocity			8.33		7.58		6.62	7.65				7.58	6.62	8.33	7.07	

Hoffmann, Claudia (GER) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Jun-07	time	12.71		24.68		37.64		52.31	52.31	/ 4							
reaction time 0.176	interval			11.97		12.96		14.67		# of strides	12.71	11.97	12.96	14.67	24.68	27.63	2.95
	velocity	7.87		8.35		7.72		6.82	7.65		7.87	8.35	7.72	6.82	8.10	7.24	

Désert-Mariller, Solen (FRA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 French National Championships (Angers, FRA)																	*Le Bras (2013) - analyse de la perfromance et conception de dispositifs d'entraînement*
date 28-Jul-10	time	12.2		24.1		37.2		52.2	52.31	/ 1							
reaction time	interval			11.9		13.1		15.0		# of strides	12.20	11.90	13.10	15.00	24.10	28.10	4.00
	velocity	8.20		8.40		7.63		6.67	7.65		8.20	8.40	7.63	6.67	8.30	7.12	

Williams, Jodie (GBR) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Athletissima (Lausanne, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 26-Aug-22	time	6.57	12.10	17.90	23.99	30.46	37.32	44.52	52.31	52.31	1 / 8						
reaction time 0.148	interval		5.53	5.80	6.09	6.47	6.86	7.20	7.79		# of strides	12.10	11.89	13.33	14.99	23.99	28.32	4.33
	velocity	7.61	9.04	8.62	8.21	7.73	7.29	6.94	6.42	7.65		8.26	8.41	7.50	6.67	8.34	7.06	

Saalberg, Eveline (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Memorial van Damme (Brussels, BEL)																	*Seiko Timing (2023) - world championship race analysis*
date 08-Sep-23	time	6.93	12.65	18.50	24.66	31.11	37.84	44.78	52.31	52.31	7 / 4						
reaction time 0.222	interval		5.72	5.85	6.16	6.45	6.73	6.94	7.53		# of strides	12.65	12.01	13.18	14.47	24.66	27.65	2.99
	velocity	7.22	8.74	8.55	8.12	7.75	7.43	7.20	6.64	7.65		7.91	8.33	7.59	6.91	8.11	7.23	

Beer, Ellie (AUS) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25	time		12.42		24.18		37.40		52.31	52.31	3 / 8						
reaction time 0.201	interval				11.76		13.22		14.91		# of strides	12.42	11.76	13.22	14.91	24.18	28.13	3.95
	velocity		8.05		8.50		7.56		6.71	7.65		8.05	8.50	7.56	6.71	8.27	7.11	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Weltklasse (Zürich, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 08-Sep-22	time	6.97	12.72	18.67	24.68	30.87	37.38	44.44	52.32	52.32	2 / 8						
reaction time 0.127	interval		5.75	5.95	6.01	6.19	6.51	7.06	7.88		# of strides	12.72	11.96	12.70	14.94	24.68	27.64	2.96
	velocity	7.17	8.70	8.40	8.32	8.08	7.68	7.08	6.35	7.65		7.86	8.36	7.87	6.69	8.10	7.24	

Müller, Laura (GER) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, First Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 23-Jun-23	time		12.56		24.50		37.57		52.32	52.32	3 / 8						
reaction time 0.257	interval				11.94		13.07		14.75		# of strides	12.56	11.94	13.07	14.75	24.50	27.82	3.32
	velocity		7.96		8.38		7.65		6.78	7.65		7.96	8.38	7.65	6.78	8.16	7.19	

Saalberg, Eveline (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Weltklasse (Zürich, SUI)																	*Omega Timing (2023) - diamond league race analysis*
date 31-Aug-23	time	6.82	12.41	18.17	24.21	30.63	37.41	44.57	52.32	52.32	4 / 6						
reaction time 0.209	interval		5.59	5.76	6.04	6.42	6.78	7.16	7.75		# of strides	12.41	11.80	13.20	14.91	24.21	28.11	3.90
	velocity	7.33	8.94	8.68	8.28	7.79	7.37	6.98	6.45	7.65		8.06	8.47	7.58	6.71	8.26	7.11	

Marinho, Tiffani (BRA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 4 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24	time	6.97	12.64	18.57	24.69	31.04	37.61	44.60	52.32	52.32	2 / 6						
reaction time 0.194	interval		5.67	5.93	6.12	6.35	6.57	6.99	7.72		# of strides	12.64	12.05	12.92	14.71	24.69	27.63	2.94
	velocity	7.17	8.82	8.43	8.17	7.87	7.61	7.15	6.48	7.65	202.0	7.91	8.30	7.74	6.80	8.10	7.24	

Wester, Elna (SWE) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	*European Athletics (2025) - 2025 european team championships, first division - results book*
date 27-Jun-25	time	6.87	12.59	18.50	24.67	31.11	37.84	44.87	52.32	52.32	/ 3						
reaction time 0.167	interval		5.72	5.91	6.17	6.44	6.73	7.03	7.45	PB	# of strides	12.59	12.08	13.17	14.48	24.67	27.65	2.98
	velocity	7.28	8.74	8.46	8.10	7.76	7.43	7.11	6.71	7.65		7.94	8.28	7.59	6.91	8.11	7.23	

Beckford, Allison (JAM) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 NCAA Championships (Eugene, OR)																	*Track Newsletter (2001) - NCAA championships*
date 02-Jun-01	time				24.6		37.7		52.3	52.33	/ 1						
reaction time	interval						13.10		14.60		# of strides			13.10	14.60	24.60	27.70	3.10
	velocity				8.13		7.63		6.85	7.64				7.63	6.85	8.13	7.22	

Guei, Floria (FRA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Meeting de Paris (Paris, FRA)																	*Omega Timing (2017) - diamond league race analysis*
date 01-Jul-17	time		12.6	18.6	24.7	31.1	37.9	45.0	52.33	52.33	3 / 5						
reaction time 0.192	interval			6.0	6.1	6.4	6.8	7.1	7.3		# of strides	12.60	12.10	13.20	14.43	24.70	27.63	2.93
	velocity		7.94	8.33	8.20	7.81	7.35	7.04	6.82	7.64	192.5	7.94	8.26	7.58	6.93	8.10	7.24	

Senn, Giulia (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 14-Jul-23	time		12.40		24.34		37.76		52.33	52.33	3 / 5						
reaction time 0.170	interval				11.94		13.42		14.57		# of strides	12.40	11.94	13.42	14.57	24.34	27.99	3.65
	velocity		8.06		8.38		7.45		6.86	7.64	196.7	8.06	8.38	7.45	6.86	8.22	7.15	

Wester, Elna (SWE) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U23 Championships (Bergen, NOR)																	*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date 19-Jul-25	time	6.90	12.60	18.63	24.78	31.14	37.77	44.84	52.33	52.33	1 / 7						
reaction time 0.158	interval		5.70	6.03	6.15	6.36	6.63	7.07	7.49		# of strides	12.60	12.18	12.99	14.56	24.78	27.55	2.77

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.25	8.77	8.29	8.13	7.86	7.54	7.07	6.68	7.64		7.94	8.21	7.70	6.87	8.07	7.26	

Packer, Ann (GBR) (1942)
FINAL - 1964 Olympic Games (Tokyo, JPN)
Müller (1965) - die leichtathletik-wettkampfe der XVIII olympiischen sommerspielen Tokio 1964 - 400m lauf

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Oct-64	time				24.6				52.2	52.2	6 / 2							
reaction time		interval								27.6	*(52.20)*	# of strides					24.60	27.60	3.00
		velocity				8.13				7.25	7.66						8.13	7.25	

Baker, Keshia (USA) (1988)
FINAL - 2010 NCAA Championships (Eugene, OR)
Track Newsletter (2010) - NCAA women's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-10	time				24.2		37.6		52.3	52.34	/ 4							
reaction time		interval						13.4		14.7		# of strides			13.40	14.70	24.20	28.10	3.90
		velocity				8.26		7.46		6.80	7.64				7.46	6.80	8.26	7.12	

Williams, Sada (BAR) (1997)
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-21	time	6.8	12.5	18.4	24.5	30.8	37.4	44.6	52.34	52.34	2 / 6							
reaction time	0.160	interval		5.70	5.90	6.10	6.30	6.60	7.20	7.74		# of strides	12.50	12.00	12.90	14.94	24.50	27.84	3.34
		velocity	7.35	8.77	8.47	8.20	7.94	7.58	6.94	6.46	7.64	197.2	8.00	8.33	7.75	6.69	8.16	7.18	

Laus, Camille (BEL) (1993)
FINAL - 2021 Memorial van Damme (Brussels, BEL)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-21	time	6.9	12.6	18.6	24.8	31.3	38.0	44.9	52.34	52.34	5 / 1							
reaction time	0.221	interval		5.70	6.00	6.20	6.50	6.70	6.90	7.44		# of strides	12.60	12.20	13.20	14.34	24.80	27.54	2.74
		velocity	7.25	8.77	8.33	8.06	7.69	7.46	7.25	6.72	7.64		7.94	8.20	7.58	6.97	8.06	7.26	

Martin, Jania (USA) (2000)
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-24	time		12.42		24.65		37.83		52.34	52.34	1 / 6							
reaction time		interval				12.23		13.18		14.51		# of strides	12.42	12.23	13.18	14.51	24.65	27.69	3.04
		velocity		8.05		8.18		7.59		6.89	7.64		8.05	8.18	7.59	6.89	8.11	7.22	

Robinson, Moushaumi (USA) (1981)
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				24.19		37.75	44.61	52.35	52.35	4 / 2							
reaction time		interval						13.56	6.86	7.74		# of strides			13.56	14.60	24.19	28.16	3.97
		velocity				8.27		7.37	7.29	6.46	7.64				7.37	6.85	8.27	7.10	

Jackson, Shericka (JAM) (1994)
FINAL - 2019 Athletissima (Lausanne, SUI)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Jul-19	time		12.6		24.5		37.3		52.35	52.35	6 / 8							
reaction time	0.168	interval				11.9		12.8		15.1		# of strides	12.60	11.90	12.80	15.05	24.50	27.85	3.35
		velocity		7.94		8.40		7.81		6.64	7.64		7.94	8.40	7.81	6.64	8.16	7.18	

Święty-Ersetic, Justyna (POL) (1992)
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)
European Athletics (2019) - race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-19	time		12.82		24.68		37.58		52.35	52.35	5 / 6							
reaction time	0.301	interval				11.86		12.90		14.77		# of strides	12.82	11.86	12.90	14.77	24.68	27.67	2.99
		velocity		7.80		8.43		7.75		6.77	7.64	205.0	7.80	8.43	7.75	6.77	8.10	7.23	

Klaver, Lieke (NED) (1998)
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2020) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.7	12.3	18.2	24.4	30.8	37.5	44.6	52.35	52.35	4 / 3							
reaction time	0.191	interval		5.60	5.90	6.20	6.40	6.70	7.10	7.75		# of strides	12.30	12.10	13.10	14.85	24.40	27.95	3.55
		velocity	7.46	8.93	8.47	8.06	7.81	7.46	7.04	6.45	7.64		8.13	8.26	7.63	6.73	8.20	7.16	

Petržilková, Tereza (CZE) (1993)
Heat 2 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		12.76		24.97		37.97		52.35	52.35	2 / 6							
reaction time	0.205	interval				12.21		13.00		14.38		# of strides	12.76	12.21	13.00	14.38	24.97	27.38	2.41
		velocity		7.84		8.19		7.69		6.95	7.64	190.0	7.84	8.19	7.69	6.95	8.01	7.30	

Hargrove, Monica (USA) (1982)
Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)
USATF Women's Sprint Development with HPC (2008)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-08	time		12.65	18.93	25.24	31.64	38.36	44.89	52.36	52.36	6 / 3							
reaction time		interval			6.28	6.31	6.40	6.72	6.53	7.47		# of strides	12.65	12.59	13.12	14.00	25.24	27.12	1.88
		velocity		7.91	7.96	7.92	7.81	7.44	7.66	6.69	7.64		7.91	7.94	7.62	7.14	7.92	7.37	

Firova, Tatyana (RUS) (1982)
FINAL - 2009 ISTAF (Berlin, GER)
Graubner (2009) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		13.00		25.28		38.20		52.36	52.36	/ 6							
reaction time	0.259	interval				12.28		12.92		14.16		# of strides	13.00	12.28	12.92	14.16	25.28	27.08	1.80
		velocity		7.69		8.14		7.74		7.06	7.64		7.69	8.14	7.74	7.06	7.91	7.39	

Beer, Ellie (AUS) (2003)
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Apr-24	time	6.91	12.43	18.22	24.42	30.90	37.64	44.67	52.36	52.36	9 / 5							
reaction time	0.222	interval		5.52	5.79	6.20	6.48	6.74	7.03	7.69		# of strides	12.43	11.99	13.22	14.72	24.42	27.94	3.52
		velocity	7.24	9.06	8.64	8.06	7.72	7.42	7.11	6.50	7.64	189.0	8.05	8.34	7.56	6.79	8.19	7.16	

Howard, Donna (USA) (1974)
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)
USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		12.36		24.34		37.85	44.98	52.37	52.37	1 / 7							
reaction time		interval				11.98		13.51	7.13	7.39		# of strides	12.36	11.98	13.51	14.52	24.34	28.03	3.69
		velocity		8.09		8.35		7.40	7.01	6.77	7.64		8.09	8.35	7.40	6.89	8.22	7.14	

Yang Huizhen (CHN) (1992)
FINAL - 2015 Asian Championships (Wuhan, CHN)
Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Jun-15	time				25.08		38.09		52.37	52.37	/ 1							
reaction time		interval						13.01		14.28	PB	# of strides			13.01	14.28	25.08	27.29	2.21
		velocity				7.97		7.69		7.00	7.64	191.0			7.69	7.00	7.97	7.33	

McLeod, Candice (JAM) (1996)
FINAL - 2022 Doha Diamond League (Doha, QAT)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-May-22	time	6.7	12.4	18.6	25.0	31.4	38.0	44.9	52.37	52.37	3 / 5							
reaction time	0.183	interval		5.70	6.20	6.40	6.40	6.60	6.90	7.47		# of strides	12.40	12.60	13.00	14.37	25.00	27.37	2.37
		velocity	7.46	8.77	8.06	7.81	7.81	7.58	7.25	6.69	7.64	207.5	8.06	7.94	7.69	6.96	8.00	7.31	

Walli, Susanne (AUT) (1996)
Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jul-22	time		12.73		24.97		38.13		52.37	52.37	1 / 8							
reaction time	0.157	interval				12.24		13.16		14.24		# of strides	12.73	12.24	13.16	14.24	24.97	27.40	2.43
		velocity		7.86		8.17		7.60		7.02	7.64		7.86	8.17	7.60	7.02	8.01	7.30	

Richard, Janet (MLT) (1998)
A FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)
European Athletics (2023) - 3rd european games, athletics - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-23	time		12.74		24.88		38.04		52.37	52.37	6 / 2							
reaction time	0.179	interval				12.14		13.16		14.33	NR PB	# of strides	12.74	12.14	13.16	14.33	24.88	27.49	2.61
		velocity		7.85		8.24		7.60		6.98	7.64	202.0	7.85	8.24	7.60	6.98	8.04	7.28	

Lawrence, Deonna (USA) (1986)
FINAL - 2006 NCAA Championships (Sacramento, CA)
Track Newsletter (2006) - NCAA women's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Jun-06	time		12.5		24.8		38.1		52.4	52.38	1 / 8							
reaction time		interval				12.30		13.30		14.30		# of strides	12.50	12.30	13.30	14.30	24.80	27.60	2.80
		velocity		8.00		8.13		7.52		6.99	7.64		8.00	8.13	7.52	6.99	8.06	7.25	

Saalberg, Eveline (NED) (1998)
FINAL - 2021 Memorial van Damme (Brussels, BEL)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-21	time	7.0	12.6	18.4	24.5	31.0	37.8	44.9	52.38	52.38	4 / 2							
reaction time	0.225	interval		5.60	5.80	6.10	6.50	6.80	7.10	7.48		# of strides	12.60	11.90	13.30	14.58	24.50	27.88	3.38
		velocity	7.14	8.93	8.62	8.20	7.69	7.35	7.04	6.68	7.64		7.94	8.40	7.52	6.86	8.16	7.17	

Petržilková, Tereza (CZE) (1993)
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		12.84		24.89		38.02		52.38	52.38	2 / 7							
reaction time	0.222	interval				12.05		13.13		14.36		# of strides	12.84	12.05	13.13	14.36	24.89	27.49	2.60
		velocity		7.79		8.30		7.62		6.96	7.64	193.0	7.79	8.30	7.62	6.96	8.04	7.28	

Brier, Hannah (GBR) (1998)
National FINAL - 2025 London Athletics Meet (London, GBR)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jul-25	time	6.73	12.67	18.67	24.82	31.12	37.71	44.59	52.38	52.38	7 / 4							
reaction time	0.154	interval		5.94	6.00	6.15	6.30	6.59	6.88	7.79		# of strides	12.67	12.15	12.89	14.67	24.82	27.56	2.74
		velocity	7.43	8.42	8.33	8.13	7.94	7.59	7.27	6.42	7.64		7.89	8.23	7.76	6.82	8.06	7.26	

Balogh-Szomov, Györgyi (HUN) (194
FINAL - 1972 Olympic Games (Munich, FRG)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Sep-72	time				24.2				52.4	52.39	2 / 8							
reaction time		interval								28.2		# of strides					24.20	28.20	4.00
		velocity				8.26				7.09	7.64	199.0					8.26	7.09	

Henrich, Charlotte (GBR) (2006)
Semi-Final 1 - 2025 European Athletics U20 Championships (Tampere, FIN)
European Athletics (2025) - 2025 european athletics U20 championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	6.98	12.85	19.00	25.24	31.64	38.26	45.15	52.39	52.39	7 / 1							
reaction time	0.146	interval		5.87	6.15	6.24	6.40	6.62	6.89	7.24		# of strides	12.85	12.39	13.02	14.13	25.24	27.15	1.91
		velocity	7.16	8.52	8.13	8.01	7.81	7.55	7.26	6.91	7.64	214.0	7.78	8.07	7.68	7.08	7.92	7.37	

MacDonald, Linsey (GBR) (1964)
FINAL - 1980 Olympic Games (Moscow, URS)
Butler (2016) - IAAF statistics handbook- special edition: Games of the XXXI Olympiad- Rio 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-80	time						37.8		52.40	52.40	7 / 8							
reaction time		interval								14.60		# of strides				14.60			
		velocity						7.94		6.85	7.63					6.85			

Saalberg, Eveline (NED) (1998)
National FINAL - 2022 Weltklasse (Zürich, SUI)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	6.97	12.61	18.41	24.52	31.00	37.91	44.97	52.40	52.40	5 / 5							
reaction time	0.207	interval		5.64	5.80	6.11	6.48	6.91	7.06	7.43		# of strides	12.61	11.91	13.39	14.49	24.52	27.88	3.36
		velocity	7.17	8.87	8.62	8.18	7.72	7.24	7.08	6.73	7.63		7.93	8.40	7.47	6.90	8.16	7.17	

Dunn, Debbie (USA) (1978)
FINAL - 2008 USA Olympic Trials (Eugene, OR)
USATF Women's Sprint Development with HPC (2008)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Jul-08	time		11.90	17.05	23.42	29.90	36.66	43.96	52.41	52.41	3 / 8							
reaction time		interval			5.15	6.37	6.48	6.76	7.30	8.45		# of strides	11.90	11.52	13.24	15.75	23.42	28.99	5.57
		velocity		8.40	9.71	7.85	7.72	7.40	6.85	5.92	7.63		8.40	8.68	7.55	6.35	8.54	6.90	

McDonald, Natassha (CAN) (1997)
Heat 6 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		12.52		24.91		37.99		52.41	52.41	5 / 5							
reaction time	0.169	interval				12.39		13.08		14.42		# of strides	12.52	12.39	13.08	14.42	24.91	27.50	2.59
		velocity		7.99		8.07		7.65		6.93	7.63	170.0	7.99	8.07	7.65	6.93	8.03	7.27	

Jones, Jan'Taijah (USA) (2001)
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	22-Jun-24	time		12.74		24.89		37.92		52.41	52.41	9 / ~~7~~						
reaction time		interval				12.15		13.03		14.49	DQ	# of strides	12.74	12.15	13.03	14.49	24.89	27.52	2.63
		velocity		7.85		8.23		7.67		6.90	7.63		7.85	8.23	7.67	6.90	8.04	7.27	

Pipion, Ceonna (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 USATF Championships (Eugene, OR)																	
date 01-Aug-25	time		12.23		24.25		37.45		52.41	52.41	2 / 6							
reaction time	interval				12.02		13.20		14.96		# of strides	12.23	12.02	13.20	14.96	24.25	28.16	3.91
	velocity		8.18		8.32		7.58		6.68	7.63		8.18	8.32	7.58	6.68	8.25	7.10	

USATF and Karmarush (2025) - USATF championships results and race analysis

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2025 World Athletics Championships (Tokyo, JPN)																	
date 14-Sep-25	time		12.59		25.05		38.09		52.41	52.41	1 / 7							
reaction time 0.211	interval				12.46		13.04		14.32		# of strides	12.59	12.46	13.04	14.32	25.05	27.36	2.31
	velocity		7.94		8.03		7.67		6.98	7.63	202.0	7.94	8.03	7.67	6.98	7.98	7.31	

Seiko Timing (2025) - 2025 World Championships race analysis

Washington, Demetria (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 NCAA Championships (Eugene, OR)																	
date 02-Jun-01	time				24.7		37.8		52.4	52.42	/ 2							
reaction time	interval						13.10		14.60		# of strides			13.10	14.60	24.70	27.70	3.00
	velocity				8.10		7.63		6.85	7.63				7.63	6.85	8.10	7.22	

Track Newsletter (2001) - NCAA championships

Marx, Claudia (GER) (1978)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2002 European Championships (Munich, GER)																	
date 07-Aug-02	time		12.84		25.00		37.16		52.42	52.42	/ 3							
reaction time 0.157	interval				12.16		12.16		15.26		# of strides	12.84	12.16	12.16	15.26	25.00	27.42	2.42
	velocity		7.79		8.22		8.22		6.55	7.63		7.79	8.22	8.22	6.55	8.00	7.29	

Graubner (2009) - http://www.fgs.uni-halle.de

Adeloye, Tosin (NGR) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2015 IAAF World Championships (Beijing, CHN)																	
date 24-Aug-15	time	6.87	12.54	18.39	24.54	31.01	37.66	44.65	52.42	52.42	9 / ~~5~~							
reaction time 0.234	interval		5.67	5.85	6.15	6.47	6.65	6.99	7.77	DV	# of strides	12.54	12.00	13.12	14.76	24.54	27.88	3.34
	velocity	7.28	8.82	8.55	8.13	7.73	7.52	7.15	6.44	7.63		7.97	8.33	7.62	6.78	8.15	7.17	

Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims

Knight, Jessie (GBR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)																	
date 23-Aug-20	time	6.9	12.7	18.7	24.9	31.4	38.1	45.1	52.42	52.42	2 / 4							
reaction time 0.146	interval		5.80	6.00	6.20	6.50	6.70	7.00	7.32		# of strides	12.70	12.20	13.20	14.32	24.90	27.52	2.62
	velocity	7.25	8.62	8.33	8.06	7.69	7.46	7.14	6.83	7.63		7.87	8.20	7.58	6.98	8.03	7.27	

Omega Timing (2020) - diamond league race analysis

Azevedo, Cátia (POR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Weltklasse (Zürich, SUI)																	
date 09-Sep-21	time	7.0	12.8	18.6	24.8	31.1	37.7	44.8	52.42	52.42	5 / 3							
reaction time 0.150	interval		5.80	5.80	6.20	6.30	6.60	7.10	7.62		# of strides	12.80	12.00	12.90	14.72	24.80	27.62	2.82
	velocity	7.14	8.62	8.62	8.06	7.94	7.58	7.04	6.56	7.63		7.81	8.33	7.75	6.79	8.06	7.24	

Omega Timing (2021) - diamond league race analysis

de Carvalho, Tabata (BRA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR)																	
date 20-Jul-22	time		12.40		24.64		37.89		52.42	52.42	2 / 8							
reaction time 0.203	interval				12.24		13.25		14.53		# of strides	12.40	12.24	13.25	14.53	24.64	27.78	3.14
	velocity		8.06		8.17		7.55		6.88	7.63		8.06	8.17	7.55	6.88	8.12	7.20	

Timing by Seiko (2022) - world athletics championships race analysis

Giger, Yasmin (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Athletissima (Lausanne, SUI)																	
date 26-Aug-22	time	7.0	12.9	19.0	25.3	31.7	38.3	45.2	52.42	52.42	6 / 1							
reaction time 0.150	interval		5.90	6.10	6.30	6.40	6.60	6.90	7.22	PB	# of strides	12.90	12.40	13.00	14.12	25.30	27.12	1.82
	velocity	7.14	8.47	8.20	7.94	7.81	7.58	7.25	6.93	7.63		7.75	8.06	7.69	7.08	7.91	7.37	

Omega Timing (2022) - diamond league race analysis

Niederberger, Julia (SUI) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 European Athletics Championships (Roma, ITA)																	
date 08-Jun-24	time		12.78		24.76		37.81		52.42	52.42	8 / 4							
reaction time 0.193	interval				11.98		13.05		14.61		# of strides	12.78	11.98	13.05	14.61	24.76	27.66	2.90
	velocity		7.82		8.35		7.66		6.84	7.63		7.82	8.35	7.66	6.84	8.08	7.23	

European Athletics (2024) - 2024 european athletics championships - results book

Liles, Johnsie (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Championship (Carson, CA)																	
date 25-Jun-05	time				25.46	31.70	38.26	45.68	52.43	52.43	9 / 9							
reaction time	interval					6.24	6.56	7.42	6.75	PB	# of strides			12.80	14.17	25.46	26.97	1.51
	velocity				7.86	8.01	7.62	6.74	7.41	7.63				7.81	7.06	7.86	7.42	

USATF Women's Sprint Development (2005)

McLeod, Candice (JAM) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)																	
date 05-May-23	time	6.82	12.47	18.56	24.78	31.11	37.67	44.69	52.43	52.43	7 / 5							
reaction time 0.172	interval		5.65	6.09	6.22	6.33	6.56	7.02	7.74		# of strides	12.47	12.31	12.89	14.76	24.78	27.65	2.87
	velocity	7.33	8.85	8.21	8.04	7.90	7.62	7.12	6.46	7.63	203.0	8.02	8.12	7.76	6.78	8.07	7.23	

Omega Timing (2023) - diamond league race analysis

Schmidt, Alica (GER) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Weltklasse (Zürich, SUI)																	
date 31-Aug-23	time	6.79	12.46	18.29	24.39	30.79	37.54	44.69	52.43	52.43	8 / 7							
reaction time 0.155	interval		5.67	5.83	6.10	6.40	6.75	7.15	7.74		# of strides	12.46	11.93	13.15	14.89	24.39	28.04	3.65
	velocity	7.36	8.82	8.58	8.20	7.81	7.41	6.99	6.46	7.63		8.03	8.38	7.60	6.72	8.20	7.13	

Omega Timing (2023) - diamond league race analysis

Alexander, Kineke (VIN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2009 IAAF World Championships (Berlin, GER)																	
date 15-Aug-09	time		12.91		24.83		37.78		52.44	52.44	5 / 4							
reaction time 0.193	interval				11.92		12.95		14.66		# of strides	12.91	11.92	12.95	14.66	24.83	27.61	2.78

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.75		8.39		7.72		6.82	7.63		7.75	8.39	7.72	6.82	8.05	7.24	

Le-Roy, Anastasia (JAM) (1987)
FINAL - 2018 Meeting de Paris (Paris, FRA) — *Omega Timing (2018) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-18	time		12.7		25.1		38.2		52.44	52.44	1 / 8							
reaction time	0.173	interval				12.4		13.1		14.2		# of strides	12.70	12.40	13.10	14.24	25.10	27.34	2.24
		velocity		7.87		8.06		7.63		7.02	7.63	200.0	7.87	8.06	7.63	7.02	7.97	7.32	

Vondrová, Lada (CZE) (1999)
FINAL - 2020 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2020) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.9	12.7	18.9	25.2	31.5	38.1	45.0	52.44	52.44	5 / 5							
reaction time	0.251	interval		5.80	6.20	6.30	6.30	6.60	6.90	7.44		# of strides	12.70	12.50	12.90	14.34	25.20	27.24	2.04
		velocity	7.25	8.62	8.06	7.94	7.94	7.58	7.25	6.72	7.63		7.87	8.00	7.75	6.97	7.94	7.34	

da Silva, Tiffani (BRA) (1999)
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) — *Omega Timing (2020) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Sep-20	time	7.0	12.8	18.8	25.0	31.1	37.6	44.6	52.44	52.44	2 / 6							
reaction time	0.179	interval		5.80	6.00	6.20	6.10	6.50	7.00	7.84		# of strides	12.80	12.20	12.60	14.84	25.00	27.44	2.44
		velocity	7.14	8.62	8.33	8.06	8.20	7.69	7.14	6.38	7.63		7.81	8.20	7.94	6.74	8.00	7.29	

Hodgkinson, Keely (GBR) (2002)
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN) — *European Athletics (2023) - european athletics U23 championships results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jul-23	time		13.15		25.94		39.54		52.44	52.44	7 / 2							
reaction time	0.239	interval				12.79		13.60		12.90		# of strides	13.15	12.79	13.60	12.90	25.94	26.50	0.56
		velocity		7.60		7.82		7.35		7.75	7.63		7.60	7.82	7.35	7.75	7.71	7.55	

Nwachukwu, Sorina (GER) (1987)
FINAL - 2009 ISTAF (Berlin, GER) — *Graubner (2009) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jun-09	time		12.38		24.42		37.49		52.45	52.45	/ 7							
reaction time	0.313	interval				12.04		13.07		14.96		# of strides	12.38	12.04	13.07	14.96	24.42	28.03	3.61
		velocity		8.08		8.31		7.65		6.68	7.63		8.08	8.31	7.65	6.68	8.19	7.14	

Palframan, Justine (RSA) (1993)
Heat 4 - 2015 IAAF World Championships (Beijing, CHN) — *Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-15	time	6.69	12.32	18.30	24.43	30.79	37.34	44.47	52.45	52.45	8 / 6							
reaction time	0.168	interval		5.63	5.98	6.13	6.36	6.55	7.13	7.98		# of strides	12.32	12.11	12.91	15.11	24.43	28.02	3.59
		velocity	7.47	8.88	8.36	8.16	7.86	7.63	7.01	6.27	7.63		8.12	8.26	7.75	6.62	8.19	7.14	

Cheng Chong (CHN) (1992)
FINAL - 2017 Chinese National Games (Tianjin, CHN) — *Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-17	time		13.16		25.09		38.09		52.45	52.45	/ 2							
reaction time		interval				11.93		13.00		14.36	PB	# of strides	13.16	11.93	13.00	14.36	25.09	27.36	2.27
		velocity		7.60		8.38		7.69		6.96	7.63	200.0	7.60	8.38	7.69	6.96	7.97	7.31	

Nielsen, Laviai (GBR) (1988)
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA) — *Omega Timing (2020) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Sep-20	time	6.8	12.5	18.5	24.6	30.9	37.6	44.7	52.45	52.45	6 / 7							
reaction time	0.154	interval		5.70	6.00	6.10	6.30	6.70	7.10	7.75		# of strides	12.50	12.10	13.00	14.85	24.60	27.85	3.25
		velocity	7.35	8.77	8.33	8.20	7.94	7.46	7.04	6.45	7.63		8.00	8.26	7.69	6.73	8.13	7.18	

Saalberg, Eveline (NED) (1998)
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		12.60		24.50		37.88		52.45	52.45	8 / 6							
reaction time	0.279	interval				11.90		13.38		14.57		# of strides	12.60	11.90	13.38	14.57	24.50	27.95	3.45
		velocity		7.94		8.40		7.47		6.86	7.63	195.7	7.94	8.40	7.47	6.86	8.16	7.16	

Karpiuk, Kateryna (UKR) (1995)
A FINAL - 2023 European Team Championships, Second Division (Chorzów, POL) — *European Athletics (2023) - 3rd european games, athletics - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-23	time		12.80		24.92		38.33		52.45	52.45	6 / 6							
reaction time	0.207	interval				12.12		13.41		14.12		# of strides	12.80	12.12	13.41	14.12	24.92	27.53	2.61
		velocity		7.81		8.25		7.46		7.08	7.63		7.81	8.25	7.46	7.08	8.03	7.26	

Reid, Suziann (USA) (1977)
FINAL - 1996 USATF National Junior Championships (Deleware, OH) — *USATF Women's Sprint Development (1996)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-96	time		12.16		24.05		37.45	44.77	52.46	52.46	5 / 1							
reaction time		interval				11.89		13.40	7.32	7.69		# of strides	12.16	11.89	13.40	15.01	24.05	28.41	4.36
		velocity		8.22		8.41		7.46	6.83	6.50	7.62		8.22	8.41	7.46	6.66	8.32	7.04	

Perkins, Angel (USA) (1984)
Heat 4 - 2004 USA Olympic Trials (Sacramento, CA) — *USATF Women's Sprint Development (2004)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jul-04	time		12.01		23.96		37.22	44.24	52.46	52.46	4 / 3							
reaction time		interval				11.95		13.26	7.02	8.22		# of strides	12.01	11.95	13.26	15.24	23.96	28.50	4.54
		velocity		8.33		8.37		7.54	7.12	6.08	7.62		8.33	8.37	7.54	6.56	8.35	7.02	

Lesiewicz, Kornelia (POL) (2003)
FINAL - 2021 European Athletics U20 Championships (Tallin, EST) — *European Athletics (2021) - european athletics U20 championships results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jul-21	time		12.59		24.62		37.70		52.46	52.46	5 / 1							
reaction time	0.240	interval				12.03		13.08		14.76		# of strides	12.59	12.03	13.08	14.76	24.62	27.84	3.22
		velocity		7.94		8.31		7.65		6.78	7.62	197.0	7.94	8.31	7.65	6.78	8.12	7.18	

Gale, Lauren (CAN) (2000)
Heat 4 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		12.30		24.55		37.66		52.46	52.46	5 / 5							
reaction time	0.157	interval				12.25		13.11		14.80		# of strides	12.30	12.25	13.11	14.80	24.55	27.91	3.36
		velocity		8.13		8.16		7.63		6.76	7.62	191.5	8.13	8.16	7.63	6.76	8.15	7.17	

Clay, Julian (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 21-Jun-03 time						38.41	45.11	52.47	52.47	9 / 7							
reaction time		interval					6.70	7.36		# of strides				14.06			
		velocity				7.81	7.46	6.79	7.62					7.11			

Waller, Hannah (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 NCAA Championships (Austin, TX)																	*Track Newsletter (2019) - NCAA women's championships*
date 07-Jun-19 time						37.1		52.5	52.47	/ 8							
reaction time 0.268		interval						15.40		# of strides				15.40			
		velocity				5.39		6.49	7.62					6.49			

Whitney, Kaylin (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Apr-24 time	6.98	12.68	18.47	24.48	30.82	37.56	44.68	52.47	52.47	2 / 6							
reaction time 0.256		interval	5.70	5.79	6.01	6.34	6.74	7.12	7.79	# of strides	12.68	11.80	13.08	14.91	24.48	27.99	3.51
	7.16	velocity	8.77	8.64	8.32	7.89	7.42	7.02	6.42	7.62	7.89	8.47	7.65	6.71	8.17	7.15	

Diggs, Talitha (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 London Athletics Meet (London, GBR)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Jul-24 time	6.77	12.38	18.15	24.24	30.62	37.25	44.30	52.47	52.47	8 / 8							
reaction time 0.147		interval	5.61	5.77	6.09	6.38	6.63	7.05	8.17	# of strides	12.38	11.86	13.01	15.22	24.24	28.23	3.99
	7.39	velocity	8.91	8.67	8.21	7.84	7.54	7.09	6.12	7.62	8.08	8.43	7.69	6.57	8.25	7.08	

Ruzina, Yelena (URS) (1964)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																	*Pascua (1990) - atletismo (I) carreras y marcha*
date 10-Sep-89 time		13.01		24.90		38.21		52.48	52.48	8 / ~~6~~ 5							
reaction time		interval		11.89		13.31		14.27		# of strides	13.01	11.89	13.31	14.27	24.90	27.58	2.68
		velocity	7.69		8.41		7.51		7.01	7.62	7.69	8.41	7.51	7.01	8.03	7.25	

McNary, Lauren (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Carson, CA)																	*USATF Women's Sprint Development (2005)*
date 25-Jun-05 time		12.96	18.93	25.23	31.58	38.07	45.07	52.48	52.48	4 / ~~3~~ 2							
reaction time		interval	5.97	6.30	6.35	6.49	7.00	7.41	PB	# of strides	12.96	12.27	12.84	14.41	25.23	27.25	2.02
		velocity	7.72	8.38	7.94	7.87	7.70	7.14	6.75	7.62	7.72	8.15	7.79	6.94	7.93	7.34	

Chigbolu, Maria Benedicta (ITA) (198

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15 time	6.70	12.38	18.34	24.51	30.86	37.50	44.57	52.48	52.48	6 / 5							
reaction time 0.190		interval	5.68	5.96	6.17	6.35	6.64	7.07	7.91	# of strides	12.38	12.13	12.99	14.98	24.51	27.97	3.46
	7.46	velocity	8.80	8.39	8.10	7.87	7.53	7.07	6.32	7.62	6 / 5	8.08	8.24	7.70	6.68	8.16	7.15

Saalberg, Eveline (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2022) - diamond league race analysis*
date 02-Sep-22 time	6.96	12.58	18.38	24.44	30.80	37.59	44.74	52.48	52.48	7 / 4							
reaction time 0.226		interval	5.62	5.80	6.06	6.36	6.79	7.15	7.74	# of strides	12.58	11.86	13.15	14.89	24.44	28.04	3.60
	7.18	velocity	8.90	8.62	8.25	7.86	7.36	6.99	6.46	7.62	7.95	8.43	7.60	6.72	8.18	7.13	

Jones, Janeen (USA) (1972)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 17-Jun-96 time		12.70		24.66		37.60	44.77	52.49	52.49	7 / 7							
reaction time		interval		11.96		12.94	7.17	7.72		# of strides	12.70	11.96	12.94	14.89	24.66	27.83	3.17
		velocity	7.87		8.36		7.73	6.97	6.48	7.62	7.87	8.36	7.73	6.72	8.11	7.19	

Hennagan, Monique (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 1996 USA Olympic Trials (Atlanta, GA)																	*USATF Women's Sprint Development (1996)*
date 17-Jun-96 time		12.74		24.80		37.65	45.03	52.50	52.50	5 / 8							
reaction time		interval		12.06		12.85	7.38	7.47		# of strides	12.74	12.06	12.85	14.85	24.80	27.70	2.90
		velocity	7.85		8.29		7.78	6.78	6.69	7.62	7.85	8.29	7.78	6.73	8.06	7.22	

Pipi, Ama (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 13-Jun-21 time	7.0	12.8	18.8	25.0	31.5	38.1	45.0	52.50	52.50	8 / 7							
reaction time 0.134		interval	5.80	6.00	6.20	6.50	6.60	6.90	7.50	# of strides	12.80	12.20	13.10	14.40	25.00	27.50	2.50
	7.14	velocity	8.62	8.33	8.06	7.69	7.58	7.25	6.67	7.62	7.81	8.20	7.63	6.94	8.00	7.27	

Wester, Elna (SWE) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U23 Championships (Bergen, NOR)																	*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date 18-Jul-25 time	7.02	12.71	18.74	24.88	31.25	37.97	45.00	52.50	52.50	3 / 4							
reaction time 0.179		interval	5.69	6.03	6.14	6.37	6.72	7.03	7.50	# of strides	12.71	12.17	13.09	14.53	24.88	27.62	2.74
	7.12	velocity	8.79	8.29	8.14	7.85	7.44	7.11	6.67	7.62	7.87	8.22	7.64	6.88	8.04	7.24	

Davis, Kia (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 12-Jul-04 time		12.13		23.99		37.18	44.29	52.51	52.51	6 / 4							
reaction time		interval		11.86		13.19	7.11	8.22		# of strides	12.13	11.86	13.19	15.33	23.99	28.52	4.53
		velocity	8.24		8.43		7.58	7.03	6.08	7.62	8.24	8.43	7.58	6.52	8.34	7.01	

Kiran, Pahal (IND) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24 time	6.87	12.61	18.57	24.77	31.23	37.80	44.82	52.51	52.51	2 / 7							
reaction time 0.181		interval	5.74	5.96	6.20	6.46	6.57	7.02	7.69	# of strides	12.61	12.16	13.03	14.71	24.77	27.74	2.97
	7.28	velocity	8.71	8.39	8.06	7.74	7.61	7.12	6.50	7.62	7.93	8.22	7.67	6.80	8.07	7.21	

Ellis, Kendall (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Sprints - 2025 Grand Slam Track Miami (Miramar, FL)																	*Grand Slam Track (2025) - results and splits by race*

date	02-May-25	time		12.91		25.09		40.83		52.51	52.51	8 / 8						
reaction time	0.580	interval				12.18		15.74		11.68		# of strides	12.91	12.18	15.74	11.68	25.09	27.42	2.33
		velocity		7.75		8.21		6.35		8.56	7.62		7.75	8.21	6.35	8.56	7.97	7.29	

Lee, Jasmine (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 22-Jun-03 time				25.01		38.46	45.16	52.52	52.52	8 / 4							
reaction time		interval				13.45	6.70	7.36	PB	# of strides			13.45	14.06	25.01	27.51	2.50
		velocity		8.00		7.43	7.46	6.79	7.62				7.43	7.11	8.00	7.27	

Sugiura, Haruka (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National Championships (Chofu, JPN)																	*Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data*
date 08-Jun-13 time	7.00	12.94	19.09	25.31	31.60	38.22	45.18	52.52	52.52	5 / 1							
reaction time		interval	5.94	6.15	6.22	6.29	6.62	6.96	7.34	PB	# of strides	12.94	12.37	12.91	14.30	25.31	27.21	1.90
	velocity	7.14	8.42	8.13	8.04	7.95	7.55	7.18	6.81	7.62	211.0	7.73	8.08	7.75	6.99	7.90	7.35	

Putalová, Iveta (SVK) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2015 IAAF World Championships (Beijing, CHN)																	*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*
date 24-Aug-15 time	6.72	12.26	18.03	24.20	30.68	37.44	44.72	52.52	52.52	5 / 7							
reaction time	0.219	interval	5.54	5.77	6.17	6.48	6.76	7.28	7.80		# of strides	12.26	11.94	13.24	15.08	24.20	28.32	4.12
	velocity	7.44	9.03	8.67	8.10	7.72	7.40	6.87	6.41	7.62		8.16	8.38	7.55	6.63	8.26	7.06	

Pettigrew, Cameron (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)																	*Track Newsletter (2017) - NCAA women's championships*
date 10-Jun-17 time				24.2		37.7		52.5	52.52	/ 7							
reaction time		interval				13.50		14.80		# of strides			13.50	14.80	24.20	28.30	4.10
	velocity			8.26		7.41		6.76	7.62				7.41	6.76	8.26	7.07	

Schmidt, Alica (GER) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		12.57		24.74		37.87		52.52	52.52	5 / 3							
reaction time	0.203	interval		12.17		13.13		14.65		# of strides	12.57	12.17	13.13	14.65	24.74	27.78	3.04
	velocity		7.96		8.22		7.62		6.83	7.62	184.2	7.96	8.22	7.62	6.83	8.08	7.20	

Senn, Giulia (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 05-Sep-24 time	6.78	12.71	18.77	25.00	31.45	38.14	45.09	52.52	52.52	3 / 5							
reaction time	0.156	interval	5.93	6.06	6.23	6.45	6.69	6.95	7.43		# of strides	12.71	12.29	13.14	14.38	25.00	27.52	2.52
	velocity	7.37	8.43	8.25	8.03	7.75	7.47	7.19	6.73	7.62		7.87	8.14	7.61	6.95	8.00	7.27	

Peeters, Cathelijn (NED) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)																	*Grand Slam Track (2025) - results and splits by race*
date 06-Apr-25 time		12.99		25.31		38.14		52.52	52.52	3 / 5							
reaction time	0.290	interval		12.32		12.83		14.38		# of strides	12.99	12.32	12.83	14.38	25.31	27.21	1.90
	velocity		7.70		8.12		7.79		6.95	7.62		7.70	8.12	7.79	6.95	7.90	7.35	

Barber, Me'Lisa (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 20-Jun-03 time				24.84		37.82	44.83	52.53	52.53	4 / 2							
reaction time		interval				12.98	7.01	7.70		# of strides			12.98	14.71	24.84	27.69	2.85
	velocity			8.05		7.70	7.13	6.49	7.61				7.70	6.80	8.05	7.22	

Polinari, Anna (ITA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24 time		12.91		25.44		38.45		52.53	52.53	4 / 6							
reaction time	0.174	interval		12.53		13.01		14.08		# of strides	12.91	12.53	13.01	14.08	25.44	27.09	1.65
	velocity		7.75		7.98		7.69		7.10	7.61		7.75	7.98	7.69	7.10	7.86	7.38	

Segura, Berta (ESP) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24 time		13.02		25.40		38.45		52.53	52.53	3 / 7							
reaction time	0.306	interval		12.38		13.05		14.08		# of strides	13.02	12.38	13.05	14.08	25.40	27.13	1.73
	velocity		7.68		8.08		7.66		7.10	7.61		7.68	8.08	7.66	7.10	7.87	7.37	

Azevedo, Cátia (POR) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 08-Jun-24 time		12.71		24.65		37.68		52.53	52.53	9 / 5							
reaction time	0.243	interval		11.94		13.03		14.85		# of strides	12.71	11.94	13.03	14.85	24.65	27.88	3.23
	velocity		7.87		8.38		7.67		6.73	7.61		7.87	8.38	7.67	6.73	8.11	7.17	

Williams, Sa'de (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)																	*USATF Women's Sprint Development (2006)*
date 24-Jun-06 time		12.76	18.67	23.87	31.29	37.82	44.82	52.54	52.54	3 / 3							
reaction time		interval	5.91	5.20	7.42	6.53	7.00	7.72		# of strides	12.76	11.11	13.95	14.72	23.87	28.67	4.80
	velocity		7.84	8.46	9.62	6.74	7.66	7.14	6.48	7.61		7.84	9.00	7.17	6.79	8.38	6.98	

Ponteen, Tiandra (SKN) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 15-Aug-09 time		12.90		25.30		38.29		52.54	52.54	7 / 4							
reaction time	0.177	interval		12.40		12.99		14.25		# of strides	12.90	12.40	12.99	14.25	25.30	27.24	1.94
	velocity		7.75		8.06		7.70		7.02	7.61		7.75	8.06	7.70	7.02	7.91	7.34	

Kaczmarek, Natalia (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Doha Diamond League (Doha, QAT)																	*Omega Timing (2022) - diamond league race analysis*
date 13-May-22 time	6.8	12.6	19.1	25.7	31.7	38.4	45.6	52.54	52.54	1 / 6							
reaction time	0.148	interval	5.80	6.50	6.60	6.00	6.70	7.20	6.94		# of strides	12.60	13.10	12.70	14.14	25.70	26.84	1.14

		velocity	7.35	8.62	7.69	7.58	8.33	7.46	6.94	7.20	7.61		7.94	7.63	7.87	7.07	7.78	7.45	

Williams, Kiah (USA) (2002)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	22-Jun-24	time		12.11		24.00		37.03		52.54	52.54	3 / ~~8~~ 7							
reaction time		interval				11.89		13.03		15.51		# of strides	12.11	11.89	13.03	15.51	24.00	28.54	4.54
		velocity		8.26		8.41		7.67		6.45	7.61		8.26	8.41	7.67	6.45	8.33	7.01	

Gbai, Jessika (CIV) (1998)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Long Sprints - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)																			*Grand Slam Track (2025) - results and splits by race*
date	31-May-25	time		12.49		24.76		38.08		52.54	52.54	1 / ~~8~~ 7							
reaction time	0.370	interval				12.27		13.32		14.46		# of strides	12.49	12.27	13.32	14.46	24.76	27.78	3.02
		velocity		8.01		8.15		7.51		6.92	7.61		8.01	8.15	7.51	6.92	8.08	7.20	

Ellis, Kendall (USA) (1996)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 1 - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	17-Jul-22	time		12.70		25.32		38.31		52.55	52.55	8 / 6							
reaction time	0.187	interval				12.62		12.99		14.24		# of strides	12.70	12.62	12.99	14.24	25.32	27.23	1.91
		velocity		7.87		7.92		7.70		7.02	7.61	189.0	7.87	7.92	7.70	7.02	7.90	7.34	

Lilja, Lisa (SWE) (1996)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	09-Jun-24	time		12.81		25.40		38.39		52.55	52.55	2 / 8							
reaction time	0.195	interval				12.59		12.99		14.16		# of strides	12.81	12.59	12.99	14.16	25.40	27.15	1.75
		velocity		7.81		7.94		7.70		7.06	7.61		7.81	7.94	7.70	7.06	7.87	7.37	

Scott, Gabby (PUR) (1997)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 4 - 2025 World Athletics Championships (Tokyo, JPN)																			*Seiko Timing (2025) - 2025 World Championships race analysis*
date	14-Sep-25	time		12.66		24.81		37.93		52.55	52.55	4 / 8							
reaction time	0.172	interval				12.15		13.12		14.62		# of strides	12.66	12.15	13.12	14.62	24.81	27.74	2.93
		velocity		7.90		8.23		7.62		6.84	7.61		7.90	8.23	7.62	6.84	8.06	7.21	

Movchan, Tatyana (UKR) (1970)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 1997 European Cup (Munich, GER)																			*Jung (2003) - http://www.fgs.uni-halle.de*
date	21-Jun-97	time		12.66		24.46		37.58		52.56	52.56	/ 5							
reaction time		interval				11.80		13.12		14.98		# of strides	12.66	11.80	13.12	14.98	24.46	28.10	3.64
		velocity		7.90		8.47		7.62		6.68	7.61		7.90	8.47	7.62	6.68	8.18	7.12	

Laus, Camille (BEL) (1993)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	17-Jul-22	time		12.91		25.46		38.60		52.56	52.56	3 / 6							
reaction time	0.185	interval				12.55		13.14		13.96		# of strides	12.91	12.55	13.14	13.96	25.46	27.10	1.64
		velocity		7.75		7.97		7.61		7.16	7.61		7.75	7.97	7.61	7.16	7.86	7.38	

Grieve, Rebecca (GBR) (2005)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2025 European Athletics U23 Championships (Bergen, NOR)																			*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date	18-Jul-25	time	6.79	12.60	18.58	24.76	31.04	37.63	44.66	52.56	52.56	5 / 4							
reaction time	0.114	interval		5.81	5.98	6.18	6.28	6.59	7.03	7.90		# of strides	12.60	12.16	12.87	14.93	24.76	27.80	3.04
		velocity	7.36	8.61	8.36	8.09	7.96	7.59	7.11	6.33	7.61	218.0	7.94	8.22	7.77	6.70	8.08	7.19	

Cox, Crystal (USA) (1979)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)																			*USATF Women's Sprint Development (2003)*
date	20-Jun-03	time				24.01		37.27	44.44	52.57	52.57	7 / 3							
reaction time		interval						13.26	7.17	8.13		# of strides			13.26	15.30	24.01	28.56	4.55
		velocity				8.33		7.54	6.97	6.15	7.61				7.54	6.54	8.33	7.00	

Trotter, De'Hashia (Dee Dee) (USA) (1			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)																			*USATF Women's Sprint Development (2003)*
date	20-Jun-03	time				24.63		37.99	44.76	52.57	52.57	5 / 3							
reaction time		interval						13.36	6.77	7.81		# of strides			13.36	14.58	24.63	27.94	3.31
		velocity				8.12		7.49	7.39	6.40	7.61				7.49	6.86	8.12	7.16	

Pipi, Ama (GBR) (1995)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)																			*Omega Timing (2022) - diamond league race analysis*
date	21-May-22	time	6.8	12.3	18.3	24.4	30.9	37.6	44.7	52.57	52.57	5 / 2							
reaction time	0.177	interval		5.50	6.00	6.10	6.50	6.70	7.10	7.87		# of strides	12.30	12.10	13.20	14.97	24.40	28.17	3.77
		velocity	7.35	9.09	8.33	8.20	7.69	7.46	7.04	6.35	7.61		8.13	8.26	7.58	6.68	8.20	7.10	

Yang Huizhen (CHN) (1992)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2016 Chinese National Championships (Tianjin, CHN)																			*Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m*
date	15-Sep-16	time				25.36		38.52		52.57	52.57	/ 1							
reaction time		interval						13.16		14.05		# of strides			13.16	14.05	25.36	27.21	1.85
		velocity				7.89		7.60		7.12	7.61	189.0			7.60	7.12	7.89	7.35	

Saalberg, Eveline (NED) (1998)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 FBK Games (Hengelo, NED)																			*Omega Timing (2023) - continental tour race analysis*
date	04-Jun-23	time	6.84	12.45	18.33	24.47	30.98	37.75	44.84	52.57	52.57	3 / 5							
reaction time	0.234	interval		5.61	5.88	6.14	6.51	6.77	7.09	7.73		# of strides	12.45	12.02	13.28	14.82	24.47	28.10	3.63
		velocity	7.31	8.91	8.50	8.14	7.68	7.39	7.05	6.47	7.61		8.03	8.32	7.53	6.75	8.17	7.12	

Ponette, Helena (BEL) (2000)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	08-Jun-24	time		12.99		25.27		38.45		52.57	52.57	4 / 3							
reaction time	0.195	interval				12.28		13.18		14.12		# of strides	12.99	12.28	13.18	14.12	25.27	27.30	2.03
		velocity		7.70		8.14		7.59		7.08	7.61		7.70	8.14	7.59	7.08	7.91	7.33	

Gubelmann, Catia (SUI) (2001)
FINAL - 2024 Athletissima (Lausanne, SUI)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.80	12.55	18.62	24.94	31.41	38.13	45.07	52.57	52.57	5 / 1							
reaction time	0.162	interval		5.75	6.07	6.32	6.47	6.72	6.94	7.50		# of strides	12.55	12.39	13.19	14.44	24.94	27.63	2.69
		velocity	7.35	8.70	8.24	7.91	7.73	7.44	7.20	6.67	7.61		7.97	8.07	7.58	6.93	8.02	7.24	

Fox, Jessica (USA) (1982)
FINAL - 2003 USATF National Championship (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-03	time				25.36		38.36	45.11	52.58	52.58	8 / 8							
reaction time		interval						13.00	6.75	7.47		# of strides			13.00	14.22	25.36	27.22	1.86
		velocity				7.89		7.69	7.41	6.69	7.61				7.69	7.03	7.89	7.35	

Ellis, Kendall (USA) (1996)
FINAL - 2022 Doha Diamond League (Doha, QAT)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-May-22	time	6.7	12.7	19.2	25.8	32.4	39.0	45.5	52.58	52.58	2 / 7							
reaction time	0.223	interval		6.00	6.50	6.60	6.60	6.60	6.50	7.08		# of strides	12.70	13.10	13.20	13.58	25.80	26.78	0.98
		velocity	7.46	8.33	7.69	7.58	7.58	7.58	7.69	7.06	7.61		7.87	7.63	7.58	7.36	7.75	7.47	

Walli, Susanne (AUT) (1996)
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		12.72		24.91		38.10		52.58	52.58	1 / 7							
reaction time	0.279	interval				12.19		13.19		14.48		# of strides	12.72	12.19	13.19	14.48	24.91	27.67	2.76
		velocity		7.86		8.20		7.58		6.91	7.61	197.0	7.86	8.20	7.58	6.91	8.03	7.23	

Radecka-Pakaszewska, Zuzanna (POL
FINAL - 2007 European Cup (Munich, GER)
Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-07	time		12.52		24.61		37.67		52.59	52.59	/ 5							
reaction time	0.218	interval				12.09		13.06		14.92		# of strides	12.52	12.09	13.06	14.92	24.61	27.98	3.37
		velocity		7.99		8.27		7.66		6.70	7.61		7.99	8.27	7.66	6.70	8.13	7.15	

Casanova, Gilda (CUB) (1995)
FINAL - 2014 IAAF World Junior Championships (Eugene, OR)
Track Newsletter (2014) - World Junior championships women

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jul-14	time				25.2		38.0		52.6	52.59	/ 2							
reaction time	0.207	interval						12.8		14.6		# of strides			12.80	14.60	25.20	27.40	2.20
		velocity				7.94		7.81		6.85	7.61				7.81	6.85	7.94	7.30	

Saalberg, Eveline (NED) (1998)
Heat 3 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		12.76		25.00		38.37		52.59	52.59	2 / 7							
reaction time	0.190	interval				12.24		13.37		14.22		# of strides	12.76	12.24	13.37	14.22	25.00	27.59	2.59
		velocity		7.84		8.17		7.48		7.03	7.61		7.84	8.17	7.48	7.03	8.00	7.25	

Newnham, Emily (GBR) (2004)
FINAL - 2023 Weltklasse (Zürich, SUI)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	31-Aug-23	time	7.06	13.01	19.28	25.81	32.29	38.80	45.51	52.59	52.59	1 / 8							
reaction time	0.177	interval		5.95	6.27	6.53	6.48	6.51	6.71	7.08		# of strides	13.01	12.80	12.99	13.79	25.81	26.78	0.97
		velocity	7.08	8.40	7.97	7.66	7.72	7.68	7.45	7.06	7.61		7.69	7.81	7.70	7.25	7.75	7.47	

Trevisan, Giancaria (ITA) (1993)
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)
European Athletics (2024) - 2024 european athletics championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-24	time		12.63		25.12		38.34		52.59	52.59	2 / 5							
reaction time	0.188	interval				12.49		13.22		14.25		# of strides	12.63	12.49	13.22	14.25	25.12	27.47	2.35
		velocity		7.92		8.01		7.56		7.02	7.61	204.7	7.92	8.01	7.56	7.02	7.96	7.28	

Kiran, Pahal (IND) (2000)
Repechage 1 - 2024 Olympic Games (Paris, FRA)
Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-24	time	6.84	12.50	18.41	24.59	31.03	37.76	44.86	52.59	52.59	6 / 6							
reaction time	0.185	interval		5.66	5.91	6.18	6.44	6.73	7.10	7.73		# of strides	12.50	12.09	13.17	14.83	24.59	28.00	3.41
		velocity	7.31	8.83	8.46	8.09	7.76	7.43	7.04	6.47	7.61	186.0	8.00	8.27	7.59	6.74	8.13	7.14	

Grieve, Rebecca (GBR) (2005)
FINAL - 2025 European Athletics U23 Championships (Bergen, NOR)
European Athletics (2025) - 2025 european athletics U23 championships- results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jul-25	time	6.73	12.50	18.52	24.72	31.10	37.80	44.52	52.59	52.59	2 / 8							
reaction time	0.134	interval		5.77	6.02	6.20	6.38	6.70	6.72	8.07		# of strides	12.50	12.22	13.08	14.79	24.72	27.87	3.15
		velocity	7.43	8.67	8.31	8.06	7.84	7.46	7.44	6.20	7.61		8.00	8.18	7.65	6.76	8.09	7.18	

Brown, Toya (USA) (1975)
FINAL - 1998 NCAA Championships (Amherst, NY)
Track Newsletter (1998) - NCAA Championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-98	time				24.9				52.6	52.60	/ 4							
reaction time		interval								27.70		# of strides					24.90	27.70	2.80
		velocity				8.03				7.22	7.60						8.03	7.22	

Fox, Jessica (USA) (1982)
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				24.81		38.04	44.93	52.60	52.60	6 / 4							
reaction time		interval						13.23	6.89	7.67		# of strides			13.23	14.56	24.81	27.79	2.98
		velocity				8.06		7.56	7.26	6.52	7.60				7.56	6.87	8.06	7.20	

Désert-Mariller, Solen (FRA) (1982)
FINAL - 2007 European Cup (Munich, GER)
Graubner (2007) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-07	time		13.01		25.47		38.76		52.60	52.60	/ 6							
reaction time	0.342	interval				12.46		13.29		13.84		# of strides	13.01	12.46	13.29	13.84	25.47	27.13	1.66
		velocity		7.69		8.03		7.52		7.23	7.60		7.69	8.03	7.52	7.23	7.85	7.37	

George, Patience (NGR) (1991)
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)
Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

date	07-Aug-17	time		12.09		23.79		37.44	44.41	52.41	52.60	4 / 7						
reaction time	0.189	interval				11.70		13.65	6.97	8.00		# of strides	12.09	11.70	13.65	14.97	23.79	28.62	4.83
		velocity		8.27		8.55		7.33	7.17	6.25	7.60	199.0	8.27	8.55	7.33	6.68	8.41	6.99	

Beard, Jessica (USA) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Weltklasse (Zürich, SUI)																	*Omega Timing (2019) - diamond league race analysis*
date 29-Aug-19 time	7.1	12.8	18.9	25.4	31.9	38.6	45.4	52.60	52.60	8 / 8							
reaction time 0.244 interval		5.7	6.1	6.5	6.5	6.7	6.8	7.2		# of strides	12.80	12.60	13.20	14.00	25.40	27.20	1.80
velocity	7.04	8.77	8.20	7.69	7.69	7.46	7.35	6.94	7.60		7.81	7.94	7.58	7.14	7.87	7.35	

Polinari, Anna (ITA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		12.87		25.09		38.10		52.60	52.60	8 / 4							
reaction time 0.188 interval				12.22		13.01		14.50		# of strides	12.87	12.22	13.01	14.50	25.09	27.51	2.42
velocity		7.77		8.18		7.69		6.90	7.60	188.7	7.77	8.18	7.69	6.90	7.97	7.27	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, First Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 23-Jun-23 time		12.88		24.99		38.05		52.60	52.60	4 / 3							
reaction time 0.214 interval				12.11		13.06		14.55		# of strides	12.88	12.11	13.06	14.55	24.99	27.61	2.62
velocity		7.76		8.26		7.66		6.87	7.60		7.76	8.26	7.66	6.87	8.00	7.24	

Gubelmann, Catia (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 05-Sep-24 time	6.91	12.72	18.77	25.06	31.53	38.26	45.22	52.60	52.60	7 / 6							
reaction time 0.164 interval		5.81	6.05	6.29	6.47	6.73	6.96	7.38		# of strides	12.72	12.34	13.20	14.34	25.06	27.54	2.48
velocity	7.24	8.61	8.26	7.95	7.73	7.43	7.18	6.78	7.60		7.86	8.10	7.58	6.97	7.98	7.26	

Nielsen, Lina (GBR) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)																	*Grand Slam Track (2025) - results and splits by race*
date 01-Jun-25 time		12.51		25.01		37.98		52.60	52.60	2 / 1							
reaction time 0.208 interval				12.50		12.97		14.62		# of strides	12.51	12.50	12.97	14.62	25.01	27.59	2.58
velocity		7.99		8.00		7.71		6.84	7.60	190.0	7.99	8.00	7.71	6.84	8.00	7.25	

Nelson, Yulanda (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 USATF National Championship (Eugene, OR)																	*Track Newsletter (1999) - USATF National Championships*
date 26-Jun-99 time				24.9				52.6	52.61	/ 6							
reaction time interval								27.70		# of strides					24.90	27.70	2.80
velocity				8.03				7.22	7.60						8.03	7.22	

Reed, Jaevin (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 NCAA Championships (Eugene, OR)																	*Track Newsletter (2017) - NCAA women's championships*
date 10-Jun-17 time				24.4		37.9		52.6	52.61	/ 8							
reaction time interval						13.50		14.70		# of strides			13.50	14.70	24.40	28.20	3.80
velocity				8.20		7.41		6.80	7.60				7.41	6.80	8.20	7.09	

Mangione, Alice (ITA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Golden Gala Pietro Mennea (Firenze, ITA)																	*Omega Timing (2023) - diamond league race analysis*
date 02-Jun-23 time	6.88	12.59	18.59	24.82	31.25	37.96	45.05	52.61	52.61	1 / 8							
reaction time 0.130 interval		5.71	6.00	6.23	6.43	6.71	7.09	7.56		# of strides	12.59	12.23	13.14	14.65	24.82	27.79	2.97
velocity	7.27	8.76	8.33	8.03	7.78	7.45	7.05	6.61	7.60		7.94	8.18	7.61	6.83	8.06	7.20	

Gacka, Kinga (POL) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																	*Omega Timing (2022) - diamond league race analysis*
date 06-Aug-22 time	6.92	12.68	18.59	24.77	31.25	38.05	45.06	52.62	52.62	6 / 1							
reaction time 0.184 interval		5.76	5.91	6.18	6.48	6.80	7.01	7.56		# of strides	12.68	12.09	13.28	14.57	24.77	27.85	3.08
velocity	7.23	8.68	8.46	8.09	7.72	7.35	7.13	6.61	7.60		7.89	8.27	7.53	6.86	8.07	7.18	

Lacoste, Sokhna (FRA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		12.56		24.56		37.75		52.62	52.62	2 / 5							
reaction time 0.316 interval				12.00		13.19		14.87		# of strides	12.56	12.00	13.19	14.87	24.56	28.06	3.50
velocity		7.96		8.33		7.58		6.72	7.60	206.0	7.96	8.33	7.58	6.72	8.14	7.13	

Marinho, Tiffani (BRA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 05-Aug-24 time	6.95	12.75	18.79	24.93	31.25	37.82	44.82	52.62	52.62	4 / 7							
reaction time 0.188 interval		5.80	6.04	6.14	6.32	6.57	7.00	7.80		# of strides	12.75	12.18	12.89	14.80	24.93	27.69	2.76
velocity	7.19	8.62	8.28	8.14	7.91	7.61	7.14	6.41	7.60		7.84	8.21	7.76	6.76	8.02	7.22	

Vanessa, Carina (POR) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																	*European Athletics (2025) - 2025 european team championships, first division - results book*
date 27-Jun-25 time	6.84	12.50	18.43	24.65	31.13	37.86	44.97	52.62	52.62	/ 4							
reaction time 0.174 interval		5.66	5.93	6.22	6.48	6.73	7.11	7.65	PB	# of strides	12.50	12.15	13.21	14.76	24.65	27.97	3.32
velocity	7.31	8.83	8.43	8.04	7.72	7.43	7.03	6.54	7.60		8.00	8.23	7.57	6.78	8.11	7.15	

Nielsen, Laviai (GBR) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 London Athletics Meet (London, GBR)																	*Omega Timing (2025) - diamond league race analysis*
date 19-Jul-25 time	6.64	12.40	18.20	24.27	30.63	37.36	44.44	52.62	52.62	6 / 5							
reaction time 0.145 interval		5.76	5.80	6.07	6.36	6.73	7.08	8.18		# of strides	12.40	11.87	13.09	15.26	24.27	28.35	4.08
velocity	7.53	8.68	8.62	8.24	7.86	7.43	7.06	6.11	7.60		8.06	8.42	7.64	6.55	8.24	7.05	

Shcherbak, Oksana (UKR) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)																	*Graubner (2007) - http://www.fgs.uni-halle.de*
date 23-Jun-07 time		13.29		25.71		38.80		52.63	52.63	/ 7							
reaction time 0.192 interval				12.42		13.09		13.83		# of strides	13.29	12.42	13.09	13.83	25.71	26.92	1.21

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.52		8.05		7.64		7.23	7.60		7.52	8.05	7.64	7.23	7.78	7.43	

Cousins, Jessica (USA) (1985)
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-08	time		12.88	18.67	24.75	31.30	37.88	45.02	52.63	52.63	2 / 5							
reaction time		interval			5.79	6.08	6.55	6.58	7.14	7.61		# of strides	12.88	11.87	13.13	14.75	24.75	27.88	3.13
		velocity		7.76	8.64	8.22	7.63	7.60	7.00	6.57	7.60		7.76	8.42	7.62	6.78	8.08	7.17	

Mikhina, Elina (KAZ) (1994)
FINAL - 2018 Asian Games (Jakarta, INA) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-18	time	7.07	12.94	19.09	25.48	32.03	38.70	45.51	52.63	52.63	1 / 3							
reaction time	0.206	interval		5.87	6.15	6.39	6.55	6.67	6.81	7.12		# of strides	12.94	12.54	13.22	13.93	25.48	27.15	1.67
		velocity	7.07	8.52	8.13	7.82	7.63	7.50	7.34	7.02	7.60	189.0	7.73	7.97	7.56	7.18	7.85	7.37	

Mawdsley, Sharlene (IRL) (1998)
Heat 3 - 2022 European Athletics Championships (Munich, GER) — *European Athletics (2022) - european athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		12.81		25.05		37.96		52.63	52.63	6 / 6							
reaction time	0.192	interval				12.24		12.91		14.67		# of strides	12.81	12.24	12.91	14.67	25.05	27.58	2.53
		velocity		7.81		8.17		7.75		6.82	7.60	192.0	7.81	8.17	7.75	6.82	7.98	7.25	

Baisden, Kendall (USA) (1995)
FINAL - 2015 USATF National Championships (Eugene, OR) — *Track Newsletter (2015) - USATF women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time				25.3		38.5		52.6	52.64	/ 7							
reaction time		interval						13.2		14.1		# of strides			13.20	14.10	25.30	27.30	2.00
		velocity				7.91		7.58		7.09	7.60				7.58	7.09	7.91	7.33	

Lesiewicz, Kornelia (POL) (2003)
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST) — *European Athletics (2021) - european athletics U20 championships results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jul-21	time		13.02		25.48		38.83		52.64	52.64	4 / 1							
reaction time		interval				12.46		13.35		13.81		# of strides	13.02	12.46	13.35	13.81	25.48	27.16	1.68
		velocity		7.68		8.03		7.49		7.24	7.60		7.68	8.03	7.49	7.24	7.85	7.36	

Carabalí, Norfalia (COL) (1964)
Semi-Final 2 - 1988 Olympic Games (Seoul, KOR) — *Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Sep-88	time		12.91		25.13		38.29		52.65	52.65	2 / 8							
reaction time		interval				12.22		13.16		14.36		# of strides	12.91	12.22	13.16	14.36	25.13	27.52	2.39
		velocity		7.75		8.18		7.60		6.96	7.60		7.75	8.18	7.60	6.96	7.96	7.27	

Cross, Brandi (USA) (1988)
FINAL - 2005 USATF National Junior Championships (Carson, CA) — *USATF Women's Sprint Development (2005)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time		12.79	18.79	24.98	31.33	37.91	45.05	52.65	52.65	5 / ~~4~~ 3							
reaction time		interval			6.00	6.19	6.35	6.58	7.14	7.60		# of strides	12.79	12.19	12.93	14.74	24.98	27.67	2.69
		velocity		7.82	8.33	8.08	7.87	7.60	7.00	6.58	7.60		7.82	8.20	7.73	6.78	8.01	7.23	

Spencer, Ashley (USA) (1993)
FINAL - 2015 NCAA Championships (Eugene, OR) — *Track Newsletter (2015) - NCAA women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-15	time				25.4				52.6	52.65	/ 7							
reaction time		interval								27.20		# of strides					25.40	27.20	1.80
		velocity				7.87				7.35	7.60						7.87	7.35	

Wright, Katriina (FIN) (2003)
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN) — *European Athletics (2023) - european athletics U23 championships results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Jul-23	time		12.60		24.89		38.27		52.65	52.65	8 / 6							
reaction time	0.205	interval				12.29		13.38		14.38		# of strides	12.60	12.29	13.38	14.38	24.89	27.76	2.87
		velocity		7.94		8.14		7.47		6.95	7.60	198.0	7.94	8.14	7.47	6.95	8.04	7.20	

Miller-Uibo, Shaunae (BAH) (1994)
Heat 3 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.65		24.80		37.70		52.65	52.65	8 / 7							
reaction time	0.151	interval				12.15		12.90		14.95		# of strides	12.65	12.15	12.90	14.95	24.80	27.85	3.05
		velocity		7.91		8.23		7.75		6.69	7.60	178.0	7.91	8.23	7.75	6.69	8.06	7.18	

Karpiuk, Kateryna (UKR) (1995)
Heat 1 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.76		24.71		37.98		52.66	52.66	9 / 8							
reaction time	0.198	interval				11.95		13.27		14.68		# of strides	12.76	11.95	13.27	14.68	24.71	27.95	3.24
		velocity		7.84		8.37		7.54		6.81	7.60		7.84	8.37	7.54	6.81	8.09	7.16	

Senn, Giulia (SUI) (2001)
Heat 4 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.60		24.72		37.95		52.66	52.66	5 / 6							
reaction time	0.157	interval				12.12		13.23		14.71		# of strides	12.60	12.12	13.23	14.71	24.72	27.94	3.22
		velocity		7.94		8.25		7.56		6.80	7.60		7.94	8.25	7.56	6.80	8.09	7.16	

Belle, Roberta (USA) (1958)
FINAL - 1980 USA Olympic Trials (Eugene, OR) — *Track Newsletter (1980) - US olympic trials*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-80	time				24.2				52.7	52.67	/ 5							
reaction time		interval								28.5		# of strides					24.20	28.50	4.30
		velocity				8.26				7.02	7.59						8.26	7.02	

Williams, Shelise (USA) (1989)
FINAL - 2010 NCAA Championships (Eugene, OR) — *Track Newsletter (2010) - NCAA women's championships*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jun-10	time				24.3		37.5		52.7	52.67	/ 5							
reaction time		interval						13.2		15.2		# of strides			13.20	15.20	24.30	28.40	4.10
		velocity				8.23		7.58		6.58	7.59				7.58	6.58	8.23	7.04	

Porter, Kiara (USA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 NCAA Championships (Eugene, OR)																	*Track Newsletter (2015) - NCAA women's championships*
date 13-Jun-15 time				24.9				52.7	52.67	/ 8							
reaction time		interval						27.80		# of strides					24.90	27.80	2.90
		velocity		8.03				7.19	7.59						8.03	7.19	

de Witte, Lisanne (NED) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller British Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 13-Jun-21 time	7.0	12.9	18.9	25.1	31.5	38.2	45.2	52.67	52.67	1 / 8							
reaction time 0.155	interval		5.90	6.00	6.20	6.40	6.70	7.00	7.47	# of strides	12.90	12.20	13.10	14.47	25.10	27.57	2.47
	velocity	7.14	8.47	8.33	8.06	7.81	7.46	7.14	6.69	7.59	7.75	8.20	7.63	6.91	7.97	7.25	

Horvat, Anita (SLO) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22 time		12.86		25.31		38.50		52.67	52.67	7 / 6							
reaction time 0.192	interval			12.45		13.19		14.17		# of strides	12.86	12.45	13.19	14.17	25.31	27.36	2.05
	velocity		7.78		8.03		7.58		7.06	7.59	188.0	7.78	8.03	7.58	7.06	7.90	7.31

Kielbasinska, Anna (POL) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Herculis Meeting International d'Athlétisme (Monaco, MON)																	*Omega Timing (2023) - diamond league race analysis*
date 21-Jul-23 time	6.82	12.60	18.56	24.70	31.05	37.79	44.83	52.67	52.67	2 / 8							
reaction time 0.189	interval		5.78	5.96	6.14	6.35	6.74	7.04	7.84	# of strides	12.60	12.10	13.09	14.88	24.70	27.97	3.27
	velocity	7.33	8.65	8.39	8.14	7.87	7.42	7.10	6.38	7.59	7.94	8.26	7.64	6.72	8.10	7.15	

Drljačić, Veronika (CRO) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25 time		12.51		24.37		37.51		52.67	52.67	9 / 7							
reaction time 0.315	interval			11.86		13.14		15.16		# of strides	12.51	11.86	13.14	15.16	24.37	28.30	3.93
	velocity		7.99		8.43		7.61		6.60	7.59	7.99	8.43	7.61	6.60	8.21	7.07	

Peoples, Paris (USA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 22-Jun-24 time		12.47		24.17		37.28		52.68	52.68	2 / ~~9~~ 8							
reaction time	interval			11.70		13.11		15.40		# of strides	12.47	11.70	13.11	15.40	24.17	28.51	4.34
	velocity		8.02		8.55		7.63		6.49	7.59	8.02	8.55	7.63	6.49	8.27	7.02	

Gale, Lauren (CAN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 3 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24 time	6.86	12.37	18.11	24.20	30.66	37.59	44.90	52.68	52.68	3 / 6							
reaction time 0.186	interval		5.51	5.74	6.09	6.46	6.93	7.31	7.78	# of strides	12.37	11.83	13.39	15.09	24.20	28.48	4.28
	velocity	7.29	9.07	8.71	8.21	7.74	7.22	6.84	6.43	7.59	192.5	8.08	8.45	7.47	6.63	8.26	7.02

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Memorial van damme (Brussels, BEL)																	*Omega Timing (2024) - diamond league race analysis*
date 13-Sep-24 time	6.79	12.53	18.43	24.59	30.93	37.58	44.69	52.68	52.68	2 / ~~8~~ 7							
reaction time 0.185	interval		5.74	5.90	6.16	6.34	6.65	7.11	7.99	# of strides	12.53	12.06	12.99	15.10	24.59	28.09	3.50
	velocity	7.36	8.71	8.47	8.12	7.89	7.52	7.03	6.26	7.59	7.98	8.29	7.70	6.62	8.13	7.12	

Ingram, Sheila (USA) (1957)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 USA Olympic Trials (Eugene, OR)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 25-Jun-76 time				25.8				52.69	52.69	/ 1							
reaction time	interval							26.9		# of strides					25.80	26.89	1.09
	velocity			7.75				7.44	7.59						7.75	7.44	

Zakari, Joy Nakhumicha (KEN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 16-Aug-09 time		12.58		24.66		37.90		52.69	52.69	2 / 7							
reaction time 0.183	interval			12.08		13.24		14.79		# of strides	12.58	12.08	13.24	14.79	24.66	28.03	3.37
	velocity		7.95		8.28		7.55		6.76	7.59	7.95	8.28	7.55	6.76	8.11	7.14	

Wimbley, Shakima (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)																	*Omega Timing (2019) - diamond league race analysis*
date 18-May-19 time		12.5		24.6		37.9		52.69	52.69	5 / 8							
reaction time 0.130	interval			12.1		13.3		14.8		# of strides	12.50	12.10	13.30	14.79	24.60	28.09	3.49
	velocity		8.00		8.26		7.52		6.76	7.59	8.00	8.26	7.52	6.76	8.13	7.12	

Abrams, Aliyah (GUY) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Apr-24 time	6.91	12.63	18.48	24.53	30.90	37.63	44.81	52.69	52.69	3 / 7							
reaction time 0.160	interval		5.72	5.85	6.05	6.37	6.73	7.18	7.88	# of strides	12.63	11.90	13.10	15.06	24.53	28.16	3.63
	velocity	7.24	8.74	8.55	8.26	7.85	7.43	6.96	6.35	7.59	205.5	7.92	8.40	7.63	6.64	8.15	7.10

Horvat, Anita (SLO) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Memorial Van Damme (Brussels, BEL)																	*Omega Timing (2020) - diamond league race analysis*
date 04-Sep-20 time	7.2	13.1	19.2	25.5	31.8	38.4	45.3	52.70	52.70	3 / 2							
reaction time 0.188	interval		5.90	6.10	6.30	6.30	6.60	6.90	7.40	# of strides	13.10	12.40	12.90	14.30	25.50	27.20	1.70
	velocity	6.94	8.47	8.20	7.94	7.94	7.58	7.25	6.76	7.59	186.2	7.63	8.06	7.75	6.99	7.84	7.35

Schwab, Corinna (GER) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 16-Aug-22 time		12.37		24.11		37.16		52.70	52.70	4 / 8							
reaction time 0.281	interval			11.74		13.05		15.54		# of strides	12.37	11.74	13.05	15.54	24.11	28.59	4.48
	velocity		8.08		8.52		7.66		6.44	7.59	195.0	8.08	8.52	7.66	6.44	8.30	7.00

Hall, Monique (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*

date	12-Jul-04	time		12.35		23.99		37.08	44.29	52.71	52.71	6 / 5						
reaction time		interval				11.64		13.09	7.21	8.42		# of strides	12.35	11.64	13.09	15.63	23.99	28.72	4.73
		velocity		8.10		8.59		7.64	6.93	5.94	7.59		8.10	8.59	7.64	6.40	8.34	6.96	

de Witte, Lisanne (NED) (1992)

National FINAL - 2022 Weltklasse (Zürich, SUI)

Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-22	time	7.01	12.90	19.00	25.32	31.85	38.59	45.53	52.71	52.71	1 / 6							
reaction time	0.150	interval		5.89	6.10	6.32	6.53	6.74	6.94	7.18		# of strides	12.90	12.42	13.27	14.12	25.32	27.39	2.07
		velocity	7.13	8.49	8.20	7.91	7.66	7.42	7.20	6.96	7.59		7.75	8.05	7.54	7.08	7.90	7.30	

Coutinho, Geisa (BRA) (1980)

Heat 2 - 2015 IAAF World Championships (Beijing, CHN)

Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-15	time	6.90	12.74	18.77	25.08	31.52	38.17	45.22	52.72	52.72	5 / ~~6~~ 5							
reaction time	0.187	interval		5.84	6.03	6.31	6.44	6.65	7.05	7.50		# of strides	12.74	12.34	13.09	14.55	25.08	27.64	2.56
		velocity	7.25	8.56	8.29	7.92	7.76	7.52	7.09	6.67	7.59		7.85	8.10	7.64	6.87	7.97	7.24	

Mangione, Alice (ITA) (1997)

Heat 5 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		13.27		26.06		39.13		52.72	52.72	8 / 4							
reaction time	0.205	interval				12.79		13.07		13.59		# of strides	13.27	12.79	13.07	13.59	26.06	26.66	0.60
		velocity		7.54		7.82		7.65		7.36	7.59		7.54	7.82	7.65	7.36	7.67	7.50	

Peeters, Cathelijn (NED) (1996)

B Race - 2023 Memorial van Damme (Brussels, BEL)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	7.04	12.91	18.99	25.36	31.87	38.56	45.44	52.72	52.72	4 / 5							
reaction time	0.222	interval		5.87	6.08	6.37	6.51	6.69	6.88	7.28		# of strides	12.91	12.45	13.20	14.16	25.36	27.36	2.00
		velocity	7.10	8.52	8.22	7.85	7.68	7.47	7.27	6.87	7.59		7.75	8.03	7.58	7.06	7.89	7.31	

Sapenter, Debra (USA) (1952)

FINAL - 1976 USA Olympic Trials (Eugene, OR)

Hymans (2008) - history of the US olympic trials - track and field

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-76	time				24.8				52.73	52.73	/ 2							
reaction time		interval								27.9		# of strides					24.80	27.93	3.13
		velocity				8.06				7.16	7.59						8.06	7.16	

Rapai, Fanni (HUN) (2000)

Heat 4 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.92		25.02		38.38		52.73	52.73	2 / 7							
reaction time	0.177	interval				12.10		13.36		14.35	PB	# of strides	12.92	12.10	13.36	14.35	25.02	27.71	2.69
		velocity		7.74		8.26		7.49		6.97	7.59		7.74	8.26	7.49	6.97	7.99	7.22	

Azevedo, Cátia (POR) (1994)

Heat 3 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-24	time	6.82	12.40	18.14	24.23	30.66	37.45	44.72	52.73	52.73	5 / 8							
reaction time	0.191	interval		5.58	5.74	6.09	6.43	6.79	7.27	8.01		# of strides	12.40	11.83	13.22	15.28	24.23	28.50	4.27
		velocity	7.33	8.96	8.71	8.21	7.78	7.36	6.88	6.24	7.59		8.06	8.45	7.56	6.54	8.25	7.02	

Tate, Cassandra (USA) (1990)

Long Hurdles - 2025 Grand Slam Track Kingston (Kingston, JAM)

Grand Slam Track (2025) - results and splits by race

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Apr-25	time		12.33		23.96		37.01		52.73	52.73	2 / 6							
reaction time	0.230	interval				11.63		13.05		15.72		# of strides	12.33	11.63	13.05	15.72	23.96	28.77	4.81
		velocity		8.11		8.60		7.66		6.36	7.59		8.11	8.60	7.66	6.36	8.35	6.95	

Eriksen Josefine Tomine (NOR) (2000

FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time	7.10	12.90	18.93	25.08	31.42	38.19	45.14	52.73	52.73	5 / 2							
reaction time	0.180	interval		5.80	6.03	6.15	6.34	6.77	6.95	7.59		# of strides	12.90	12.18	13.11	14.54	25.08	27.65	2.57
		velocity	7.04	8.62	8.29	8.13	7.89	7.39	7.19	6.59	7.59		7.75	8.21	7.63	6.88	7.97	7.23	

Jones, Jasmine (USA) (2001)

Long Hurdles - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)

Grand Slam Track (2025) - results and splits by race

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-25	time		12.65		25.22		38.25		52.73	52.73	6 / 2							
reaction time	0.225	interval				12.57		13.03		14.48	PB	# of strides	12.65	12.57	13.03	14.48	25.22	27.51	2.29
		velocity		7.91		7.96		7.67		6.91	7.59	181.0	7.91	7.96	7.67	6.91	7.93	7.27	

Brossier, Amandine (FRA) (1995)

FINAL - 2025 Herculis Meeting International d'Athlétisme (Monaco, MON)

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-Jul-25	time	6.76	12.32	18.10	24.13	30.53	37.30	44.63	52.73	52.73	1 / 8							
reaction time	0.219	interval		5.56	5.78	6.03	6.40	6.77	7.33	8.10		# of strides	12.32	11.81	13.17	15.43	24.13	28.60	4.47
		velocity	7.40	8.99	8.65	8.29	7.81	7.39	6.82	6.17	7.59		8.12	8.47	7.59	6.48	8.29	6.99	

Baas, Mette (FIN) (2000)

Heat 5 - 2023 World Athletics Championships (Budapest, HUN)

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.87							52.74	7 / 7							
reaction time	0.135	interval										# of strides	12.87						
		velocity		7.77							7.58		7.77						

Thomas, Kim (USA)

FINAL - 1980 USA Olympic Trials (Eugene, OR)

Track Newsletter (1980) - US olympic trials

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-80	time				25.7				52.8	52.75	/ 6							
reaction time		interval								27.1		# of strides					25.70	27.10	1.40
		velocity				7.78				7.38	7.58						7.78	7.38	

Coleman, Kenyata (USA) (1986)

FINAL - 2007 NCAA Championships (Sacramento, CA)

Track Newsletter (2007) - NCAA women's championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Jun-07	time						38.2		52.8	52.75	1 / 8							
reaction time		interval								14.60		# of strides				14.60			

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity						7.85		6.85	7.58					6.85			

Bryant, Rosalyn (USA) (1956)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1976 USA Olympic Trials (Eugene, OR)																			*Hymans (2008) - history of the US olympic trials - track and field*
date	25-Jun-76	time				24.8				52.76	52.76	/ 3							
reaction time		interval								28.0		# of strides					24.80	27.96	3.16
		velocity				8.06				7.15	7.58						8.06	7.15	

Tong Zenghuan (CHN) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Chinese National Games (Tianjin, CHN)																			*Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m*
date	03-Sep-17	time		13.13		25.46		38.39		52.76	52.76	/ 3							
reaction time		interval				12.33		12.93		14.37		# of strides	13.13	12.33	12.93	14.37	25.46	27.30	1.84
		velocity		7.62		8.11		7.73		6.96	7.58	199.0	7.62	8.11	7.73	6.96	7.86	7.33	

Wright, Jessica (USA) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	21-Jun-24	time		12.76		24.90		38.01		52.76	52.76	8 / 7							
reaction time		interval				12.14		13.11		14.75		# of strides	12.76	12.14	13.11	14.75	24.90	27.86	2.96
		velocity		7.84		8.24		7.63		6.78	7.58		7.84	8.24	7.63	6.78	8.03	7.18	

Pipion, Ceonna (USA) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2024 USA Olympic Trials (Eugene, OR)																			*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date	22-Jun-24	time		12.89		25.14		38.37		52.76	52.76	1 / 9							
reaction time		interval				12.25		13.23		14.39		# of strides	12.89	12.25	13.23	14.39	25.14	27.62	2.48
		velocity		7.76		8.16		7.56		6.95	7.58		7.76	8.16	7.56	6.95	7.96	7.24	

Morauskaité, Modesta Justé (LTU) (1!

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2025 European Team Championships, First Division (Madrid, ESP)																			*European Athletics (2025) - 2025 european team championships, first division - results book*
date	27-Jun-25	time	6.80	12.45	18.28	24.33	30.65	37.48	44.67	52.76	52.76	/ 5							
reaction time	0.200	interval		5.65	5.83	6.05	6.32	6.83	7.19	8.09		# of strides	12.45	11.88	13.15	15.28	24.33	28.43	4.10
		velocity	7.35	8.85	8.58	8.26	7.91	7.32	6.95	6.18	7.58		8.03	8.42	7.60	6.54	8.22	7.03	

Lawrence, Deonna (USA) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)																			*USATF Women's Sprint Development (2003)*
date	22-Jun-03	time				24.89		38.14	45.23	52.77	52.77	3 / 5							
reaction time		interval						13.25	7.09	7.54	PB	# of strides			13.25	14.63	24.89	27.88	2.99
		velocity				8.04		7.55	7.05	6.63	7.58				7.55	6.84	8.04	7.17	

Yang Huizhen (CHN) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Chinese National Grand Prix (Shaoxing, CHN)																			*Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m*
date	16-Apr-16	time				25.52		38.72		52.77	52.77	/ 1							
reaction time		interval						13.20		14.05		# of strides			13.20	14.05	25.52	27.25	1.73
		velocity				7.84		7.58		7.12	7.58	197.0			7.58	7.12	7.84	7.34	

Laus, Camille (BEL) (1993)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Meeting International Mohammed VI d'Athlétime (Rabat, MAR)																			*Omega Timing (2022) - diamond league race analysis*
date	05-Jun-22	time	6.87	12.71	18.74	25.09	31.68	38.64	45.50	52.77	52.77	1 / 8							
reaction time	0.216	interval		5.84	6.03	6.35	6.59	6.96	6.86	7.27		# of strides	12.71	12.38	13.55	14.13	25.09	27.68	2.59
		velocity	7.28	8.56	8.29	7.87	7.59	7.18	7.29	6.88	7.58		7.87	8.08	7.38	7.08	7.97	7.23	

Bolingo, Cynthia (BEL) (1993)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	05-Aug-24	time	6.80	12.48	18.34	24.52	31.10	37.94	45.11	52.77	52.77	3 / 8							
reaction time	0.172	interval		5.68	5.86	6.18	6.58	6.84	7.17	7.66		# of strides	12.48	12.04	13.42	14.83	24.52	28.25	3.73
		velocity	7.35	8.80	8.53	8.09	7.60	7.31	6.97	6.53	7.58		8.01	8.31	7.45	6.74	8.16	7.08	

Wyciszkiewicz, Patrycja (POL) (1994)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Memorial Van Damme (Brussels, BEL)																			*Omega Timing (2020) - diamond league race analysis*
date	04-Sep-20	time	7.1	13.1	19.1	25.3	31.7	38.4	45.3	52.78	52.78	2 / 3							
reaction time	0.161	interval		6.00	6.00	6.20	6.40	6.70	6.90	7.48		# of strides	13.10	12.20	13.10	14.38	25.30	27.48	2.18
		velocity	7.04	8.33	8.33	8.06	7.81	7.46	7.25	6.68	7.58	194.7	7.63	8.20	7.63	6.95	7.91	7.28	

Mangione, Alice (ITA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)																			*Omega Timing (2020) - diamond league race analysis*
date	17-Sep-20	time	7.3	13.3	19.4	25.6	31.9	38.6	45.5	52.78	52.78	9 / 8							
reaction time	0.192	interval		6.00	6.10	6.20	6.30	6.70	6.90	7.28		# of strides	13.30	12.30	13.00	14.18	25.60	27.18	1.58
		velocity	6.85	8.33	8.20	8.06	7.94	7.46	7.25	6.87	7.58		7.52	8.13	7.69	7.05	7.81	7.36	

Jæger, Henriette (NOR) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																			*European Athletics (2023) - european athletics U23 championships results book*
date	13-Jul-23	time		12.56		24.82		38.63		52.78	52.78	5 / 2							
reaction time	0.177	interval				12.26		13.81		14.15		# of strides	12.56	12.26	13.81	14.15	24.82	27.96	3.14
		velocity		7.96		8.16		7.24		7.07	7.58		7.96	8.16	7.24	7.07	8.06	7.15	

Ertzgaard, Astri (NOR) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 European Athletics Championships (Roma, ITA)																			*European Athletics (2024) - 2024 european athletics championships - results book*
date	08-Jun-24	time		13.18		25.49		38.40		52.78	52.78	6 / 4							
reaction time	0.249	interval				12.31		12.91		14.38		# of strides	13.18	12.31	12.91	14.38	25.49	27.29	1.80
		velocity		7.59		8.12		7.75		6.95	7.58		7.59	8.12	7.75	6.95	7.85	7.33	

Thiam, Amy Mbacké (SEN) (1976)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2009 IAAF World Championships (Berlin, GER)																			*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date	15-Aug-09	time		12.68		25.40		38.56		52.79	52.79	6 / 3							
reaction time	0.159	interval				12.72		13.16		14.23		# of strides	12.68	12.72	13.16	14.23	25.40	27.39	1.99
		velocity		7.89		7.86		7.60		7.03	7.58		7.89	7.86	7.60	7.03	7.87	7.30	

Miller, Polina (RUS) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)																	*European Athletics (2019) - race analysis*
date 09-Sep-19 time		12.48		24.13		37.06		52.79	52.79	3 / 7							
reaction time 0.192 interval				11.65		12.93		15.73		# of strides	12.48	11.65	12.93	15.73	24.13	28.66	4.53
velocity		8.01		8.58		7.73		6.36	7.58	202.0	8.01	8.58	7.73	6.36	8.29	6.98	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Meeting de Paris (Paris, FRA)																	*Omega Timing (2021) - diamond league race analysis*
date 28-Aug-21 time	6.8	12.7	18.9	25.2	31.5	38.1	45.1	52.79	52.79	3 / 8							
reaction time 0.189 interval		5.90	6.20	6.30	6.30	6.60	7.00	7.69		# of strides	12.70	12.50	12.90	14.69	25.20	27.59	2.39
velocity	7.35	8.47	8.06	7.94	7.94	7.58	7.14	6.50	7.58	204.0	7.87	8.00	7.75	6.81	7.94	7.25	

Porter, Kiara (USA) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 NCAA Championships (Eugene, OR)																	*Track Newsletter (2014) - NCAA women's championships*
date 13-Jun-14 time				24.7		38.3		52.8	52.80	/ 8							
reaction time interval						13.60		14.50		# of strides			13.60	14.50	24.70	28.10	3.40
velocity				8.10		7.35		6.90	7.58				7.35	6.90	8.10	7.12	

Uko, Imaobong Nse (NGR) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22 time		12.76		25.22		38.50		52.80	52.80	8 / 7							
reaction time 0.203 interval				12.46		13.28		14.30		# of strides	12.76	12.46	13.28	14.30	25.22	27.58	2.36
velocity		7.84		8.03		7.53		6.99	7.58	194.0	7.84	8.03	7.53	6.99	7.93	7.25	

Marinho, Tiffani (BRA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*
date 17-Jul-22 time		12.92		25.29		38.39		52.80	52.80	3 / 6							
reaction time 0.188 interval				12.37		13.10		14.41		# of strides	12.92	12.37	13.10	14.41	25.29	27.51	2.22
velocity		7.74		8.08		7.63		6.94	7.58	202.0	7.74	8.08	7.63	6.94	7.91	7.27	

van den Broeck, Naomi (BEL) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		12.73		25.06		38.20		52.80	52.80	1 / 7							
reaction time 0.157 interval				12.33		13.14		14.60		# of strides	12.73	12.33	13.14	14.60	25.06	27.74	2.68
velocity		7.86		8.11		7.61		6.85	7.58	213.5	7.86	8.11	7.61	6.85	7.98	7.21	

Laus, Camille (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Memorial Van Damme (Brussels, BEL)																	*Omega Timing (2020) - diamond league race analysis*
date 04-Sep-20 time	7.1	13.1	19.3	25.7	32.2	38.9	45.6	52.81	52.81	4 / 4							
reaction time 0.190 interval		6.00	6.20	6.40	6.50	6.70	6.70	7.21		# of strides	13.10	12.60	13.20	13.91	25.70	27.11	1.41
velocity	7.04	8.33	8.06	7.81	7.69	7.46	7.46	6.93	7.57	196.2	7.63	7.94	7.58	7.19	7.78	7.38	

Connolly, Ella (AUS) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																	*Koyama (2018) - research on athlete performance and technique- 2018 data book*
date 12-Jul-18 time	6.63	12.37	18.33	24.62	31.15	37.89	45.01	52.82	52.82	5 / 4							
reaction time 0.186 interval		5.74	5.96	6.29	6.53	6.74	7.12	7.81		# of strides	12.37	12.25	13.27	14.93	24.62	28.20	3.58
velocity	7.54	8.71	8.39	7.95	7.66	7.42	7.02	6.40	7.57	192.0	8.08	8.16	7.54	6.70	8.12	7.09	

Abrams, Aliyah (GUY) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 05-Aug-22 time	6.7	12.4	18.4	24.7	31.2	38.0	45.1	52.82	52.82	4 / 6							
reaction time 0.145 interval		5.70	6.00	6.30	6.50	6.80	7.10	7.72		# of strides	12.40	12.30	13.30	14.82	24.70	28.12	3.42
velocity	7.46	8.77	8.33	7.94	7.69	7.35	7.04	6.48	7.57	202.0	8.06	8.13	7.52	6.75	8.10	7.11	

Caicedo, Nicole (ECU) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		12.08		23.89		36.97		52.82	52.82	3 / 7							
reaction time 0.227 interval				11.81		13.08		15.85		# of strides	12.08	11.81	13.08	15.85	23.89	28.93	5.04
velocity		8.28		8.47		7.65		6.31	7.57		8.28	8.47	7.65	6.31	8.37	6.91	

Ertzgaard, Astri (NOR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*
date 09-Jun-24 time		12.68		24.85		38.17		52.82	52.82	3 / 6							
reaction time 0.174 interval				12.17		13.32		14.65		# of strides	12.68	12.17	13.32	14.65	24.85	27.97	3.12
velocity		7.89		8.22		7.51		6.83	7.57	206.5	7.89	8.22	7.51	6.83	8.05	7.15	

Troiani, Virginia (ITA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		13.23		25.48		38.51		52.83	52.83	6 / 4							
reaction time 0.247 interval				12.25		13.03		14.32		# of strides	13.23	12.25	13.03	14.32	25.48	27.35	1.87
velocity		7.56		8.16		7.67		6.98	7.57		7.56	8.16	7.67	6.98	7.85	7.31	

Perkins, Angel (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 15-Jul-04 time		12.11		23.97	30.45	37.30	44.66	52.84	52.84	7 / 7							
reaction time interval				11.86	6.48	6.85	7.36	8.18		# of strides	12.11	11.86	13.33	15.54	23.97	28.87	4.90
velocity		8.26		8.43	7.72	7.30	6.79	6.11	7.57		8.26	8.43	7.50	6.44	8.34	6.93	

Whitney, Kaylin (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 23-May-21 time	7.2	12.9	18.7	24.8	31.1	38.0	45.3	52.84	52.84	7 / 4							
reaction time 0.162 interval		5.70	5.80	6.10	6.30	6.90	7.30	7.54		# of strides	12.90	11.90	13.20	14.84	24.80	28.04	3.24
velocity	6.94	8.77	8.62	8.20	7.94	7.25	6.85	6.63	7.57		7.75	8.40	7.58	6.74	8.06	7.13	

Mingilishi, Niddy (ZAM) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 World Athletics Championships (Eugene, OR)																	*Timing by Seiko (2022) - world athletics championships race analysis*

date	17-Jul-22	time		12.84		25.06		38.38		52.84	52.84	5 / 7						
reaction time	0.163	interval				12.22		13.32		14.46		# of strides	12.84	12.22	13.32	14.46	25.06	27.78	2.72
		velocity		7.79		8.18		7.51		6.92	7.57	192.0	7.79	8.18	7.51	6.92	7.98	7.20	

Danner, Mary (USA) (1980)

Semi-Final 1 - 2004 USA Olympic Trials (Sacramento, CA)

USATF Women's Sprint Development (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Jul-04	time	12.36		24.11	30.58	37.30	44.65	52.85	52.85	8 / 8							
reaction time	interval			11.75	6.47	6.72	7.35	8.20		# of strides	12.36	11.75	13.19	15.55	24.11	28.74	4.63
	velocity	8.09		8.51	7.73	7.44	6.80	6.10	7.57		8.09	8.51	7.58	6.43	8.30	6.96	

Ogoegbunam, Amaka (NGR) (1990)

Heat 4 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Aug-09	time	12.74		24.74		37.95		52.85	52.85	3 / ~~3~~							
reaction time 0.166	interval			12.00		13.21		14.90	DV	# of strides	12.74	12.00	13.21	14.90	24.74	28.11	3.37
	velocity	7.85		8.33		7.57		6.71	7.57		7.85	8.33	7.57	6.71	8.08	7.11	

Mangione, Alice (ITA) (1997)

FINAL - 2020 Memorial Van Damme (Brussels, BEL)

Omega Timing (2020) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 04-Sep-20	time 7.2	13.0	19.0	25.3	31.8	38.5	45.4	52.85	52.85	7 / 5							
reaction time 0.195	interval	5.80	6.00	6.30	6.50	6.70	6.90	7.45		# of strides	13.00	12.30	13.20	14.35	25.30	27.55	2.25
	velocity 6.94	8.62	8.33	7.94	7.69	7.46	7.25	6.71	7.57	197.0	7.69	8.13	7.58	6.97	7.91	7.26	

Davis, Karimah (USA) (1998)

Heat 1 - 2025 USATF Championships (Eugene, OR)

USATF and Karmarush (2025) - USATF championships results and race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 01-Aug-25	time	11.97		23.98		37.34		52.85	52.85	7 / 5							
reaction time	interval			12.01		13.36		15.51		# of strides	11.97	12.01	13.36	15.51	23.98	28.87	4.89
	velocity	8.35		8.33		7.49		6.45	7.57		8.35	8.33	7.49	6.45	8.34	6.93	

Kobayashi, Mayu (JPN) (1996)

FINAL - 2021 Japanese National Championships (Osaka, JPN)

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 25-Jun-21	time 7.17	13.04	19.02	25.21	31.65	38.37	45.43	52.86	52.86	9 / 1							
reaction time 0.201	interval	5.87	5.98	6.19	6.44	6.72	7.06	7.43	PB	# of strides	13.04	12.17	13.16	14.49	25.21	27.65	2.44
	velocity 6.97	8.52	8.36	8.08	7.76	7.44	7.08	6.73	7.57	198.0	7.67	8.22	7.60	6.90	7.93	7.23	

Irby, Lynna (USA) (1998)

FINAL - 2022 Doha Diamond League (Doha, QAT)

Omega Timing (2022) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 13-May-22	time 6.6	12.6	18.8	25.2	31.7	38.3	45.2	52.86	52.86	8 / 8							
reaction time 0.222	interval	6.00	6.20	6.40	6.50	6.60	6.90	7.66		# of strides	12.60	12.60	13.10	14.56	25.20	27.66	2.46
	velocity 7.58	8.33	8.06	7.81	7.69	7.58	7.25	6.53	7.57		7.94	7.94	7.63	6.87	7.94	7.23	

Lemmens, Silke (SUI) (1999)

Heat 5 - 2022 World Athletics Championships (Eugene, OR)

Timing by Seiko (2022) - world athletics championships race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 17-Jul-22	time	12.80		25.50		38.74		52.86	52.86	5 / 5							
reaction time 0.160	interval			12.70		13.24		14.12		# of strides	12.80	12.70	13.24	14.12	25.50	27.36	1.86
	velocity	7.81		7.87		7.55		7.08	7.57		7.81	7.87	7.55	7.08	7.84	7.31	

Niederberger, Julia (SUI) (2000)

National FINAL - 2022 Weltklasse (Zürich, SUI)

Omega Timing (2022) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 08-Sep-22	time 6.84	12.72	18.81	25.00	31.43	38.23	45.35	52.86	52.86	2 / 7							
reaction time 0.172	interval	5.88	6.09	6.19	6.43	6.80	7.12	7.51		# of strides	12.72	12.28	13.23	14.63	25.00	27.86	2.86
	velocity 7.31	8.50	8.21	8.08	7.78	7.35	7.02	6.66	7.57		7.86	8.14	7.56	6.84	8.00	7.18	

Baas, Mette (FIN) (2000)

B FINAL - 2023 European Team Championships, First Division (Chorzów, POL)

European Athletics (2023) - 3rd european games, athletics - results book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 23-Jun-23	time	12.65		24.67		38.11		52.86	52.86	8 / 4							
reaction time 0.175	interval			12.02		13.44		14.75		# of strides	12.65	12.02	13.44	14.75	24.67	28.19	3.52
	velocity	7.91		8.32		7.44		6.78	7.57		7.91	8.32	7.44	6.78	8.11	7.09	

Aguilar, Evelyn (COL) (1993)

Repechage 3 - 2024 Olympic Games (Paris, FRA)

Paris 2024 Olympic Games - Results Book (2024)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Aug-24	time 6.86	12.64	18.57	24.70	31.00	37.64	44.79	52.86	52.86	7 / 7							
reaction time 0.156	interval	5.78	5.93	6.13	6.30	6.64	7.15	8.07		# of strides	12.64	12.06	12.94	15.22	24.70	28.16	3.46
	velocity 7.29	8.65	8.43	8.16	7.94	7.53	6.99	6.20	7.57		7.91	8.29	7.73	6.57	8.10	7.10	

Anning, Amber (GBR) (2000)

FINAL - 2025 Athlos (Randalls Island, NY)

Athlos and Karmarush (2025). Athlos results and race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 10-Oct-25	time	12.30		24.48		38.01		52.86	52.86	8 / 6							
reaction time	interval			12.18		13.53		14.85		# of strides	12.30	12.18	13.53	14.85	24.48	28.38	3.90
	velocity	8.13		8.21		7.39		6.73	7.57		8.13	8.21	7.39	6.73	8.17	7.05	

Greggs, Charlette (USA) (1983)

Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)

USATF Women's Sprint Development (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Jul-04	time	12.60		24.34	30.60	37.27	44.41	52.87	52.87	7 / 7							
reaction time	interval			11.74	6.26	6.67	7.14	8.46		# of strides	12.60	11.74	12.93	15.60	24.34	28.53	4.19
	velocity	7.94		8.52	7.99	7.50	7.00	5.91	7.57	181.0	7.94	8.52	7.73	6.41	8.22	7.01	

Fahr, Annina (SUI) (1993)

FINAL - 2024 Weltklasse (Zürich, SUI)

Omega Timing (2024) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 05-Sep-24	time 6.88	12.59	18.50	24.68	31.07	37.86	44.96	52.87	52.87	8 / 7							
reaction time 0.163	interval	5.71	5.91	6.18	6.39	6.79	7.10	7.91		# of strides	12.59	12.09	13.18	15.01	24.68	28.19	3.51
	velocity 7.27	8.76	8.46	8.09	7.82	7.36	7.04	6.32	7.57		7.94	8.27	7.59	6.66	8.10	7.09	

Knight, Andrenette (JAM) (1996)

Long Hurdles - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)

Grand Slam Track (2025) - results and splits by race

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 01-Jun-25	time	12.69		25.40		38.24		52.87	52.87	8 / 3							
reaction time 0.211	interval			12.71		12.84		14.63		# of strides	12.69	12.71	12.84	14.63	25.40	27.47	2.07

WR = World Rec. AR = Area Rec. OR = Olympic Rec. CR = Championship Rec. NR = National Rec. PB = Personal Best DQ = Disqualified DV = Drug Violation

		velocity		7.88		7.87		7.79		6.84	7.57		7.88	7.87	7.79	6.84	7.87	7.28	

Clay, Julian (USA) (1977)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 20-Jun-03 time				24.12		37.67	44.71	52.88	52.88	6 / 4							
reaction time		interval				13.55	7.04	8.17		# of strides			13.55	15.21	24.12	28.76	4.64
		velocity				8.29	7.38	7.10	6.12	7.56			7.38	6.57	8.29	6.95	

Borga, Rebecca (ITA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Golden Gala Pietro Mennea (Rome, ITA)																	*Omega Timing (2020) - diamond league race analysis*
date 17-Sep-20 time	7.0	13.1	19.3	25.7	32.1	38.7	45.5	52.88	52.88	1 / 9							
reaction time 0.176	interval	6.10	6.20	6.40	6.40	6.60	6.80	7.38		# of strides	13.10	12.60	13.00	14.18	25.70	27.18	1.48
	velocity	7.14	8.20	8.06	7.81	7.81	7.58	7.35	6.78	7.56	7.63	7.94	7.69	7.05	7.78	7.36	

Elliott, Rosie (NZL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2023 World Athletics Championships (Budapest, HUN)																	*Seiko Timing (2023) - world championship race analysis*
date 20-Aug-23 time		13.23		25.63		38.80		52.88	52.88	3 / 8							
reaction time 0.167	interval			12.40		13.17		14.08		# of strides	13.23	12.40	13.17	14.08	25.63	27.25	1.62
	velocity		7.56		8.06		7.59		7.10	7.56	186.0	7.56	8.06	7.59	7.10	7.80	7.34

Williams-Mills, Novlene (JAM) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 IAAF World Championships (Daegu, KOR)																	*Butler (2013) - IAAF world athletic results 2008-2011 full results*
date 29-Aug-11 time				23.5		36.3		52.89	52.89	8 / 8							
reaction time 0.276	interval					12.8		16.6		# of strides					23.50	29.39	5.89
	velocity			8.51		7.81		6.03	7.56						8.51	6.81	

Yang Huizhen (CHN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Chinese National Grand Prix Final (Chongqing, CHN)																	*Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m*
date 19-Jun-16 time				25.24		38.64		52.90	52.90	/ 1							
reaction time	interval					13.40		14.26		# of strides			13.40	14.26	25.24	27.66	2.42
	velocity			7.92		7.46		7.01	7.56	195.0			7.46	7.01	7.92	7.23	

Marinho, Tiffani (BRA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	*Omega Timing (2022) - continental tour race analysis*
date 06-Jun-22 time	6.9	12.7	18.5	25.0	31.5	38.2	45.3	52.90	52.90	8 / 7							
reaction time 0.234	interval	5.80	5.80	6.50	6.50	6.70	7.10	7.60		# of strides	12.70	12.30	13.20	14.70	25.00	27.90	2.90
	velocity	7.25	8.62	8.62	7.69	7.69	7.46	7.04	6.58	7.56	7.87	8.13	7.58	6.80	8.00	7.17	

George, Patience (NGR) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 05-Aug-22 time	6.6	12.1	17.8	23.8	30.2	37.1	44.5	52.90	52.90	3 / 5							
reaction time 0.183	interval	5.50	5.70	6.00	6.40	6.90	7.40	8.40		# of strides	12.10	11.70	13.30	15.80	23.80	29.10	5.30
	velocity	7.58	9.09	8.77	8.33	7.81	7.25	6.76	5.95	7.56	200.0	8.26	8.55	7.52	6.33	8.40	6.87

Giger, Yasmin (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Weltklasse (Zürich, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 08-Sep-22 time	7.10	13.09	19.21	25.48	31.89	38.60	45.59	52.90	52.90	3 / 8							
reaction time 0.156	interval	5.99	6.12	6.27	6.41	6.71	6.99	7.31		# of strides	13.09	12.39	13.12	14.30	25.48	27.42	1.94
	velocity	7.04	8.35	8.17	7.97	7.80	7.45	7.15	6.84	7.56	7.64	8.07	7.62	6.99	7.85	7.29	

Rockmeier, Birgit (GER) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2002 European Championships (Munich, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 08-Aug-02 time		12.75		25.02		38.46		52.91	52.91	/ 8							
reaction time 0.127	interval			12.27		13.44		14.45		# of strides	12.75	12.27	13.44	14.45	25.02	27.89	2.87
	velocity		7.84		8.15		7.44		6.92	7.56	7.84	8.15	7.44	6.92	7.99	7.17	

Fahr, Annina (SUI) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Athletissima (Lausanne, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 26-Aug-22 time	6.9	12.7	18.7	24.9	31.3	38.0	45.1	52.91	52.91	4 / 2							
reaction time 0.176	interval	5.80	6.00	6.20	6.40	6.70	7.10	7.81	PB	# of strides	12.70	12.20	13.10	14.91	24.90	28.01	3.11
	velocity	7.25	8.62	8.33	8.06	7.81	7.46	7.04	6.40	7.56	7.87	8.20	7.63	6.71	8.03	7.14	

Coleman, Kenyata (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 29-Jun-08 time		12.35	18.89	25.30	31.68	38.51	45.62	52.92	52.92	2 / 4							
reaction time	interval		6.54	6.41	6.38	6.83	7.11	7.30		# of strides	12.35	12.95	13.21	14.41	25.30	27.62	2.32
	velocity		8.10	7.65	7.80	7.84	7.32	7.03	6.85	7.56	8.10	7.72	7.57	6.94	7.91	7.24	

Ghafoor, Madiea (NED) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR)																	*Omega Timing (2019) - diamond league race analysis*
date 16-Jun-19 time		12.3		24.2		37.6		52.92	52.92	1 / 8							
reaction time 0.205	interval			11.9		13.4		15.3		# of strides	12.30	11.90	13.40	15.32	24.20	28.72	4.52
	velocity		8.13		8.40		7.46		6.53	7.56	199.5	8.13	8.40	7.46	6.53	8.26	6.96

Saalberg, Eveline (NED) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2022) - diamond league race analysis*
date 30-Jun-22 time	6.94	12.53	18.20	24.32	30.91	37.81	45.00	52.92	52.92	5 / 4							
reaction time 0.209	interval	5.59	5.67	6.12	6.59	6.90	7.19	7.92		# of strides	12.53	11.79	13.49	15.11	24.32	28.60	4.28
	velocity	7.20	8.94	8.82	8.17	7.59	7.25	6.95	6.31	7.56	7.98	8.48	7.41	6.62	8.22	6.99	

Wright, Katriina (FIN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23 time		12.91		25.70		39.48		52.92	52.92	5 / 3							
reaction time 0.239	interval			12.79		13.78		13.44		# of strides	12.91	12.79	13.78	13.44	25.70	27.22	1.52
	velocity		7.75		7.82		7.26		7.44	7.56	7.75	7.82	7.26	7.44	7.78	7.35	

Gogl-Walli, Susanne (AUT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2025 World Athletics Championships (Tokyo, JPN)																	
Seiko Timing (2025) - 2025 World Championships race analysis																	
date 14-Sep-25	time	12.62		24.74		37.97		52.92	52.92	4 / 8							
reaction time 0.195	interval			12.12		13.23		14.95		# of strides	12.62	12.12	13.23	14.95	24.74	28.18	3.44
	velocity	7.92		8.25		7.56		6.69	7.56		7.92	8.25	7.56	6.69	8.08	7.10	

Muir, Jody Ann (JAM) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 NCAA Championships (Eugene, OR)																	
Track Newsletter (2010) - NCAA women's championships																	
date 11-Jun-10	time			25.5		38.6		52.9	52.93	/ 6							
reaction time	interval					13.1		14.3		# of strides			13.10	14.30	25.50	27.40	1.90
	velocity			7.84		7.63		6.99	7.56				7.63	6.99	7.84	7.30	

Zemlyak, Olha (UKR) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Meeting de Paris (Paris, FRA)																	
Omega Timing (2017) - diamond league race analysis																	
date 01-Jul-17	time	12.5	18.2	24.2	30.7	37.6	44.9	52.93	52.93	2 / ~~6~~							
reaction time 0.196	interval		5.7	6.0	6.5	6.9	7.3	8.0	DV	# of strides	12.50	11.70	13.40	15.33	24.20	28.73	4.53
	velocity	8.00	8.77	8.33	7.69	7.25	6.85	6.23	7.56	200.0	8.00	8.55	7.46	6.52	8.26	6.96	

Laus, Camille (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Memorial van Damme (Brussels, BEL)																	
Omega Timing (2022) - diamond league race analysis																	
date 02-Sep-22	time	7.06	12.94	19.01	25.39	32.01	38.88	45.78	52.93	52.93	5 / 5						
reaction time 0.226	interval		5.88	6.07	6.38	6.62	6.87	6.90	7.15		# of strides	12.94	12.45	13.49	14.05	25.39	27.54	2.15
	velocity	7.08	8.50	8.24	7.84	7.55	7.28	7.25	6.99	7.56		7.73	8.03	7.41	7.12	7.88	7.26	

McPherson, Stephenie (JAM) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)																	
Omega Timing (2023) - diamond league race analysis																	
date 05-May-23	time	6.90	12.58	18.54	24.74	31.13	37.92	44.95	52.93	52.93	3 / 6						
reaction time 0.139	interval		5.68	5.96	6.20	6.39	6.79	7.03	7.98		# of strides	12.58	12.16	13.18	15.01	24.74	28.19	3.45
	velocity	7.25	8.80	8.39	8.06	7.82	7.36	7.11	6.27	7.56	193.0	7.95	8.22	7.59	6.66	8.08	7.09	

Ertzgaard, Astri (NOR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)																	
Omega Timing (2025) - diamond league race analysis																	
date 03-May-25	time	6.95	12.72	18.68	24.74	31.07	37.79	45.05	52.93	52.93	4 / 3						
reaction time 0.135	interval		5.77	5.96	6.06	6.33	6.72	7.26	7.88		# of strides	12.72	12.02	13.05	15.14	24.74	28.19	3.45
	velocity	7.19	8.67	8.39	8.25	7.90	7.44	6.89	6.35	7.56		7.86	8.32	7.66	6.61	8.08	7.09	

Kwarteng, Victoria (FRA) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 European Athletics U20 Championships (Tampere, FIN)																	
European Athletics (2025) - 2025 european athletics U20 championships - results book																	
date 08-Aug-25	time	6.92	12.82	18.95	25.29	31.84	38.63	45.44	52.93	52.93	6 / 1						
reaction time 0.138	interval		5.90	6.13	6.34	6.55	6.79	6.81	7.49	PB	# of strides	12.82	12.47	13.34	14.30	25.29	27.64	2.35
	velocity	7.23	8.47	8.16	7.89	7.63	7.36	7.34	6.68	7.56	203.0	7.80	8.02	7.50	6.99	7.91	7.24	

Xiao Hongfan (CHN) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2001 Chinese National Games (Guangzhou, CHN)																	
Wang (2012) - Research on the analysis of the speed distribution of China's outstanding female 400-meter runners																	
date 21-Nov-01	time		12.50		24.70		38.27		52.96	52.94	/ 1						
reaction time	interval				12.20		13.57		14.69		# of strides	12.50	12.20	13.57	14.69	24.70	28.26	3.56
	velocity		8.00		8.20		7.37		6.81	7.56		8.00	8.20	7.37	6.81	8.10	7.08	

Moraa, Mary (KEN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																	
Koyama (2018) - research on athlete performance and technique- 2018 data book																	
date 12-Jul-18	time	7.05	12.85	18.89	25.29	31.84	38.53	45.46	52.94	52.94	7 / 5						
reaction time 0.286	interval		5.80	6.04	6.40	6.55	6.69	6.93	7.48		# of strides	12.85	12.44	13.24	14.41	25.29	27.65	2.36
	velocity	7.09	8.62	8.28	7.81	7.63	7.47	7.22	6.68	7.56	202.0	7.78	8.04	7.55	6.94	7.91	7.23	

Logvynenko, Alina (UKR) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Weltklasse (Zürich, SUI)																	
Omega Timing (2021) - diamond league race analysis																	
date 09-Sep-21	time	7.1	13.0	19.0	25.2	31.6	38.2	45.1	52.94	52.94	1 / 4						
reaction time 0.173	interval		5.90	6.00	6.20	6.40	6.60	6.90	7.84		# of strides	13.00	12.20	13.00	14.74	25.20	27.74	2.54
	velocity	7.04	8.47	8.33	8.06	7.81	7.58	7.25	6.38	7.56		7.69	8.20	7.69	6.78	7.94	7.21	

Baas, Mette (FIN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 European Athletics Championships (Roma, ITA)																	
European Athletics (2024) - 2024 european athletics championships - results book																	
date 08-Jun-24	time		13.44		26.14		38.76		52.94	52.94	7 / 5						
reaction time 0.252	interval				12.70		12.62		14.18		# of strides	13.44	12.70	12.62	14.18	26.14	26.80	0.66
	velocity		7.44		7.87		7.92		7.05	7.56		7.44	7.87	7.92	7.05	7.65	7.46	

Brier, Hannah (GBR) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)																	
Omega Timing (2024) - diamond league race analysis																	
date 20-Jul-24	time	6.85	12.77	18.84	25.14	31.61	38.31	45.29	52.94	52.94	8 / 7						
reaction time 0.150	interval		5.92	6.07	6.30	6.47	6.70	6.98	7.65		# of strides	12.77	12.37	13.17	14.63	25.14	27.80	2.66
	velocity	7.30	8.45	8.24	7.94	7.73	7.46	7.16	6.54	7.56		7.83	8.08	7.59	6.84	7.96	7.19	

Edmondson, Malika (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USATF National Junior Championships (Delaware, OH)																	
USATF Women's Sprint Development (1996)																	
date 29-Jun-96	time		12.53		24.67		37.95	45.09	52.95	52.95	4 / 2						
reaction time	interval				12.14		13.28	7.14	7.86	PB	# of strides	12.53	12.14	13.28	15.00	24.67	28.28	3.61
	velocity		7.98		8.24		7.53	7.00	6.36	7.55		7.98	8.24	7.53	6.67	8.11	7.07	

Rooks, Cynethia (USA) (1984)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)																	
USATF Women's Sprint Development with HPC (2008)																	
date 29-Jun-08	time		12.52	18.80	25.25	31.59	38.34	45.22	52.95	52.95	3 / 5						
reaction time	interval			6.28	6.45	6.34	6.75	6.88	7.73		# of strides	12.52	12.73	13.09	14.61	25.25	27.70	2.45
	velocity		7.99	7.96	7.75	7.89	7.41	7.27	6.47	7.55		7.99	7.86	7.64	6.84	7.92	7.22	

Segura, Berta (ESP) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)																	
European Athletics (2023) - european athletics U23 championships results book																	

date	13-Jul-23	time		13.29		25.44		38.96		52.95	52.95	4 / 4						
reaction time	0.280	interval				12.15		13.52		13.99		# of strides	13.29	12.15	13.52	13.99	25.44	27.51	2.07
		velocity		7.52		8.23		7.40		7.15	7.55		7.52	8.23	7.40	7.15	7.86	7.27	

Ertzgaard, Astri (NOR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)											*European Athletics (2023) - european athletics U23 championships results book*						
date 14-Jul-23 time		12.81		24.93		38.39		52.95	52.95	2 / 7							
reaction time 0.187 interval				12.12		13.46		14.56		# of strides	12.81	12.12	13.46	14.56	24.93	28.02	3.09
velocity		7.81		8.25		7.43		6.87	7.55	201.0	7.81	8.25	7.43	6.87	8.02	7.14	

Morauskaité, Modesta Justé (LTU) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)											*European Athletics (2024) - 2024 european athletics championships - results book*						
date 09-Jun-24 time		12.54		24.49		37.87		52.95	52.95	6 / 7							
reaction time 0.169 interval				11.95		13.38		15.08		# of strides	12.54	11.95	13.38	15.08	24.49	28.46	3.97
velocity		7.97		8.37		7.47		6.63	7.55	201.5	7.97	8.37	7.47	6.63	8.17	7.03	

Robinson, Moushaumi (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 NCAA Championships (Eugene, OR)											*Track Newsletter (2001) - NCAA championships*						
date 02-Jun-01 time				24.5		38.0		53.0	52.96	/ 3							
reaction time interval						13.50		15.00		# of strides			13.50	15.00	24.50	28.50	4.00
velocity				8.16		7.41		6.67	7.55				7.41	6.67	8.16	7.02	

Wimbley, Shakima (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 USATF National Championships (Eugene, OR)											*Track Newsletter (2015) - USATF women's championships*						
date 27-Jun-15 time				25.2		38.9		53.0	52.96	/ 8							
reaction time interval						13.7		14.1		# of strides			13.70	14.10	25.20	27.80	2.60
velocity				7.94		7.30		7.09	7.55				7.30	7.09	7.94	7.19	

Sheoran, Nirmala (IND) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Asian Games (Jakarta, INA)											*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
date 26-Aug-18 time	7.06	12.93	18.95	25.15	31.60	38.33	45.37	52.96	52.96	4 / 4							
reaction time 0.277 interval		5.87	6.02	6.20	6.45	6.73	7.04	7.59		# of strides	12.93	12.22	13.18	14.63	25.15	27.81	2.66
velocity	7.08	8.52	8.31	8.06	7.75	7.43	7.10	6.59	7.55	183.0	7.73	8.18	7.59	6.84	7.95	7.19	

Ćirić, Maja (SRB) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 European Athletics Championships (Roma, ITA)											*European Athletics (2024) - 2024 european athletics championships - results book*						
date 08-Jun-24 time		12.59		24.85		38.18		52.96	52.96	5 / 6							
reaction time 0.239 interval				12.26		13.33		14.78		# of strides	12.59	12.26	13.33	14.78	24.85	28.11	3.26
velocity		7.94		8.16		7.50		6.77	7.55		7.94	8.16	7.50	6.77	8.05	7.11	

Drljačić, Veronika (CRO) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)											*European Athletics (2023) - 3rd european games, athletics - results book*						
date 20-Jun-23 time		13.13		25.23		38.62		52.97	52.97	4 / 7							
reaction time 0.217 interval				12.10		13.39		14.35	PB	# of strides	13.13	12.10	13.39	14.35	25.23	27.74	2.51
velocity		7.62		8.26		7.47		6.97	7.55		7.62	8.26	7.47	6.97	7.93	7.21	

Ertzgaard, Astri (NOR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)											*European Athletics (2023) - european athletics U23 championships results book*						
date 13-Jul-23 time		13.12		25.69		39.37		52.97	52.97	8 / 5							
reaction time 0.221 interval				12.57		13.68		13.60		# of strides	13.12	12.57	13.68	13.60	25.69	27.28	1.59
velocity		7.62		7.96		7.31		7.35	7.55		7.62	7.96	7.31	7.35	7.79	7.33	

Aguilar, Evelyn (COL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)											*Omega Timing (2024) - diamond league race analysis*						
date 20-Apr-24 time	7.13	13.16	19.38	25.77	32.20	38.81	45.62	52.97	52.97	8 / 8							
reaction time 0.151 interval		6.03	6.22	6.39	6.43	6.61	6.81	7.35		# of strides	13.16	12.61	13.04	14.16	25.77	27.20	1.43
velocity	7.01	8.29	8.04	7.82	7.78	7.56	7.34	6.80	7.55	185.7	7.60	7.93	7.67	7.06	7.76	7.35	

Niederberger, Julia (SUI) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2024 European Athletics Championships (Roma, ITA)											*European Athletics (2024) - 2024 european athletics championships - results book*						
date 09-Jun-24 time		12.46		24.47		37.82		52.97	52.97	4 / 8							
reaction time 0.180 interval				12.01		13.35		15.15		# of strides	12.46	12.01	13.35	15.15	24.47	28.50	4.03
velocity		8.03		8.33		7.49		6.60	7.55		8.03	8.33	7.49	6.60	8.17	7.02	

Singletary, Maya (USA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2024 USA Olympic Trials (Eugene, OR)											*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*						
date 21-Jun-24 time		12.35		24.26		37.49		52.97	52.97	9 / 6							
reaction time interval				11.91		13.23		15.48		# of strides	12.35	11.91	13.23	15.48	24.26	28.71	4.45
velocity		8.10		8.40		7.56		6.46	7.55		8.10	8.40	7.56	6.46	8.24	6.97	

Wester, Elna (SWE) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 Bauhaus Galan (Stockholm, SWE)											*Omega Timing (2025) - diamond league race analysis*						
date 15-Jun-25 time	7.33	13.04	19.42	25.86	32.30	39.01	45.91	52.97	52.97	5 / 1							
reaction time 0.166 interval		5.71	6.38	6.44	6.44	6.71	6.90	7.06		# of strides	13.04	12.82	13.15	13.96	25.86	27.11	1.25
velocity	6.82	8.76	7.84	7.76	7.76	7.45	7.25	7.08	7.55		7.67	7.80	7.60	7.16	7.73	7.38	

Baker, Braelyn (USA) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 USATF Championships (Eugene, OR)											*USATF and Karmarush (2025) - USATF championships results and race analysis*						
date 01-Aug-25 time		12.35		24.31		37.40		52.97	52.97	8 / 6							
reaction time interval				11.96		13.09		15.57		# of strides	12.35	11.96	13.09	15.57	24.31	28.66	4.35
velocity		8.10		8.36		7.64		6.42	7.55		8.10	8.36	7.64	6.42	8.23	6.98	

Lawrence, Deonna (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Carson, CA)											*USATF Women's Sprint Development (2005)*						
date 25-Jun-05 time		12.86	18.95		31.53	38.05	45.18	52.98	52.98	2 / ~~5~~ 4							
reaction time interval			6.09		12.58	6.52	7.13	7.80		# of strides	12.86			14.93			

		velocity		7.78	8.21		7.95	7.67	7.01	6.41	7.55		7.78			6.70			

Bokesa, Aauri Lorena (ESP) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2015 IAAF World Championships (Beijing, CHN)										*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*							
date 24-Aug-15	time	7.12	12.92	18.87	24.98	31.32	37.99	45.14	52.98	52.98	4 / 7							
reaction time 0.194	interval		5.80	5.95	6.11	6.34	6.67	7.15	7.84		# of strides	12.92	12.06	13.01	14.99	24.98	28.00	3.02
	velocity	7.02	8.62	8.40	8.18	7.89	7.50	6.99	6.38	7.55		7.74	8.29	7.69	6.67	8.01	7.14	

Lukudo, Raphaela Boaheng (ITA) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Golden Gala Pietro Mennea (Rome, ITA)										*Omega Timing (2019) - diamond league race analysis*							
date 06-Jun-19	time		12.9		25.1		38.3		52.98	52.98	1 / 9							
reaction time 0.204	interval				12.2		13.2		14.7		# of strides	12.90	12.20	13.20	14.68	25.10	27.88	2.78
	velocity		7.75		8.20		7.58		6.81	7.55	198.0	7.75	8.20	7.58	6.81	7.97	7.17	

Williams, Hannah (GBR) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Müller British Grand Prix (Gateshead, GBR)										*Omega Timing (2021) - diamond league race analysis*							
date 13-Jun-21	time	6.9	12.7	18.8	25.3	31.8	38.5	45.5	52.98	52.98	4 / 3							
reaction time 0.171	interval		5.80	6.10	6.50	6.50	6.70	7.00	7.48		# of strides	12.70	12.60	13.20	14.48	25.30	27.68	2.38
	velocity	7.25	8.62	8.20	7.69	7.69	7.46	7.14	6.68	7.55		7.87	7.94	7.58	6.91	7.91	7.23	

Lemmens, Silke (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Weltklasse (Zürich, SUI)										*Omega Timing (2021) - diamond league race analysis*							
date 09-Sep-21	time	6.8	12.5	18.4	24.7	31.2	38.1	45.3	52.98	52.98	4 / 5							
reaction time 0.176	interval		5.70	5.90	6.30	6.50	6.90	7.20	7.68		# of strides	12.50	12.20	13.40	14.88	24.70	28.28	3.58
	velocity	7.35	8.77	8.47	7.94	7.69	7.25	6.94	6.51	7.55		8.00	8.20	7.46	6.72	8.10	7.07	

Krause-Jentsch, Anouk (GER) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U23 Championships (Bergen, NOR)										*European Athletics (2025) - 2025 european athletics U23 championships- results book*							
date 18-Jul-25	time	7.13	12.99	19.04	25.24	31.57	38.10	45.12	52.98	52.98	6 / 5							
reaction time 0.220	interval		5.86	6.05	6.20	6.33	6.53	7.02	7.86	PB	# of strides	12.99	12.25	12.86	14.88	25.24	27.74	2.50
	velocity	7.01	8.53	8.26	8.06	7.90	7.66	7.12	6.36	7.55	191.0	7.70	8.16	7.78	6.72	7.92	7.21	

Šerkšniene, Agné (LTU) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Weltklasse (Zürich, SUI)										*Omega Timing (2021) - diamond league race analysis*							
date 09-Sep-21	time	6.8	12.6	18.6	24.9	31.4	38.2	45.3	52.99	52.99	7 / 6							
reaction time 0.193	interval		5.80	6.00	6.30	6.50	6.80	7.10	7.69		# of strides	12.60	12.30	13.30	14.79	24.90	28.09	3.19
	velocity	7.35	8.62	8.33	7.94	7.69	7.35	7.04	6.50	7.55		7.94	8.13	7.52	6.76	8.03	7.12	

Awal, Samira (NIG) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2025 World Athletics Championships (Tokyo, JPN)										*Seiko Timing (2025) - 2025 World Championships race analysis*							
date 14-Sep-25	time		13.34		25.77		38.98		52.99	52.99	1 / 9							
reaction time 0.309	interval				12.43		13.21		14.01		# of strides	13.34	12.43	13.21	14.01	25.77	27.22	1.45
	velocity		7.50		8.05		7.57		7.14	7.55		7.50	8.05	7.57	7.14	7.76	7.35	

Barber, Mikele (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 NCAA Championships (Eugene, OR)										*Track Newsletter (2001) - NCAA championships*							
date 02-Jun-01	time				24.9		38.1		53.0	53.00	/ 4							
reaction time	interval						13.20		14.90		# of strides			13.20	14.90	24.90	28.10	3.20
	velocity				8.03		7.58		6.71	7.55				7.58	6.71	8.03	7.12	

Baker, Olivia (USA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 IAAF World Junior Championships (Eugene, OR)										*Track Newsletter (2014) - World Junior championships women*							
date 25-Jul-14	time				25.6		38.8		53.0	53.00	/ 3							
reaction time 0.210	interval						13.2		14.2		# of strides			13.20	14.20	25.60	27.40	1.80
	velocity				7.81		7.58		7.04	7.55				7.58	7.04	7.81	7.30	

Vervaet, Imke (BEL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Memorial van Damme (Brussels, BEL)										*Omega Timing (2022) - diamond league race analysis*							
date 02-Sep-22	time	6.84	12.53	18.54	24.88	31.53	38.50	45.69	53.00	53.00	4 / 6							
reaction time 0.160	interval		5.69	6.01	6.34	6.65	6.97	7.19	7.31		# of strides	12.53	12.35	13.62	14.50	24.88	28.12	3.24
	velocity	7.31	8.79	8.32	7.89	7.52	7.17	6.95	6.84	7.55		7.98	8.10	7.34	6.90	8.04	7.11	

Lilja, Lisa (SWE) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, First Division (Chorzów, POL)										*European Athletics (2023) - 3rd european games, athletics - results book*							
date 23-Jun-23	time		12.59		24.58		37.95		53.00	53.00	3 / 5							
reaction time 0.204	interval				11.99		13.37		15.05	PB	# of strides	12.59	11.99	13.37	15.05	24.58	28.42	3.84
	velocity		7.94		8.34		7.48		6.64	7.55		7.94	8.34	7.48	6.64	8.14	7.04	

Holman, Ziyah (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2024 USA Olympic Trials (Eugene, OR)										*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*							
date 22-Jun-24	time		12.45		24.43		37.63		53.00	53.00	3 / 9							
reaction time	interval				11.98		13.20		15.37		# of strides	12.45	11.98	13.20	15.37	24.43	28.57	4.14
	velocity		8.03		8.35		7.58		6.51	7.55		8.03	8.35	7.58	6.51	8.19	7.00	

Cross, Brandi (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 NCAA Championships (Eugene, OR)										*Track Newsletter (2010) - NCAA women's championships*							
date 11-Jun-10	time				25.3		38.6		53.0	53.01	/ 7							
reaction time	interval						13.3		14.4		# of strides			13.30	14.40	25.30	27.70	2.40
	velocity				7.91		7.52		6.94	7.55				7.52	6.94	7.91	7.22	

Carli, Sarah (AUS) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)										*Grand Slam Track (2025) - results and splits by race*							
date 04-May-25	time		12.83		25.49		38.80		53.01	53.01	2 / 7							
reaction time 0.210	interval				12.66		13.31		14.21		# of strides	12.83	12.66	13.31	14.21	25.49	27.52	2.03
	velocity		7.79		7.90		7.51		7.04	7.55		7.79	7.90	7.51	7.04	7.85	7.27	

Walli, Susanne (AUT) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 FBK Games (Hengelo, NED)																	*Omega Timing (2022) - continental tour race analysis*
date 06-Jun-22 time	6.9	12.4	18.2	24.4	30.8	37.7	45.0	53.02	53.02	1 / 8							
reaction time 0.170 interval		5.50	5.80	6.20	6.40	6.90	7.30	8.02		# of strides	12.40	12.00	13.30	15.32	24.40	28.62	4.22
velocity	7.25	9.09	8.62	8.06	7.81	7.25	6.85	6.23	7.54		8.06	8.33	7.52	6.53	8.20	6.99	

Baas, Mette (FIN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		12.54		24.69		38.19		53.02	53.02	2 / 5							
reaction time 0.164 interval				12.15		13.50		14.83		# of strides	12.54	12.15	13.50	14.83	24.69	28.33	3.64
velocity		7.97		8.23		7.41		6.74	7.54		7.97	8.23	7.41	6.74	8.10	7.06	

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/05/13/post-441/*
date 11-May-17 time		12.79		24.79		37.89		53.03	53.03	7 / 1							
reaction time interval				12.00		13.10		15.14		# of strides	12.79	12.00	13.10	15.14	24.79	28.24	3.45
velocity		7.82		8.33		7.63		6.61	7.54		7.82	8.33	7.63	6.61	8.07	7.08	

Giger, Yasmin (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Weltklasse (Zürich, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 09-Sep-21 time	7.1	13.1	19.4	25.8	32.3	38.9	45.8	53.03	53.03	2 / 7							
reaction time 0.164 interval		6.00	6.30	6.40	6.50	6.60	6.90	7.23		# of strides	13.10	12.70	13.10	14.13	25.80	27.23	1.43
velocity	7.04	8.33	7.94	7.81	7.69	7.58	7.25	6.92	7.54		7.63	7.87	7.63	7.08	7.75	7.34	

Murphy, Bryannia (USA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24 time		12.46		24.44		37.87		53.03	53.03	6 / 6							
reaction time interval				11.98		13.43		15.16		# of strides	12.46	11.98	13.43	15.16	24.44	28.59	4.15
velocity		8.03		8.35		7.45		6.60	7.54	200.0	8.03	8.35	7.45	6.60	8.18	7.00	

Rockmeier, Birgit (GER) (1973)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2001 ISTAF (Berlin, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 31-Aug-01 time		12.31		24.53		37.69		53.04	53.04	/ 5							
reaction time 0.158 interval				12.22		13.16		15.35		# of strides	12.31	12.22	13.16	15.35	24.53	28.51	3.98
velocity		8.12		8.18		7.60		6.51	7.54		8.12	8.18	7.60	6.51	8.15	7.02	

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Championships (Nagoya, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 25-Jun-16 time	6.73	12.46	18.40	24.54	31.01	37.89	45.12	53.04	53.04	5 / 1							
reaction time 0.221 interval		5.73	5.94	6.14	6.47	6.88	7.23	7.92		# of strides	12.46	12.08	13.35	15.15	24.54	28.50	3.96
velocity	7.43	8.73	8.42	8.14	7.73	7.27	6.92	6.31	7.54		8.03	8.28	7.49	6.60	8.15	7.02	

John, Yemi Mary (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)																	*Omega Timing (2022) - diamond league race analysis*
date 21-May-22 time	6.9	12.5	18.5	24.7	31.2	38.1	45.3	53.04	53.04	3 / 3							
reaction time 0.157 interval		5.60	6.00	6.20	6.50	6.90	7.20	7.74	PB	# of strides	12.50	12.20	13.40	14.94	24.70	28.34	3.64
velocity	7.25	8.93	8.33	8.06	7.69	7.25	6.94	6.46	7.54		8.00	8.20	7.46	6.69	8.10	7.06	

van Leur, Madelief (NED) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 FBK Games (Hengelo, NED)																	*Omega Timing (2024) - continental tour gold race analysis*
date 07-Jul-24 time	6.96	12.67	18.59	24.71	31.10	37.84	45.13	53.04	53.04	6 / 1							
reaction time 0.195 interval		5.71	5.92	6.12	6.39	6.74	7.29	7.91	NU18R PB	# of strides	12.67	12.04	13.13	15.20	24.71	28.33	3.62
velocity	7.18	8.76	8.45	8.17	7.82	7.42	6.86	6.32	7.54		7.89	8.31	7.62	6.58	8.09	7.06	

Barber, Mikele (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1999 USATF National Championship (Eugene, OR)																	*Track Newsletter (1999) - USATF National Championships*
date 26-Jun-99 time				24.9				53.0	53.05	/ 8							
reaction time interval								28.10		# of strides					24.90	28.10	3.20
velocity				8.03				7.12	7.54						8.03	7.12	

Aoki, Sayaka (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Championships (Niigata, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 27-Jun-15 time	6.84	12.66	18.72	25.00	31.71	38.57	45.58	53.05	53.05	5 / 1							
reaction time 0.176 interval		5.82	6.06	6.28	6.71	6.86	7.01	7.47	PB	# of strides	12.66	12.34	13.57	14.48	25.00	28.05	3.05
velocity	7.31	8.59	8.25	7.96	7.45	7.29	7.13	6.69	7.54	200.0	7.90	8.10	7.37	6.91	8.00	7.13	

Williams, Sada (BAR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Athletissima (Lausanne, SUI)																	*Omega Timing (2025) - diamond league race analysis*
date 20-Aug-25 time	6.75	12.51	18.33	24.39	30.74	37.46	44.81	53.05	53.05	1 / 8							
reaction time 0.166 interval		5.76	5.82	6.06	6.35	6.72	7.35	8.24		# of strides	12.51	11.88	13.07	15.59	24.39	28.66	4.27
velocity	7.41	8.68	8.59	8.25	7.87	7.44	6.80	6.07	7.54		7.99	8.42	7.65	6.41	8.20	6.98	

Tang Xiaoyin (CHN) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Chinese National Championships (Suzhou, CHN)																	*Wang (2012) - Research on the analysis of the speed distribution of China's outstanding female 400-meter runners*
date 22-May-09 time		12.50		24.79		38.41		53.06	53.06	/ 1							
reaction time interval				12.29		13.62		14.65		# of strides	12.50	12.29	13.62	14.65	24.79	28.27	3.48
velocity		8.00		8.14		7.34		6.83	7.54		8.00	8.14	7.34	6.83	8.07	7.07	

John, Yemi Mary (GBR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 16-Jul-21 time		12.85		25.33		36.67		53.06	53.06	4 / 2							
reaction time 0.191 interval				12.48		11.34		16.39	PB	# of strides	12.85	12.48	11.34	16.39	25.33	27.73	2.40
velocity		7.78		8.01		8.82		6.10	7.54	201.2	7.78	8.01	8.82	6.10	7.90	7.21	

Karpiuk, Kateryna (UKR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2024 European Athletics Championships (Roma, ITA)																	*European Athletics (2024) - 2024 european athletics championships - results book*

date	08-Jun-24	time		12.92		25.03		38.29		53.06	53.06	5 / 6						
reaction time	0.179	interval				12.11		13.26		14.77		# of strides	12.92	12.11	13.26	14.77	25.03	28.03	3.00
		velocity		7.74		8.26		7.54		6.77	7.54		7.74	8.26	7.54	6.77	7.99	7.14	

Sheoran, Nirmala (IND) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2017 IAAF World Championships (London, GBR)																	
date	07-Aug-17	time		12.62		24.53		38.16	45.26	52.78	53.07	3 / ~~7~~							
reaction time	0.285	interval				11.91		13.63	7.10	7.52	DV	# of strides	12.62	11.91	13.63	14.62	24.53	28.25	3.72
		velocity		7.92		8.40		7.34	7.04	6.65	7.54	182.6	7.92	8.40	7.34	6.84	8.15	7.08	

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

Stiverne, Aiyanna (CAN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																	
date	17-Jul-22	time		12.50		25.12		38.62		53.07	53.07	4 / 6							
reaction time	0.115	interval				12.62		13.50		14.45		# of strides	12.50	12.62	13.50	14.45	25.12	27.95	2.83
		velocity		8.00		7.92		7.41		6.92	7.54	203.5	8.00	7.92	7.41	6.92	7.96	7.16	

Timing by Seiko (2022) - world athletics championships race analysis

Couckuyt, Paulien (BEL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Memorial Van Damme (Brussels, BEL)																	
date	04-Sep-20	time	6.8	12.6	18.7	25.1	31.7	38.5	45.6	53.08	53.08	6 / 6							
reaction time	0.149	interval		5.80	6.10	6.40	6.60	6.80	7.10	7.48		# of strides	12.60	12.50	13.40	14.58	25.10	27.98	2.88
		velocity	7.35	8.62	8.20	7.81	7.58	7.35	7.04	6.68	7.54	201.0	7.94	8.00	7.46	6.86	7.97	7.15	

Omega Timing (2020) - diamond league race analysis

Lemmens, Silke (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)																	
date	16-Aug-22	time		12.68		25.06		38.51		53.08	53.08	2 / 7							
reaction time	0.225	interval				12.38		13.45		14.57		# of strides	12.68	12.38	13.45	14.57	25.06	28.02	2.96
		velocity		7.89		8.08		7.43		6.86	7.54	196.0	7.89	8.08	7.43	6.86	7.98	7.14	

European Athletics (2022) - european athletics championships race analysis

Święty-Ersetic, Justyna (POL) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)																	
date	05-May-23	time	7.14	12.98	19.15	25.61	32.20	38.95	45.73	53.08	53.08	2 / 7							
reaction time	0.181	interval		5.84	6.17	6.46	6.59	6.75	6.78	7.35		# of strides	12.98	12.63	13.34	14.13	25.61	27.47	1.86
		velocity	7.00	8.56	8.10	7.74	7.59	7.41	7.37	6.80	7.54		7.70	7.92	7.50	7.08	7.81	7.28	

Omega Timing (2023) - diamond league race analysis

Ponette, Helena (BEL) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2024 Memorial van damme (Brussels, BEL)																	
date	13-Sep-24	time	6.93	12.54	18.43	24.61	30.97	37.77	45.09	53.08	53.08	8 / 6							
reaction time	0.157	interval		5.61	5.89	6.18	6.36	6.80	7.32	7.99		# of strides	12.54	12.07	13.16	15.31	24.61	28.47	3.86
		velocity	7.22	8.91	8.49	8.09	7.86	7.35	6.83	6.26	7.54	202.0	7.97	8.29	7.60	6.53	8.13	7.02	

Omega Timing (2024) - diamond league race analysis

Healy, Phil (IRL) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2022 European Athletics Championships (Munich, GER)																	
date	15-Aug-22	time		12.47		24.44		37.75		53.10	53.10	3 / 6							
reaction time	0.274	interval				11.97		13.31		15.35		# of strides	12.47	11.97	13.31	15.35	24.44	28.66	4.22
		velocity		8.02		8.35		7.51		6.51	7.53		8.02	8.35	7.51	6.51	8.18	6.98	

European Athletics (2022) - european athletics championships race analysis

de Witte, Lisanne (NED) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)																	
date	04-Jun-23	time	7.21	13.13	19.22	25.53	32.03	38.78	45.70	53.10	53.10	1 / 6							
reaction time	0.244	interval		5.92	6.09	6.31	6.50	6.75	6.92	7.40		# of strides	13.13	12.40	13.25	14.32	25.53	27.57	2.04
		velocity	6.93	8.45	8.21	7.92	7.69	7.41	7.23	6.76	7.53		7.62	8.06	7.55	6.98	7.83	7.25	

Omega Timing (2023) - continental tour race analysis

Fox, Jessica (USA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2004 USA Olympic Trials (Sacramento, CA)																	
date	12-Jul-04	time		12.86		24.59		37.64	44.93	53.11	53.11	8 / 6							
reaction time		interval				11.73		13.05	7.29	8.18		# of strides	12.86	11.73	13.05	15.47	24.59	28.52	3.93
		velocity		7.78		8.53		7.66	6.86	6.11	7.53		7.78	8.53	7.66	6.46	8.13	7.01	

USATF Women's Sprint Development (2004)

Jele, Lydia (BOT) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Memorial van Damme (Brussels, BEL)																	
date	01-Sep-17	time		12.6	18.4	24.6	31.1	37.9	45.1	53.11	53.11	2 / 8							
reaction time	0.193	interval			5.80	6.20	6.50	6.80	7.20	8.01		# of strides	12.60	12.00	13.30	15.21	24.60	28.51	3.91
		velocity		7.94	8.62	8.06	7.69	7.35	6.94	6.24	7.53		7.94	8.33	7.52	6.57	8.13	7.02	

Omega Timing (2017) - diamond league race analysis

Pellaud, Rachel (SUI) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Athletissima (Lausanne, SUI)																	
date	30-Jun-23	time	7.12	12.99	19.11	25.53	32.06	38.78	45.66	53.11	53.11	4 / 1							
reaction time	0.173	interval		5.87	6.12	6.42	6.53	6.72	6.88	7.45		# of strides	12.99	12.54	13.25	14.33	25.53	27.58	2.05
		velocity	7.02	8.52	8.17	7.79	7.66	7.44	7.27	6.71	7.53		7.70	7.97	7.55	6.98	7.83	7.25	

Omega Timing (2023) - diamond league race analysis

Niederberger, Julia (SUI) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Weltklasse (Zürich, SUI)																	
date	05-Sep-24	time	6.95	12.72	18.75	24.98	31.58	38.49	45.64	53.11	53.11	2 / 8							
reaction time	0.161	interval		5.77	6.03	6.23	6.60	6.91	7.15	7.47		# of strides	12.72	12.26	13.51	14.62	24.98	28.13	3.15
		velocity	7.19	8.67	8.29	8.03	7.58	7.24	6.99	6.69	7.53		7.86	8.16	7.40	6.84	8.01	7.11	

Omega Timing (2024) - diamond league race analysis

Schmidt, Alica (GER) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2022 European Athletics Championships (Munich, GER)																	
date	16-Aug-22	time		12.87		25.12		38.43		53.12	53.12	2 / 8							
reaction time	0.208	interval				12.25		13.31		14.69		# of strides	12.87	12.25	13.31	14.69	25.12	28.00	2.88
		velocity		7.77		8.16		7.51		6.81	7.53	185.0	7.77	8.16	7.51	6.81	7.96	7.14	

European Athletics (2022) - european athletics championships race analysis

Marinho, Tiffani (BRA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)																	
date	20-Aug-23	time		12.78		25.09		38.39		53.12	53.12	6 / 7							
reaction time	0.184	interval				12.31		13.30		14.73		# of strides	12.78	12.31	13.30	14.73	25.09	28.03	2.94

Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.82		8.12		7.52		6.79	7.53		7.82	8.12	7.52	6.79	7.97	7.14	

Bévis, Marie-Louise (FRA) (1972)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 European Cup (Munich, GER)																			*Jung (2003) - http://www.fgs.uni-halle.de*
date	21-Jun-97	time		12.56		24.90		38.30		53.13	53.13	/ 6							
reaction time		interval				12.34		13.40		14.83		# of strides	12.56	12.34	13.40	14.83	24.90	28.23	3.33
		velocity		7.96		8.10		7.46		6.74	7.53		7.96	8.10	7.46	6.74	8.03	7.08	

Day, Christine (JAM) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2009 IAAF World Championships (Berlin, GER)																			*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date	15-Aug-09	time		13.08		25.64		38.62		53.13	53.13	8 / 5							
reaction time	0.208	interval				12.56		12.98		14.51		# of strides	13.08	12.56	12.98	14.51	25.64	27.49	1.85
		velocity		7.65		7.96		7.70		6.89	7.53		7.65	7.96	7.70	6.89	7.80	7.28	

Maliková, Barbora (CZE) (2001)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)																			*Omega Timing (2020) - diamond league race analysis*
date	23-Aug-20	time	7.2	13.4	19.5	25.7	32.1	38.7	45.7	53.13	53.13	7 / 6							
reaction time	0.146	interval		6.20	6.10	6.20	6.40	6.60	7.00	7.43		# of strides	13.40	12.30	13.00	14.43	25.70	27.43	1.73
		velocity	6.94	8.06	8.20	8.06	7.81	7.58	7.14	6.73	7.53	208.0	7.46	8.13	7.69	6.93	7.78	7.29	

Gubelmann, Catia (SUI) (2001)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)																			*European Athletics (2023) - european athletics U23 championships results book*
date	13-Jul-23	time		13.02		25.73		39.73		53.13	53.13	6 / 6							
reaction time	0.179	interval				12.71		14.00		13.40		# of strides	13.02	12.71	14.00	13.40	25.73	27.40	1.67
		velocity		7.68		7.87		7.14		7.46	7.53		7.68	7.87	7.14	7.46	7.77	7.30	

Gale, Lauren (CAN) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2024 Olympic Games (Paris, FRA)																			*Paris 2024 Olympic Games - Results Book (2024)*
date	05-Aug-24	time	6.80	12.35	18.09	24.20	30.72	37.72	45.16	53.13	53.13	3 / 6							
reaction time	0.207	interval		5.55	5.74	6.11	6.52	7.00	7.44	7.97		# of strides	12.35	11.85	13.52	15.41	24.20	28.93	4.73
		velocity	7.35	9.01	8.71	8.18	7.67	7.14	6.72	6.27	7.53		8.10	8.44	7.40	6.49	8.26	6.91	

Kuś, Anastazja (POL) (2007)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2025 European Athletics U20 Championships (Tampere, FIN)																			*European Athletics (2025) - 2025 european athletics U20 championships - results book*
date	08-Aug-25	time	7.07	13.18	19.42	25.63	32.25	39.07	45.84	53.13	53.13	7 / 1							
reaction time	0.162	interval		6.11	6.24	6.21	6.62	6.82	6.77	7.29		# of strides	13.18	12.45	13.44	14.06	25.63	27.50	1.87
		velocity	7.07	8.18	8.01	8.05	7.55	7.33	7.39	6.86	7.53	183.2	7.59	8.03	7.44	7.11	7.80	7.27	

Reed, Cassandra (USA) (1983)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2004 USA Olympic Trials (Sacramento, CA)																			*USATF Women's Sprint Development (2004)*
date	12-Jul-04	time		12.42		24.59		37.92	44.92	53.14	53.14	7 / 5							
reaction time		interval				12.17		13.33	7.00	8.22		# of strides	12.42	12.17	13.33	15.22	24.59	28.55	3.96
		velocity		8.05		8.22		7.50	7.14	6.08	7.53		8.05	8.22	7.50	6.57	8.13	7.01	

Fujisawa, Sayaka (JPN) (1991)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Championships (Niigata, JPN)																			*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date	27-Jun-15	time	6.73	12.36	18.18	24.44	31.18	38.19	45.39	53.14	53.14	7 / 2							
reaction time	0.191	interval		5.63	5.82	6.26	6.74	7.01	7.20	7.75	PB	# of strides	12.36	12.08	13.75	14.95	24.44	28.70	4.26
		velocity	7.43	8.88	8.59	7.99	7.42	7.13	6.94	6.45	7.53	201.0	8.09	8.28	7.27	6.69	8.18	6.97	

Lemmens, Silke (SUI) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Athletissima (Lausanne, SUI)																			*Omega Timing (2022) - diamond league race analysis*
date	26-Aug-22	time	6.7	12.5	18.5	24.8	31.4	38.2	45.4	53.14	53.14	5 / 3							
reaction time	0.181	interval		5.80	6.00	6.30	6.60	6.80	7.20	7.74		# of strides	12.50	12.30	13.40	14.94	24.80	28.34	3.54
		velocity	7.46	8.62	8.33	7.94	7.58	7.35	6.94	6.46	7.53		8.00	8.13	7.46	6.69	8.06	7.06	

Mo Jiadie (CHN) (2000)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																			*Shandong Athletics Sport Science (2024)*
date	16-Sep-24	time		14.01		25.28		38.89	45.91	53.15	53.15	4 / 1							
reaction time	0.218	interval				11.27		13.61	7.02	7.24		# of strides	14.01	11.27	13.61	14.26	25.28	27.87	2.59
		velocity		7.14		8.87		7.35	7.12	6.91	7.53	200.5	7.14	8.87	7.35	7.01	7.91	7.18	

Singletary, Maya (USA) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2025 USATF Championships (Eugene, OR)																			*USATF and Karmarush (2025) - USATF championships results and race analysis*
date	01-Aug-25	time		12.64		24.89		38.20		53.15	53.15	4 / 6							
reaction time		interval				12.25		13.31		14.95		# of strides	12.64	12.25	13.31	14.95	24.89	28.26	3.37
		velocity		7.91		8.16		7.51		6.69	7.53		7.91	8.16	7.51	6.69	8.04	7.08	

van den Broeck, Naomi (BEL) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2022 World Athletics Championships (Eugene, OR)																			*Timing by Seiko (2022) - world athletics championships race analysis*
date	17-Jul-22	time		12.77		25.57		38.88		53.16	53.16	2 / 7							
reaction time	0.111	interval				12.80		13.31		14.28		# of strides	12.77	12.80	13.31	14.28	25.57	27.59	2.02
		velocity		7.83		7.81		7.51		7.00	7.52		7.83	7.81	7.51	7.00	7.82	7.25	

John, Yemi Mary (GBR) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)																			*European Athletics (2021) - european athletics U20 championships results book*
date	15-Jul-21	time		13.32		25.69		39.11		53.17	53.17	5 / 1							
reaction time	0.199	interval				12.37		13.42		14.06	PB	# of strides	13.32	12.37	13.42	14.06	25.69	27.48	1.79
		velocity		7.51		8.08		7.45		7.11	7.52		7.51	8.08	7.45	7.11	7.79	7.28	

Clayton, Rushell (JAM) (1992)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)																			*Grand Slam Track (2025) - results and splits by race*
date	01-Jun-25	time		12.61		25.00		38.14		53.17	53.17	7 / 4							
reaction time	0.224	interval				12.39		13.14		15.03		# of strides	12.61	12.39	13.14	15.03	25.00	28.17	3.17
		velocity		7.93		8.07		7.61		6.65	7.52		7.93	8.07	7.61	6.65	8.00	7.10	

Jean-Baptiste, Audrey (CAN) (1991)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2015 IAAF World Championships (Beijing, CHN)												*Yamamoto (2015) - race analysis of 15th World Championships 400m- focusing on men's semis and women's prelims*							
date	24-Aug-15	time	6.91	12.77	19.07	25.49	31.29	38.59	45.59	53.18	53.18	9 / 6							
reaction time	0.154	interval		5.86	6.30	6.42	5.80	7.30	7.00	7.59		# of strides	12.77	12.72	13.10	14.59	25.49	27.69	2.20
		velocity	7.24	8.53	7.94	7.79	8.62	6.85	7.14	6.59	7.52	9 / 6	7.83	7.86	7.63	6.85	7.85	7.22	

Cole, Leslie (USA) (1987)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Quarter-Final 4 - 2008 USA Olympic Trials (Eugene, OR)												*USATF Women's Sprint Development with HPC (2008)*							
date	29-Jun-08	time			19.20	25.60	31.88	38.51	45.54	53.19	53.19	4 / 6							
reaction time		interval				6.40	6.28	6.63	7.03	7.65		# of strides			12.91	14.68	25.60	27.59	1.99
		velocity			7.81	7.81	7.96	7.54	7.11	6.54	7.52				7.75	6.81	7.81	7.25	

Mikhina, Elina (KAZ) (1994)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2019 Asian Athletics Championships (Doha, QAT)												*Yamanaka (2019) - race analysis of men and women 400m competition*							
date	21-Apr-19	time	7.05	12.83	18.85	25.33	32.04	38.93	45.99	53.19	53.19	3 / 2							
reaction time	0.244	interval		5.78	6.02	6.48	6.71	6.89	7.06	7.20		# of strides	12.83	12.50	13.60	14.26	25.33	27.86	2.53
		velocity	7.09	8.65	8.31	7.72	7.45	7.26	7.08	6.94	7.52		7.79	8.00	7.35	7.01	7.90	7.18	

Kuboyama, Haruna (JPN) (1996)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2023 Japanese National Championsips (Osaka, JPN)												*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*							
date	02-Jun-23	time	6.83	12.75	18.82	25.09	31.68	38.55	45.68	53.19	53.19	7 / 1							
reaction time	0.169	interval		5.92	6.07	6.27	6.59	6.87	7.13	7.51		# of strides	12.75	12.34	13.46	14.64	25.09	28.10	3.01
		velocity	7.32	8.45	8.24	7.97	7.59	7.28	7.01	6.66	7.52	210.5	7.84	8.10	7.43	6.83	7.97	7.12	

Accame, Ilaria Elivira (ITA) (2001)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)												*European Athletics (2023) - european athletics U23 championships results book*							
date	13-Jul-23	time		13.22		25.67		39.15		53.19	53.19	3 / 7							
reaction time	0.270	interval				12.45		13.48		14.04		# of strides	13.22	12.45	13.48	14.04	25.67	27.52	1.85
		velocity		7.56		8.03		7.42		7.12	7.52		7.56	8.03	7.42	7.12	7.79	7.27	

Griffin, Jenna (USA) (1985)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Quarter-Final 2 - 2008 USA Olympic Trials (Eugene, OR												*USATF Women's Sprint Development with HPC (2008)*							
date	29-Jun-08	time		12.41	18.42	24.72	31.38	38.28	45.41	53.20	53.20	2 / 5							
reaction time		interval			6.01	6.30	6.66	6.90	7.13	7.79		# of strides	12.41	12.31	13.56	14.92	24.72	28.48	3.76
		velocity		8.06	8.32	7.94	7.51	7.25	7.01	6.42	7.52		8.06	8.12	7.37	6.70	8.09	7.02	

Senn, Giulia (SUI) (2001)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)												*European Athletics (2023) - european athletics U23 championships results book*							
date	13-Jul-23	time		12.86		25.57		39.11		53.20	53.20	6 / 3							
reaction time	0.192	interval				12.71		13.54		14.09		# of strides	12.86	12.71	13.54	14.09	25.57	27.63	2.06
		velocity		7.78		7.87		7.39		7.10	7.52		7.78	7.87	7.39	7.10	7.82	7.24	

Reifenrath, Sara (USA) (2002)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 1 - 2025 USATF Championships (Eugene, OR)												*USATF and Karmarush (2025) - USATF championships results and race analysis*							
date	01-Aug-25	time		12.35		24.68		37.92		53.20	53.20	3 / 7							
reaction time		interval				12.33		13.24		15.28		# of strides	12.35	12.33	13.24	15.28	24.68	28.52	3.84
		velocity		8.10		8.11		7.55		6.54	7.52		8.10	8.11	7.55	6.54	8.10	7.01	

Nachula, Racheal (ZAM) (1990)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 3 - 2009 IAAF World Championships (Berlin, GER)												*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date	15-Aug-09	time		13.14		25.58		38.88		53.21	53.21	2 / 5							
reaction time	0.184	interval				12.44		13.30		14.33		# of strides	13.14	12.44	13.30	14.33	25.58	27.63	2.05
		velocity		7.61		8.04		7.52		6.98	7.52		7.61	8.04	7.52	6.98	7.82	7.24	

Akinsulie, Esther (CAN) (1984)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 6 - 2009 IAAF World Championships (Berlin, GER)												*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							
date	15-Aug-09	time		12.60		25.34		38.77		53.21	53.21	5 / 4							
reaction time	0.194	interval				12.74		13.43		14.44		# of strides	12.60	12.74	13.43	14.44	25.34	27.87	2.53
		velocity		7.94		7.85		7.45		6.93	7.52		7.94	7.85	7.45	6.93	7.89	7.18	

Poovamma, Machettira Raju (IND) (19			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2019 Asian Athletics Championships (Doha, QAT)												*Yamanaka (2019) - race analysis of men and women 400m competition*							
date	21-Apr-19	time	6.94	12.69	18.79	25.20	31.77	38.56	45.60	53.21	53.21	5 / 3							
reaction time	0.202	interval		5.75	6.10	6.41	6.57	6.79	7.04	7.61		# of strides	12.69	12.51	13.36	14.65	25.20	28.01	2.81
		velocity	7.20	8.70	8.20	7.80	7.61	7.36	7.10	6.57	7.52	187.7	7.88	7.99	7.49	6.83	7.94	7.14	

Lacoste, Sokhna (FRA) (2000)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2022 Herculis Meeting International d'Athlétisme (Monaco, MON)												*Omega Timing (2022) - diamond league race analysis*							
date	10-Aug-22	time	7.06	12.79	18.81	25.08	31.64	38.45	45.63	53.21	53.21	1 / 8							
reaction time	0.258	interval		5.73	6.02	6.27	6.56	6.81	7.18	7.58		# of strides	12.79	12.29	13.37	14.76	25.08	28.13	3.05
		velocity	7.08	8.73	8.31	7.97	7.62	7.34	6.96	6.60	7.52		7.82	8.14	7.48	6.78	7.97	7.11	

Hennagan, Monique (USA) (1976)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)												*USATF Women's Sprint Development (2003)*							
date	20-Jun-03	time				24.07		37.62	44.86	53.22	53.22	8 / 5							
reaction time		interval						13.55	7.24	8.36		# of strides			13.55	15.60	24.07	29.15	5.08
		velocity				8.31		7.38	6.91	5.98	7.52				7.38	6.41	8.31	6.86	

Kidd, Ashlee (USA) (1985)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)												*USATF Women's Sprint Development with HPC (2008)*							
date	29-Jun-08	time		12.52	18.52	24.78	31.38	38.33	45.49	53.22	53.22	2 / 3							
reaction time		interval			6.00	6.26	6.60	6.95	7.16	7.73		# of strides	12.52	12.26	13.55	14.89	24.78	28.44	3.66
		velocity		7.99	8.33	7.99	7.58	7.19	6.98	6.47	7.52		7.99	8.16	7.38	6.72	8.07	7.03	

Ponteen, Tiandra (SKN) (1984)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)												*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*							

date	16-Aug-09	time		12.16		23.83		37.28		53.22	53.22	1 / 7						
reaction time	0.162	interval				11.67		13.45		15.94		# of strides	12.16	11.67	13.45	15.94	23.83	29.39	5.56
		velocity		8.22		8.57		7.43		6.27	7.52		8.22	8.57	7.43	6.27	8.39	6.81	

Vervaet, Imke (BEL) (1993)

National FINAL - 2019 Memorial van Damme (Brussels, BEL)

Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Sep-19 time	6.8	12.6	18.6	24.9	31.5	38.5	45.7	53.22	53.22	7 / 2							
reaction time 0.143 interval		5.8	6.0	6.3	6.6	7.0	7.2	7.5	PB	# of strides	12.60	12.30	13.60	14.72	24.90	28.32	3.42
velocity	7.35	8.62	8.33	7.94	7.58	7.14	6.94	6.65	7.52		7.94	8.13	7.35	6.79	8.03	7.06	

Šerkšniene, Agné (LTU) (1998)

B Race - 2021 Athletissima (Lausanne, SUI)

Omega Timing (2021) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 26-Aug-21 time	6.7	12.5	18.9	25.4	31.7	38.4	45.5	53.22	53.22	6 / 2							
reaction time 0.173 interval		5.80	6.40	6.50	6.30	6.70	7.10	7.72		# of strides	12.50	12.90	13.00	14.82	25.40	27.82	2.42
velocity	7.46	8.62	7.81	7.69	7.94	7.46	7.04	6.48	7.52		8.00	7.75	7.69	6.75	7.87	7.19	

Williams, Stacey-Ann (JAM) (1999)

FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)

Koyama (2018) - research on athlete performance and technique- 2018 data book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 12-Jul-18 time	6.94	12.76	18.90	25.31	31.86	38.53	45.47	53.23	53.23	1 / 6							
reaction time 0.163 interval		5.82	6.14	6.41	6.55	6.67	6.94	7.76		# of strides	12.76	12.55	13.22	14.70	25.31	27.92	2.61
velocity	7.20	8.59	8.14	7.80	7.63	7.50	7.20	6.44	7.51	196.2	7.84	7.97	7.56	6.80	7.90	7.16	

Laus, Camille (BEL) (1993)

National FINAL - 2019 Memorial van Damme (Brussels, BEL)

Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Sep-19 time	6.8	12.4	18.3	24.5	30.9	37.8	45.2	53.23	53.23	5 / 3							
reaction time 0.173 interval		5.6	5.9	6.2	6.4	6.9	7.4	8.0		# of strides	12.40	12.10	13.30	15.43	24.50	28.73	4.23
velocity	7.35	8.93	8.47	8.06	7.81	7.25	6.76	6.23	7.51		8.06	8.26	7.52	6.48	8.16	6.96	

Lasserre, Marina (FRA) (2002)

Regional FINAL - 2025 Meeting de Paris (Paris, FRA)

Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 20-Jun-25 time	6.75	12.55	18.68	25.12	31.80	38.66	45.71	53.23	53.23	6 / 1							
reaction time 0.161 interval		5.80	6.13	6.44	6.68	6.86	7.05	7.52		# of strides	12.55	12.57	13.54	14.57	25.12	28.11	2.99
velocity	7.41	8.62	8.16	7.76	7.49	7.29	7.09	6.65	7.51		7.97	7.96	7.39	6.86	7.96	7.11	

Sibley, Licretia (USA) (1983)

Heat 4 - 2004 USA Olympic Trials (Sacramento, CA)

USATF Women's Sprint Development (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 12-Jul-04 time		12.69		24.60		37.92	44.96	53.24	53.24	8 / 6							
reaction time interval				11.91		13.32	7.04	8.28		# of strides	12.69	11.91	13.32	15.32	24.60	28.64	4.04
velocity		7.88		8.40		7.51	7.10	6.04	7.51		7.88	8.40	7.51	6.53	8.13	6.98	

Holub-Kowalik, Malgorzata (POL) (19

National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)

Omega Timing (2022) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 06-Aug-22 time	7.07	12.88	18.88	25.11	31.55	38.23	45.32	53.24	53.24	5 / 2							
reaction time 0.231 interval		5.81	6.00	6.23	6.44	6.68	7.09	7.92		# of strides	12.88	12.23	13.12	15.01	25.11	28.13	3.02
velocity	7.07	8.61	8.33	8.03	7.76	7.49	7.05	6.31	7.51		7.76	8.18	7.62	6.66	7.96	7.11	

Fu Na (CHN) (1997)

FINAL - 2017 Chinese National Games (Tianjin, CHN)

Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 03-Sep-17 time		13.13		25.36		38.59		53.25	53.25	/ 4							
reaction time interval				12.23		13.23		14.66	PB	# of strides	13.13	12.23	13.23	14.66	25.36	27.89	2.53
velocity		7.62		8.18		7.56		6.82	7.51	198.0	7.62	8.18	7.56	6.82	7.89	7.17	

Désert-Mariller, Solen (FRA) (1982)

Semi-Final 2 - 2009 IAAF World Championships (Berlin, GER)

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 16-Aug-09 time		12.47		24.90		37.57		53.26	53.26	7 / 8							
reaction time 0.221 interval				12.43		12.67		15.69		# of strides	12.47	12.43	12.67	15.69	24.90	28.36	3.46
velocity		8.02		8.05		7.89		6.37	7.51		8.02	8.05	7.89	6.37	8.03	7.05	

Kimumba, Marie (SWE) (1995)

National FINAL - 2025 Bauhaus Galan (Stockholm, SWE)

Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Jun-25 time	6.95	12.73	18.85	25.10	31.61	38.63	45.74	53.26	53.26	4 / 2							
reaction time 0.190 interval		5.78	6.12	6.25	6.51	7.02	7.11	7.52		# of strides	12.73	12.37	13.53	14.63	25.10	28.16	3.06
velocity	7.19	8.65	8.17	8.00	7.68	7.12	7.03	6.65	7.51		7.86	8.08	7.39	6.84	7.97	7.10	

McHugh, Tess (GBR) (2002)

National FINAL - 2025 London Athletics Meet (London, GBR)

Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 19-Jul-25 time	6.94	12.75	18.63	24.81	31.25	38.07	45.32	53.26	53.26	8 / 6							
reaction time 0.156 interval		5.81	5.88	6.18	6.44	6.82	7.25	7.94		# of strides	12.75	12.06	13.26	15.19	24.81	28.45	3.64
velocity	7.20	8.61	8.50	8.09	7.76	7.33	6.90	6.30	7.51		7.84	8.29	7.54	6.58	8.06	7.03	

Vasilíou, Iríni (GRE) (1990)

Semi-Final 2 - 2017 IAAF World Championships (London, GBR)

Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 07-Aug-17 time		12.43		24.51		37.56	44.91	53.08	53.27	6 / ~~8~~ 7							
reaction time 0.190 interval				12.08		13.05	7.35	8.17		# of strides	12.43	12.08	13.05	15.52	24.51	28.57	4.06
velocity		8.05		8.28		7.66	6.80	6.12	7.51	190.4	8.05	8.28	7.66	6.44	8.16	7.00	

Aoyama, Seika (JPN) (1996)

Heat 3 - 2016 Japanese National Championships (Nagoya, JPN)

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 24-Jun-16 time	6.82	12.50	18.37	24.50	31.00	37.92	45.42	53.28	53.28	6 / 1							
reaction time 0.215 interval		5.68	5.87	6.13	6.50	6.92	7.50	7.86		# of strides	12.50	12.00	13.42	15.36	24.50	28.78	4.28
velocity	7.33	8.80	8.52	8.16	7.69	7.23	6.67	6.36	7.51		8.00	8.33	7.45	6.51	8.16	6.95	

Al-Saiddi, Line (NOR) (2006)

National FINAL - 2023 Bislett Games (Oslo, NOR)

Omega Timing (2023) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Jun-23 time	6.96	12.85	18.89	25.07	31.61	38.52	45.63	53.28	53.28	4 / 1							
reaction time 0.142 interval		5.89	6.04	6.18	6.54	6.91	7.11	7.65	PB	# of strides	12.85	12.22	13.45	14.76	25.07	28.21	3.14

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.18	8.49	8.28	8.09	7.65	7.24	7.03	6.54	7.51		7.78	8.18	7.43	6.78	7.98	7.09	

Brossier, Amandine (FRA) (1995)
FINAL - 2019 Meeting de Paris (Paris, FRA)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Aug-19	time		12.6		24.5		37.6		53.29	53.29	1 / 8							
reaction time	0.172	interval				11.9		13.1		15.7		# of strides	12.60	11.90	13.10	15.69	24.50	28.79	4.29
		velocity		7.94		8.40		7.63		6.37	7.51	204.7	7.94	8.40	7.63	6.37	8.16	6.95	

Aoyama, Seika (JPN) (1996)
Heat 1 - 2020 Japanese National Championships (Niigata, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Oct-20	time	6.86	12.59	18.49	24.66	31.11	38.00	45.28	53.29	53.29	6 / 1							
reaction time	0.185	interval		5.73	5.90	6.17	6.45	6.89	7.28	8.01		# of strides	12.59	12.07	13.34	15.29	24.66	28.63	3.97
		velocity	7.29	8.73	8.47	8.10	7.75	7.26	6.87	6.24	7.51	210.0	7.94	8.29	7.50	6.54	8.11	6.99	

Oppegaard, Linn (NOR) (1998)
Heat 1 - 2022 European Athletics Championships (Munich, GER)
European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-22	time		12.93		25.38		38.69		53.29	53.29	8 / 7							
reaction time	0.260	interval				12.45		13.31		14.60		# of strides	12.93	12.45	13.31	14.60	25.38	27.91	2.53
		velocity		7.73		8.03		7.51		6.85	7.51		7.73	8.03	7.51	6.85	7.88	7.17	

Griffin, Jada (USA) (1999)
Heat 5 - 2024 USA Olympic Trials (Eugene, OR)
USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-24	time		12.74		24.83		38.43		53.29	53.29	8 / 6							
reaction time		interval				12.09		13.60		14.86		# of strides	12.74	12.09	13.60	14.86	24.83	28.46	3.63
		velocity		7.85		8.27		7.35		6.73	7.51		7.85	8.27	7.35	6.73	8.05	7.03	

Muhammad, Dalilah (USA) (1990)
Long Hurdles - 2025 Grand Slam Track Philadelphia (Philadelphia, PA)
Grand Slam Track (2025) - results and splits by race

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-25	time		12.30		25.02		38.37		53.29	53.29	3 / 5							
reaction time	0.300	interval				12.72		13.35		14.92		# of strides	12.30	12.72	13.35	14.92	25.02	28.27	3.25
		velocity		8.13		7.86		7.49		6.70	7.51	192.0	8.13	7.86	7.49	6.70	7.99	7.07	

Tanno, Asami (JPN) (1985)
Heat 6 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Aug-09	time		12.81		25.36		38.66		53.30	53.30	2 / 5							
reaction time	0.161	interval				12.55		13.30		14.64		# of strides	12.81	12.55	13.30	14.64	25.36	27.94	2.58
		velocity		7.81		7.97		7.52		6.83	7.50		7.81	7.97	7.52	6.83	7.89	7.16	

Ishizuka, Haruko (JPN) (1997)
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-15	time	6.91	12.75	18.82	25.07	31.62	38.49	45.70	53.30	53.30	/ 1							
reaction time		interval		5.84	6.07	6.25	6.55	6.87	7.21	7.60	PB	# of strides	12.75	12.32	13.42	14.81	25.07	28.23	3.16
		velocity	7.24	8.56	8.24	8.00	7.63	7.28	6.93	6.58	7.50		7.84	8.12	7.45	6.75	7.98	7.08	

Coetzee, Miranda (RSA) (1997)
Heat 1 - 2022 World Athletics Championships (Eugene, OR)
Timing by Seiko (2022) - world athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		12.43		27.48		38.02		53.30	53.30	2 / 7							
reaction time	0.137	interval				15.05		10.54		15.28		# of strides	12.43	15.05	10.54	15.28	27.48	25.82	-1.66
		velocity		8.05		6.64		9.49		6.54	7.50	197.0	8.05	6.64	9.49	6.54	7.28	7.75	

Laus, Camille (BEL) (1993)
B Race - 2023 Memorial van Damme (Brussels, BEL)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	7.17	13.27	19.52	26.03	32.68	39.47	46.30	53.31	53.31	5 / 6							
reaction time	0.218	interval		6.10	6.25	6.51	6.65	6.79	6.83	7.01		# of strides	13.27	12.76	13.44	13.84	26.03	27.28	1.25
		velocity	6.97	8.20	8.00	7.68	7.52	7.36	7.32	7.13	7.50		7.54	7.84	7.44	7.23	7.68	7.33	

Osipiuk, Klaudia (POL) (2005)
Semi-Final 2 - 2025 European Athletics U23 Championships (Bergen, NOR)
European Athletics (2025) - 2025 european athletics U23 championships- results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Jul-25	time	6.97	12.64	18.65	24.93	31.41	38.20	45.48	53.31	53.31	3 / 5							
reaction time	0.159	interval		5.67	6.01	6.28	6.48	6.79	7.28	7.83	PB	# of strides	12.64	12.29	13.27	15.11	24.93	28.38	3.45
		velocity	7.17	8.82	8.32	7.96	7.72	7.36	6.87	6.39	7.50		7.91	8.14	7.54	6.62	8.02	7.05	

Wernli, Lena (SUI) (2001)
FINAL - 2024 Athletissima (Lausanne, SUI)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.96	12.90	19.05	25.30	31.79	38.63	45.66	53.33	53.33	6 / 2							
reaction time	0.143	interval		5.94	6.15	6.25	6.49	6.84	7.03	7.67		# of strides	12.90	12.40	13.33	14.70	25.30	28.03	2.73
		velocity	7.18	8.42	8.13	8.00	7.70	7.31	7.11	6.52	7.50		7.75	8.06	7.50	6.80	7.91	7.14	

Bolton, Kelia (USA) (1960)
FINAL - 1980 USA Olympic Trials (Eugene, OR)
Track Newsletter (1980) - US olympic trials

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-80	time				24.9				53.4	53.34	/ 8							
reaction time		interval								28.50		# of strides					24.90	28.50	3.60
		velocity				8.03				7.02	7.50						8.03	7.02	

Bouma, Andrea (NED) (1999)
National FINAL - 2024 FBK Games (Hengelo, NED)
Omega Timing (2024) - continental tour gold race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jul-24	time	7.01	12.73	18.60	24.73	31.16	37.97	45.23	53.34	53.34	7 / 2							
reaction time	0.191	interval		5.72	5.87	6.13	6.43	6.81	7.26	8.11		# of strides	12.73	12.00	13.24	15.37	24.73	28.61	3.88
		velocity	7.13	8.74	8.52	8.16	7.78	7.34	6.89	6.17	7.50		7.86	8.33	7.55	6.51	8.09	6.99	

Marinho, Tiffani (BRA) (1999)
Heat 3 - 2025 World Athletics Championships (Tokyo, JPN)
Seiko Timing (2025) - 2025 World Championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	14-Sep-25	time		12.84		24.94		38.10		53.34	53.34	2 / 8							
reaction time	0.249	interval				12.10		13.16		15.24		# of strides	12.84	12.10	13.16	15.24	24.94	28.40	3.46
		velocity		7.79		8.26		7.60		6.56	7.50		7.79	8.26	7.60	6.56	8.02	7.04	

Holmes, Dominique (USA) (1986) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Quarter-Final 2 - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

date	29-Jun-08	time		12.86	19.12	25.52	32.03	38.74	45.76	53.35	53.35	5 / 6						
reaction time		interval			6.26	6.40	6.51	6.71	7.02	7.59		# of strides	12.86	12.66	13.22	14.61	25.52	27.83	2.31
		velocity		7.78	7.99	7.81	7.68	7.45	7.12	6.59	7.50		7.78	7.90	7.56	6.84	7.84	7.19	

McDonald, Natassha (CAN) (1997) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

date	21-Jul-16	time	7.13	12.90	18.89	25.12	31.61	38.37	45.53	53.35	53.35	8 / 7						
reaction time	0.181	interval		5.77	5.99	6.23	6.49	6.76	7.16	7.82		# of strides	12.90	12.22	13.25	14.98	25.12	28.23	3.11
		velocity	7.01	8.67	8.35	8.03	7.70	7.40	6.98	6.39	7.50		7.75	8.18	7.55	6.68	7.96	7.08	

Aoyama, Seika (JPN) (1996) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN) — *Yamanaka (2020) - 400m race analysis of men and women during 2020 season*

date	23-Aug-20	time	6.96	12.72	18.60	24.77	31.27	38.21	45.45	53.35	53.35	7 / 1						
reaction time	0.205	interval		5.76	5.88	6.17	6.50	6.94	7.24	7.90		# of strides	12.72	12.05	13.44	15.14	24.77	28.58	3.81
		velocity	7.18	8.68	8.50	8.10	7.69	7.20	6.91	6.33	7.50		7.86	8.30	7.44	6.61	8.07	7.00	

Williams, Hannah (GBR) (1998) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2021 Müller Grand Prix (Gateshead, GBR) — *Omega Timing (2021) - diamond league race analysis*

date	23-May-21	time	7.2	12.7	18.5	24.6	31.0	37.9	45.5	53.35	53.35	8 / 5						
reaction time	0.163	interval		5.50	5.80	6.10	6.40	6.90	7.60	7.85		# of strides	12.70	11.90	13.30	15.45	24.60	28.75	4.15
		velocity	6.94	9.09	8.62	8.20	7.81	7.25	6.58	6.37	7.50		7.87	8.40	7.52	6.47	8.13	6.96	

Matsumoto, Nanako (JPN) (1996) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

FINAL - 2021 Japanese National Championships (Osaka, JPN) — *Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

date	25-Jun-21	time	6.90	12.60	18.54	24.81	31.40	38.30	45.57	53.35	53.35	6 / 2						
reaction time	0.259	interval		5.70	5.94	6.27	6.59	6.90	7.27	7.78		# of strides	12.60	12.21	13.49	15.05	24.81	28.54	3.73
		velocity	7.25	8.77	8.42	7.97	7.59	7.25	6.88	6.43	7.50		7.94	8.19	7.41	6.64	8.06	7.01	

Cockrell, Anna (USA) (1997) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Long Hurdles - 2025 Grand Slam Track Philadelphia (Philadelphia, PA) — *Grand Slam Track (2025) - results and splits by race*

date	01-Jun-25	time		12.51		25.45		38.62		53.35	53.35	4 / 6						
reaction time	0.200	interval				12.94		13.17		14.73		# of strides	12.51	12.94	13.17	14.73	25.45	27.90	2.45
		velocity		7.99		7.73		7.59		6.79	7.50	189.0	7.99	7.73	7.59	6.79	7.86	7.17	

Dragieva, Deva-Mariya (BUL) (2000) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

B FINAL - 2023 European Team Championships, Second Division (Chorzów, POL) — *European Athletics (2023) - 3rd european games, athletics - results book*

date	20-Jun-23	time		12.84		24.86		38.55		53.36	53.36	6 / 1						
reaction time	0.174	interval				12.02		13.69		14.81	PB	# of strides	12.84	12.02	13.69	14.81	24.86	28.50	3.64
		velocity		7.79		8.32		7.30		6.75	7.50		7.79	8.32	7.30	6.75	8.05	7.02	

Aguilar, Evelyn (COL) (1993) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 6 - 2024 Olympic Games (Paris, FRA) — *Paris 2024 Olympic Games - Results Book (2024)*

date	05-Aug-24	time	6.97	12.74	18.64	24.72	31.09	37.80	45.12	53.36	53.36	4 / 7						
reaction time	0.165	interval		5.77	5.90	6.08	6.37	6.71	7.32	8.24		# of strides	12.74	11.98	13.08	15.56	24.72	28.64	3.92
		velocity	7.17	8.67	8.47	8.22	7.85	7.45	6.83	6.07	7.50		7.85	8.35	7.65	6.43	8.09	6.98	

Kimumba, Marie (SWE) (1995) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Regional FINAL - 2025 Meeting de Paris (Paris, FRA) — *Omega Timing (2025) - diamond league race analysis*

date	20-Jun-25	time	6.88	12.58	18.54	24.79	31.46	38.53	45.75	53.36	53.36	5 / 2						
reaction time	0.205	interval		5.70	5.96	6.25	6.67	7.07	7.22	7.61		# of strides	12.58	12.21	13.74	14.83	24.79	28.57	3.78
		velocity	7.27	8.77	8.39	8.00	7.50	7.07	6.93	6.57	7.50		7.95	8.19	7.28	6.74	8.07	7.00	

Al-Saiddi, Line (NOR) (2006) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Semi-Final 2 - 2025 European Athletics U20 Championships (Tampere, FIN) — *European Athletics (2025) - 2025 european athletics U20 championships - results book*

date	08-Aug-25	time	6.89	12.68	18.71	25.07	31.75	38.64	45.71	53.36	53.36	7 / 2						
reaction time	0.132	interval		5.79	6.03	6.36	6.68	6.89	7.07	7.65		# of strides	12.68	12.39	13.57	14.72	25.07	28.29	3.22
		velocity	7.26	8.64	8.29	7.86	7.49	7.26	7.07	6.54	7.50	212.0	7.89	8.07	7.37	6.79	7.98	7.07	

Gilbert, Nina (USA) (1984) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

date	29-Jun-08	time		12.43	18.29	24.49	30.99	37.82	45.15	53.37	53.37	3 / 4						
reaction time		interval			5.86	6.20	6.50	6.83	7.33	8.22		# of strides	12.43	12.06	13.33	15.55	24.49	28.88	4.39
		velocity		8.05	8.53	8.06	7.69	7.32	6.82	6.08	7.49		8.05	8.29	7.50	6.43	8.17	6.93	

Powell, Micha (CAN) (1995) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR) — *Longines Timing (2022) - commonwealth games race analysis*

date	05-Aug-22	time	6.9	12.6	18.6	24.8	31.4	38.4	45.7	53.37	53.37	2 / 7						
reaction time	0.208	interval		5.70	6.00	6.20	6.60	7.00	7.30	7.67		# of strides	12.60	12.20	13.60	14.97	24.80	28.57	3.77
		velocity	7.25	8.77	8.33	8.06	7.58	7.14	6.85	6.52	7.49	197.0	7.94	8.20	7.35	6.68	8.06	7.00	

Perry, Corrssia (USA) (1996) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Heat 4 - 2024 USA Olympic Trials (Eugene, OR) — *USATF and Karmarush (2024) - USA Olympic trials results and race analysis*

date	21-Jun-24	time		12.52		24.52		38.16		53.37	53.37	5 / 7						
reaction time		interval				12.00		13.64		15.21		# of strides	12.52	12.00	13.64	15.21	24.52	28.85	4.33
		velocity		7.99		8.33		7.33		6.57	7.49	198.2	7.99	8.33	7.33	6.57	8.16	6.93	

Hanssens, Ilana (BEL) (2002) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

Invitational - 2025 Memorial van Damme (Brussels, BEL) — *Omega Timing (2025) - diamond league race analysis*

date	22-Aug-25	time	6.97	12.78	18.89	25.22	31.75	38.49	45.61	53.37	53.37	3 / 5						
reaction time	0.168	interval		5.81	6.11	6.33	6.53	6.74	7.12	7.76		# of strides	12.78	12.44	13.27	14.88	25.22	28.15	2.93
		velocity	7.17	8.61	8.18	7.90	7.66	7.42	7.02	6.44	7.49		7.82	8.04	7.54	6.72	7.93	7.10	

Bueno, Laura (ESP) (1993) — 50m 100m 150m 200m 250m 300m 350m 400m Official Time Lane / Place 0-100m 100-200m 200-300m 300-400m 0-200m 200m-400m Differential

B FINAL - 2023 European Team Championships, First Division (Chorzów, POL) — *European Athletics (2023) - 3rd european games, athletics - results book*

date	23-Jun-23	time	12.82		24.66		37.89		53.38	53.38	6 / 6						
reaction time	0.193	interval			11.84		13.23		15.49		# of strides	12.82	11.84	13.23	15.49	24.66	28.72	4.06
		velocity	7.80		8.45		7.56		6.46	7.49		7.80	8.45	7.56	6.46	8.11	6.96	

Rivers, Theodoesha (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USATF National Junior Championships (Delaware, OH)																	*USATF Women's Sprint Development (1996)*
date 29-Jun-96	time			25.18		38.44	45.59	53.39	53.39	7 / 3							
reaction time	interval					13.26	7.15	7.80		# of strides			13.26	14.95	25.18	28.21	3.03
	velocity			7.94		7.54	6.99	6.41	7.49				7.54	6.69	7.94	7.09	

Young, Jessica (USA) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)																	*USATF Women's Sprint Development (2006)*
date 24-Jun-06	time	12.71	18.82	25.22	31.65	38.41	45.61	53.39	53.39	5 / 4							
reaction time	interval		6.11	6.40	6.43	6.76	7.20	7.78	PB	# of strides	12.71	12.51	13.19	14.98	25.22	28.17	2.95
	velocity	7.87	8.18	7.81	7.78	7.40	6.94	6.43	7.49		7.87	7.99	7.58	6.68	7.93	7.10	

Wittstock, Estie (RSA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 ISTAF (Berlin, GER)																	*Graubner (2009) - http://www.fgs.uni-halle.de*
date 14-Jun-09	time	12.72		25.08		38.47		53.39	53.39	/ 8							
reaction time 0.199	interval			12.36		13.39		14.92		# of strides	12.72	12.36	13.39	14.92	25.08	28.31	3.23
	velocity	7.86		8.09		7.47		6.70	7.49		7.86	8.09	7.47	6.70	7.97	7.06	

Giger, Yasmin (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21	time 7.1	13.1	19.5	26.0	32.4	39.1	46.1	53.39	53.39	7 / 3							
reaction time 0.148	interval	6.00	6.40	6.50	6.40	6.70	7.00	7.29		# of strides	13.10	12.90	13.10	14.29	26.00	27.39	1.39
	velocity 7.04	8.33	7.81	7.69	7.81	7.46	7.14	6.86	7.49		7.63	7.75	7.63	7.00	7.69	7.30	

Lemmens, Silke (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21	time 6.8	12.6	18.9	25.3	31.9	38.7	45.8	53.39	53.39	5 / 4							
reaction time 0.175	interval	5.80	6.30	6.40	6.60	6.80	7.10	7.59		# of strides	12.60	12.70	13.40	14.69	25.30	28.09	2.79
	velocity 7.35	8.62	7.94	7.81	7.58	7.35	7.04	6.59	7.49		7.94	7.87	7.46	6.81	7.91	7.12	

Bouma, Andrea (NED) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2021) - diamond league race analysis*
date 03-Sep-21	time 6.9	12.5	18.3	24.4	31.0	37.9	45.4	53.39	53.39	6 / 3							
reaction time 0.219	interval	5.60	5.80	6.10	6.60	6.90	7.50	7.99		# of strides	12.50	11.90	13.50	15.49	24.40	28.99	4.59
	velocity 7.25	8.93	8.62	8.20	7.58	7.25	6.67	6.26	7.49	195.0	8.00	8.40	7.41	6.46	8.20	6.90	

Müller, Laura (GER) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 IAAF World Junior Championships (Eugene, OR)																	*Track Newsletter (2014) - World Junior championships women*
date 25-Jul-14	time					38.7		53.4	53.40	/ 4							
reaction time 0.193	interval							14.7		# of strides				14.70			
	velocity					7.75		6.80	7.49					6.80			

Vandi, Elisabetta (ITA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN)																	*Koyama (2018) - research on athlete performance and technique- 2018 data book*
date 12-Jul-18	time 6.93	13.00	19.23	25.73	32.32	39.07	45.96	53.40	53.40	2 / 7							
reaction time 0.181	interval	6.07	6.23	6.50	6.59	6.75	6.89	7.44		# of strides	13.00	12.73	13.34	14.33	25.73	27.67	1.94
	velocity 7.22	8.24	8.03	7.69	7.59	7.41	7.26	6.72	7.49	190.2	7.69	7.86	7.50	6.98	7.77	7.23	

Jackson, Shericka (JAM) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)																	*Omega Timing (2021) - diamond league race analysis*
date 23-May-21	time 7.3	12.9	18.7	24.7	31.2	38.2	45.6	53.40	53.40	4 / 6							
reaction time 0.177	interval	5.60	5.80	6.00	6.50	7.00	7.40	7.80		# of strides	12.90	11.80	13.50	15.20	24.70	28.70	4.00
	velocity 6.85	8.93	8.62	8.33	7.69	7.14	6.76	6.41	7.49		7.75	8.47	7.41	6.58	8.10	6.97	

Soldatova, Olesya (RUS) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 15-Jul-21	time	13.06		25.61		39.21		53.40	53.40	6 / 2							
reaction time	interval			12.55		13.60		14.19		# of strides	13.06	12.55	13.60	14.19	25.61	27.79	2.18
	velocity	7.66		7.97		7.35		7.05	7.49		7.66	7.97	7.35	7.05	7.81	7.20	

Humphrey, Erin (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)																	*USATF Women's Sprint Development (2006)*
date 24-Jun-06	time	12.93	19.30	25.36	31.99	39.02	46.05	53.41	53.41	7 / 5							
reaction time	interval		6.37	6.06	6.63	7.03	7.03	7.36	PB	# of strides	12.93	12.43	13.66	14.39	25.36	28.05	2.69
	velocity	7.73	7.85	8.25	7.54	7.11	7.11	6.79	7.49		7.73	8.05	7.32	6.95	7.89	7.13	

Sananes, Déborah (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Meeting de Paris (Paris, FRA)																	*Omega Timing (2017) - diamond league race analysis*
date 01-Jul-17	time	12.8	18.8	25.1	31.6	38.5	45.8	53.41	53.41	1 / ~~7~~ 6							
reaction time 0.207	interval		6.0	6.3	6.5	6.9	7.3	7.6		# of strides	12.80	12.30	13.40	14.91	25.10	28.31	3.21
	velocity	7.81	8.33	7.94	7.69	7.25	6.85	6.57	7.49	198.7	7.81	8.13	7.46	6.71	7.97	7.06	

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 World Athletics Trials (Fuji, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 06-Sep-20	time 6.93	12.83	18.92	25.13	31.55	38.37	45.66	53.41	53.41	5 / 1							
reaction time	interval	5.90	6.09	6.21	6.42	6.82	7.29	7.75		# of strides	12.83	12.30	13.24	15.04	25.13	28.28	3.15
	velocity 7.22	8.47	8.21	8.05	7.79	7.33	6.86	6.45	7.49	208.0	7.79	8.13	7.55	6.65	7.96	7.07	

Arkhipova, Veronika (RUS) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 16-Jul-21	time	12.69		25.01		38.60		53.41	53.41	6 / 3							
reaction time 0.223	interval			12.32		13.59		14.81		# of strides	12.69	12.32	13.59	14.81	25.01	28.40	3.39

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.88		8.12		7.36		6.75	7.49		7.88	8.12	7.36	6.75	8.00	7.04	

Yoshida, Makiko (JPN) (1976)
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)
Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-05	time		12.74		25.22		38.22	45.49	53.42	53.42	7 / 5							
reaction time		interval				12.48		13.00	7.27	7.93		# of strides	12.74	12.48	13.00	15.20	25.22	28.20	2.98
		velocity		7.85		8.01		7.69	6.88	6.31	7.49		7.85	8.01	7.69	6.58	7.93	7.09	

de Witte, Lisanne (NED) (1992)
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-May-21	time	7.6	13.5	19.5	25.6	31.9	38.8	46.0	53.42	53.42	1 / 7							
reaction time	0.155	interval		5.90	6.00	6.10	6.30	6.90	7.20	7.42		# of strides	13.50	12.10	13.20	14.62	25.60	27.82	2.22
		velocity	6.58	8.47	8.33	8.20	7.94	7.25	6.94	6.74	7.49		7.41	8.26	7.58	6.84	7.81	7.19	

Aoki, Sayaka (JPN) (1986)
FINAL - 2021 Japanese National Championships (Osaka, JPN)
Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-21	time	6.96	12.76	18.64	24.71	31.08	37.86	45.16	53.42	53.42	4 / 3							
reaction time	0.204	interval		5.80	5.88	6.07	6.37	6.78	7.30	8.26		# of strides	12.76	11.95	13.15	15.56	24.71	28.71	4.00
		velocity	7.18	8.62	8.50	8.24	7.85	7.37	6.85	6.05	7.49		7.84	8.37	7.60	6.43	8.09	6.97	

Alexander, Kineke (VIN) (1986)
Semi-Final 1 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-09	time		12.52		24.59		38.08		53.43	53.43	2 / 7							
reaction time	0.177	interval				12.07		13.49		15.35		# of strides	12.52	12.07	13.49	15.35	24.59	28.84	4.25
		velocity		7.99		8.29		7.41		6.51	7.49		7.99	8.29	7.41	6.51	8.13	6.93	

Ishizuka, Haruko (JPN) (1997)
FINAL - 2015 Japanese National Championships (Niigata, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time	7.07	12.84	18.85	25.11	31.75	38.76	45.94	53.44	53.44	4 / 3							
reaction time	0.272	interval		5.77	6.01	6.26	6.64	7.01	7.18	7.50	=PB	# of strides	12.84	12.27	13.65	14.68	25.11	28.33	3.22
		velocity	7.07	8.67	8.32	7.99	7.53	7.13	6.96	6.67	7.49	200.5	7.79	8.15	7.33	6.81	7.96	7.06	

Aoki, Rin (JPN) (1998)
Heat 1 - 2016 Japanese National Championships (Nagoya, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-16	time	7.09	12.93	18.99	25.36	31.95	38.80	45.89	53.44	53.44	8 / 1							
reaction time	0.215	interval		5.84	6.06	6.37	6.59	6.85	7.09	7.55	PB	# of strides	12.93	12.43	13.44	14.64	25.36	28.08	2.72
		velocity	7.05	8.56	8.25	7.85	7.59	7.30	7.05	6.62	7.49		7.73	8.05	7.44	6.83	7.89	7.12	

Takashima, Saki (JPN) (2002)
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)
Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Aug-19	time	7.29	13.53	19.75	26.03	32.51	39.30	46.20	53.44	53.44	5 / 1							
reaction time		interval		6.24	6.22	6.28	6.48	6.79	6.90	7.24		# of strides	13.53	12.50	13.27	14.14	26.03	27.41	1.38
		velocity	6.86	8.01	8.04	7.96	7.72	7.36	7.25	6.91	7.49		7.39	8.00	7.54	7.07	7.68	7.30	

Hjelmer, Moa (SWE) (1990)
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-22	time	6.81	12.53	18.39	24.57	31.15	38.08	45.37	53.44	53.44	4 / 5							
reaction time	0.165	interval		5.72	5.86	6.18	6.58	6.93	7.29	8.07		# of strides	12.53	12.04	13.51	15.36	24.57	28.87	4.30
		velocity	7.34	8.74	8.53	8.09	7.60	7.22	6.86	6.20	7.49		7.98	8.31	7.40	6.51	8.14	6.93	

Couckuyt, Paulien (BEL) (1997)
National FINAL - 2022 Memorial van Damme (Brussels, BEL)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Sep-22	time	6.91	12.78	18.93	25.38	32.03	38.86	45.97	53.45	53.45	3 / 7							
reaction time	0.204	interval		5.87	6.15	6.45	6.65	6.83	7.11	7.48		# of strides	12.78	12.60	13.48	14.59	25.38	28.07	2.69
		velocity	7.24	8.52	8.13	7.75	7.52	7.32	7.03	6.68	7.48		7.82	7.94	7.42	6.85	7.88	7.13	

Jons, Piper (USA) (2001)
Heat 2 - 2025 USATF Championships (Eugene, OR)
USATF and Karmarush (2025) - USATF championships results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Aug-25	time		12.33		24.25		37.80		53.45	53.45	3 / 7							
reaction time		interval				11.92		13.55		15.65		# of strides	12.33	11.92	13.55	15.65	24.25	29.20	4.95
		velocity		8.11		8.39		7.38		6.39	7.48		8.11	8.39	7.38	6.39	8.25	6.85	

Dunn, Debbie (USA) (1978)
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time						37.97	46.25	53.46	53.46	2 / 6							
reaction time		interval							8.28	7.21		# of strides				15.49			
		velocity						7.90	6.04	6.93	7.48					6.46			

Day, Christine (JAM) (1986)
Semi-Final 3 - 2009 IAAF World Championships (Berlin, GER)
Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-09	time		12.42		24.37		37.60		53.46	53.46	2 / 8							
reaction time	0.177	interval				11.95		13.23		15.86		# of strides	12.42	11.95	13.23	15.86	24.37	29.09	4.72
		velocity		8.05		8.37		7.56		6.31	7.48		8.05	8.37	7.56	6.31	8.21	6.88	

Beckford, Lily (GBR) (1997)
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.8	12.4	18.7	25.0	31.6	38.4	45.5	53.46	53.46	7 / 4							
reaction time	0.212	interval		5.60	6.30	6.30	6.60	6.80	7.10	7.96		# of strides	12.40	12.60	13.40	15.06	25.00	28.46	3.46
		velocity	7.35	8.93	7.94	7.94	7.58	7.35	7.04	6.28	7.48		8.06	7.94	7.46	6.64	8.00	7.03	

Salamin, Noémie (SUI) (1999)
B Race - 2023 Athletissima (Lausanne, SUI)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-23	time	7.02	12.81	18.92	25.27	31.80	38.60	45.76	53.46	53.46	5 / 2							
reaction time	0.215	interval		5.79	6.11	6.35	6.53	6.80	7.16	7.70		# of strides	12.81	12.46	13.33	14.86	25.27	28.19	2.92
		velocity	7.12	8.64	8.18	7.87	7.66	7.35	6.98	6.49	7.48		7.81	8.03	7.50	6.73	7.91	7.09	

Cox, Shana (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 22-Jun-03	time			23.84		37.47	44.86	53.47	53.47	5 / 6							
reaction time	interval					13.63	7.39	8.61		# of strides			13.63	16.00	23.84	29.63	5.79
	velocity			8.39		7.34	6.77	5.81	7.48				7.34	6.25	8.39	6.75	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/10/post-978/*
date 23-Jun-17	time	12.74		25.00		38.65		53.47	53.47	5 / 1							
reaction time 0.165	interval			12.26		13.65		14.82	PB	# of strides	12.74	12.26	13.65	14.82	25.00	28.47	3.47
	velocity	7.85		8.16		7.33		6.75	7.48	194.2	7.85	8.16	7.33	6.75	8.00	7.02	

Hjelmer, Moa (SWE) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2018) - diamond league race analysis*
date 10-Jun-18	time	12.6		24.8		38.4		53.47	53.47	1 / 8							
reaction time 0.160	interval			12.2		13.6		15.1		# of strides	12.60	12.20	13.60	15.07	24.80	28.67	3.87
	velocity	7.94		8.20		7.35		6.64	7.48	198.0	7.94	8.20	7.35	6.64	8.06	6.98	

Pellaud, Rachel (SUI) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Athletissima (Lausanne, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 26-Aug-22	time 7.1	13.1	19.2	25.5	32.1	39.0	46.0	53.47	53.47	2 / 4							
reaction time 0.153	interval	6.00	6.10	6.30	6.60	6.90	7.00	7.47		# of strides	13.10	12.40	13.50	14.47	25.50	27.97	2.47
	velocity 7.04	8.33	8.20	7.94	7.58	7.25	7.14	6.69	7.48		7.63	8.06	7.41	6.91	7.84	7.15	

Richard, Janet (MLT) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22	time	12.84		25.55		38.80		53.49	53.49	6 / 7							
reaction time 0.206	interval			12.71		13.25		14.69	NR PB	# of strides	12.84	12.71	13.25	14.69	25.55	27.94	2.39
	velocity	7.79		7.87		7.55		6.81	7.48	207.7	7.79	7.87	7.55	6.81	7.83	7.16	

Newnham, Emily (GBR) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 London Athletics Meet (London, GBR)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Jul-24	time 7.18	13.00	18.98	25.21	31.64	38.46	45.55	53.48	53.48	2 / 8							
reaction time 0.134	interval	5.82	5.98	6.23	6.43	6.82	7.09	7.93		# of strides	13.00	12.21	13.25	15.02	25.21	28.27	3.06
	velocity 6.96	8.59	8.36	8.03	7.78	7.33	7.05	6.31	7.48		7.69	8.19	7.55	6.66	7.93	7.07	

Manson, Taylor (USA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2024 USA Olympic Trials (Eugene, OR)																	*USATF and Karmarush (2024) - USA Olympic trials results and race analysis*
date 21-Jun-24	time	12.37		24.18		37.81		53.49	53.49	7 / 7							
reaction time	interval			11.81		13.63		15.68		# of strides	12.37	11.81	13.63	15.68	24.18	29.31	5.13
	velocity	8.08		8.47		7.34		6.38	7.48	196.0	8.08	8.47	7.34	6.38	8.27	6.82	

Fahr, Annina (SUI) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Athletissima (Lausanne, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 22-Aug-24	time 6.95	12.75	18.82	25.15	31.65	38.46	45.55	53.49	53.49	4 / 3							
reaction time 0.168	interval	5.80	6.07	6.33	6.50	6.81	7.09	7.94		# of strides	12.75	12.40	13.31	15.03	25.15	28.34	3.19
	velocity 7.19	8.62	8.24	7.90	7.69	7.34	7.05	6.30	7.48		7.84	8.06	7.51	6.65	7.95	7.06	

Kozak, Anna (BLR) (1974)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1997 European Cup (Munich, GER)																	*Jung (2003) - http://www.fgs.uni-halle.de*
date 21-Jun-97	time	12.71		24.68		37.94		53.50	53.50	/ 7							
reaction time	interval			11.97		13.26		15.56		# of strides	12.71	11.97	13.26	15.56	24.68	28.82	4.14
	velocity	7.87		8.35		7.54		6.43	7.48		7.87	8.35	7.54	6.43	8.10	6.94	

Kendall, Nicole (GBR) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bislett Games (Oslo, NOR)																	*Omega Timing (2023) - diamond league race analysis*
date 15-Jun-23	time 6.91	12.64	18.61	24.84	31.47	38.48	45.71	53.50	53.50	5 / 2							
reaction time 0.192	interval	5.73	5.97	6.23	6.63	7.01	7.23	7.79		# of strides	12.64	12.20	13.64	15.02	24.84	28.66	3.82
	velocity 7.24	8.73	8.38	8.03	7.54	7.13	6.92	6.42	7.48		7.91	8.20	7.33	6.66	8.05	6.98	

Miller-Uibo, Shaunae (BAH) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Repechage 2 - 2024 Olympic Games (Paris, FRA)																	*Paris 2024 Olympic Games - Results Book (2024)*
date 06-Aug-24	time 6.76	12.24	17.83	23.71	30.01	36.78	44.53	53.50	53.50	2 / 7							
reaction time 0.167	interval	5.48	5.59	5.88	6.30	6.77	7.75	8.97		# of strides	12.24	11.47	13.07	16.72	23.71	29.79	6.08
	velocity 7.40	9.12	8.94	8.50	7.94	7.39	6.45	5.57	7.48	179.0	8.17	8.72	7.65	5.98	8.44	6.71	

Al-Saiddi, Line (NOR) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U20 Championships (Tampere, FIN)																	*European Athletics (2025) - 2025 european athletics U20 championships - results book*
date 09-Aug-25	time 6.99	12.77	18.66	25.02	31.64	38.52	45.69	53.50	53.50	7 / 5							
reaction time 0.126	interval	5.78	5.89	6.36	6.62	6.88	7.17	7.81		# of strides	12.77	12.25	13.50	14.98	25.02	28.48	3.46
	velocity 7.15	8.65	8.49	7.86	7.55	7.27	6.97	6.40	7.48	213.0	7.83	8.16	7.41	6.68	7.99	7.02	

Pellaud, Rachel (SUI) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21	time 7.2	13.2	19.4	25.9	32.5	39.3	46.2	53.52	53.52	1 / 8							
reaction time 0.182	interval	6.00	6.20	6.50	6.60	6.80	6.90	7.32		# of strides	13.20	12.70	13.40	14.22	25.90	27.62	1.72
	velocity 6.94	8.33	8.06	7.69	7.58	7.35	7.25	6.83	7.47		7.58	7.87	7.46	7.03	7.72	7.24	

Stiverne, Aiyanna (CAN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 05-Aug-22	time 6.6	12.3	18.2	24.5	31.1	38.1	45.4	53.52	53.52	4 / 6							
reaction time 0.134	interval	5.70	5.90	6.30	6.60	7.00	7.30	8.12		# of strides	12.30	12.20	13.60	15.42	24.50	29.02	4.52
	velocity 7.58	8.77	8.47	7.94	7.58	7.14	6.85	6.16	7.47	208.0	8.13	8.20	7.35	6.49	8.16	6.89	

Tulum, Edanur (TUR) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, First Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*

date	23-Jun-23	time		13.05		25.35		39.04		53.52	53.52	2 / 7						
reaction time	0.295	interval				12.30		13.69		14.48	PB	# of strides	13.05	12.30	13.69	14.48	25.35	28.17	2.82
		velocity		7.66		8.13		7.30		6.91	7.47		7.66	8.13	7.30	6.91	7.89	7.10	

Pipi, Ama (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 London Athletics Meet (London, GBR)																	*Omega Timing (2025) - diamond league race analysis*
date 19-Jul-25 time	6.88	12.71	18.70	24.82	31.33	38.22	45.39	53.53	53.53	2 / 7							
reaction time 0.143 interval		5.83	5.99	6.12	6.51	6.89	7.17	8.14		# of strides	12.71	12.11	13.40	15.31	24.82	28.71	3.89
velocity	7.27	8.58	8.35	8.17	7.68	7.26	6.97	6.14	7.47		7.87	8.26	7.46	6.53	8.06	6.97	

Duraj, Dominika (POL) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U23 Championships (Bergen, NOR)																	*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date 18-Jul-25 time	7.10	13.04	19.23	25.64	32.17	38.88	45.94	53.53	53.53	8 / 6							
reaction time 0.190 interval		5.94	6.19	6.41	6.53	6.71	7.06	7.59		# of strides	13.04	12.60	13.24	14.65	25.64	27.89	2.25
velocity	7.04	8.42	8.08	7.80	7.66	7.45	7.08	6.59	7.47		7.67	7.94	7.55	6.83	7.80	7.17	

Amoore, Judy (AUS) (1940)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Tokyo, JPN)																	*Müller (1965) - die leichtathletik-wettkampfe der XVIII olympiischen sommerspielen Tokio 1964 - 400m lauf*
date 17-Oct-64 time				24.2				53.4	53.4	3 / 3							
reaction time interval								29.2		# of strides					24.20	29.20	5.00
velocity				8.26				6.85	7.49						8.26	6.85	

Tanno, Asami (JPN) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																	*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*
date 24-Sep-06 time	6.8	12.6	18.6	24.7	31.2	38.2	45.6	53.54	53.54	5 / 2							
reaction time interval		5.80	6.00	6.10	6.50	7.00	7.40	7.94		# of strides	12.60	12.10	13.50	15.34	24.70	28.84	4.14
velocity	7.35	8.62	8.33	8.20	7.69	7.14	6.76	6.30	7.47		7.94	8.26	7.41	6.52	8.10	6.93	

Hirosawa, Mae (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Asian Athletics Championships (Doha, QAT)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 21-Apr-19 time	6.85	12.72	18.82	25.23	31.87	38.75	45.89	53.54	53.54	8 / 4							
reaction time 0.163 interval		5.87	6.10	6.41	6.64	6.88	7.14	7.65		# of strides	12.72	12.51	13.52	14.79	25.23	28.31	3.08
velocity	7.30	8.52	8.20	7.80	7.53	7.27	7.00	6.54	7.47	199.5	7.86	7.99	7.40	6.76	7.93	7.06	

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 19-Sep-20 time	7.05	12.96	19.05	25.37	31.92	38.76	45.96	53.55	53.55	7 / 1							
reaction time 0.234 interval		5.91	6.09	6.32	6.55	6.84	7.20	7.59		# of strides	12.96	12.41	13.39	14.79	25.37	28.18	2.81
velocity	7.09	8.46	8.21	7.91	7.63	7.31	6.94	6.59	7.47	210.0	7.72	8.06	7.47	6.76	7.88	7.10	

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese National Championships (Niigata, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 02-Oct-20 time	6.97	12.80	18.82	25.06	31.62	38.50	45.72	53.55	53.55	4 / 1							
reaction time 0.193 interval		5.83	6.02	6.24	6.56	6.88	7.22	7.83		# of strides	12.80	12.26	13.44	15.05	25.06	28.49	3.43
velocity	7.17	8.58	8.31	8.01	7.62	7.27	6.93	6.39	7.47		7.81	8.16	7.44	6.64	7.98	7.02	

Kobayashi, Mayu (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 09-May-21 time	7.14	13.25	19.45	25.86	32.42	39.17	46.15	53.55	53.55	9 / 1							
reaction time 0.164 interval		6.11	6.20	6.41	6.56	6.75	6.98	7.40	PB	# of strides	13.25	12.61	13.31	14.38	25.86	27.69	1.83
velocity	7.00	8.18	8.06	7.80	7.62	7.41	7.16	6.76	7.47		7.55	7.93	7.51	6.95	7.73	7.22	

Tate, Cassandra (USA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Long Hurdles - 2025 Grand Slam Track Miami (Miramar, FL)																	*Grand Slam Track (2025) - results and splits by race*
date 04-May-25 time		12.74		25.21		38.84		53.55	53.55	1 / 8							
reaction time 0.410 interval				12.47		13.63		14.71		# of strides	12.74	12.47	13.63	14.71	25.21	28.34	3.13
velocity		7.85		8.02		7.34		6.80	7.47		7.85	8.02	7.34	6.80	7.93	7.06	

Wade, Kennedy (USA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 USATF Championships (Eugene, OR)																	*USATF and Karmarush (2025) - USATF championships results and race analysis*
date 01-Aug-25 time		12.51		25.21		35.56		53.55	53.55	3 / 7							
reaction time interval				12.70		10.35		17.99		# of strides	12.51	12.70	10.35	17.99	25.21	28.34	3.13
velocity		7.99		7.87		9.66		5.56	7.47		7.99	7.87	9.66	5.56	7.93	7.06	

Sato, Mayu (JPN) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																	*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*
date 24-Sep-06 time	6.8	12.9	19.0	25.3	31.8	38.7	45.9	53.56	53.56	2 / 3							
reaction time interval		6.10	6.10	6.30	6.50	6.90	7.20	7.66		# of strides	12.90	12.40	13.40	14.86	25.30	28.26	2.96
velocity	7.35	8.20	8.20	7.94	7.69	7.25	6.94	6.53	7.47		7.75	8.06	7.46	6.73	7.91	7.08	

Kawada, Ayaka (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17 time		12.96		25.41		39.11		53.56	53.56	5 / 1							
reaction time 0.220 interval				12.45		13.70		14.45		# of strides	12.96	12.45	13.70	14.45	25.41	28.15	2.74
velocity		7.72		8.03		7.30		6.92	7.47	209.5	7.72	8.03	7.30	6.92	7.87	7.10	

Avilés, Carmen (ESP) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23 time		13.13		25.78		39.28		53.56	53.56	7 / 4							
reaction time 0.233 interval				12.65		13.50		14.28		# of strides	13.13	12.65	13.50	14.28	25.78	27.78	2.00
velocity		7.62		7.91		7.41		7.00	7.47		7.62	7.91	7.41	7.00	7.76	7.20	

Segura, Berta (ESP) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 14-Jul-23 time		13.22		25.33		38.68		53.56	53.56	1 / 8							
reaction time 0.243 interval				12.11		13.35		14.88		# of strides	13.22	12.11	13.35	14.88	25.33	28.23	2.90

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.56		8.26		7.49		6.72	7.47	189.0	7.56	8.26	7.49	6.72	7.90	7.08	

Risberg Thoor, Josephine (SWE) (19
National FINAL - 2025 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jun-25	time	7.26	13.07	19.57	26.03	32.27	38.93	45.98	53.56	53.56	3 / 3							
reaction time	0.239	interval		5.81	6.50	6.46	6.24	6.66	7.05	7.58	PB	# of strides	13.07	12.96	12.90	14.63	26.03	27.53	1.50
		velocity	6.89	8.61	7.69	7.74	8.01	7.51	7.09	6.60	7.47		7.65	7.72	7.75	6.84	7.68	7.26	

Horn, Becky (USA) (1986)
FINAL - 2005 USATF National Junior Championships (Indianapolis, IN) — *USATF Women's Sprint Development (2005)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-05	time		12.86	18.87	25.21	31.72	38.41	45.71	53.57	53.57	8 / ~~6~~ 5							
reaction time		interval			6.01	6.34	6.51	6.69	7.30	7.86		# of strides	12.86	12.35	13.20	15.16	25.21	28.36	3.15
		velocity		7.78	8.32	7.89	7.68	7.47	6.85	6.36	7.47		7.78	8.10	7.58	6.60	7.93	7.05	

Aoyama, Seika (JPN) (1996)
FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN) — *Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-21	time	7.01	12.87	18.94	25.24	31.83	38.73	45.91	53.57	53.57	/ 1							
reaction time		interval		5.86	6.07	6.30	6.59	6.90	7.18	7.66		# of strides	12.87	12.37	13.49	14.84	25.24	28.33	3.09
		velocity	7.13	8.53	8.24	7.94	7.59	7.25	6.96	6.53	7.47		7.77	8.08	7.41	6.74	7.92	7.06	

Vallabouy, Shereen (MAS) (1998)
Heat 6 - 2022 World Athletics Championships (Eugene, OR) — *Timing by Seiko (2022) - world athletics championships race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jul-22	time		12.56		25.14		38.67		53.57	53.57	2 / 7							
reaction time	0.190	interval				12.58		13.53		14.90		# of strides	12.56	12.58	13.53	14.90	25.14	28.43	3.29
		velocity		7.96		7.95		7.39		6.71	7.47		7.96	7.95	7.39	6.71	7.96	7.03	

Martin, Johanna (GER) (2006)
Semi-Final 3 - 2025 European Athletics U20 Championships (Tampere, FIN) — *European Athletics (2025) - 2025 european athletics U20 championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	7.09	12.86	18.70	24.82	31.37	38.32	45.67	53.57	53.57	5 / 2							
reaction time	0.186	interval		5.77	5.84	6.12	6.55	6.95	7.35	7.90		# of strides	12.86	11.96	13.50	15.25	24.82	28.75	3.93
		velocity	7.05	8.67	8.56	8.17	7.63	7.19	6.80	6.33	7.47	196.0	7.78	8.36	7.41	6.56	8.06	6.96	

Takeishi, Konomi (JPN) (1991)
FINAL - 2015 Japanese National Championships (Niigata, JPN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time	6.85	12.67	18.72	25.09	31.97	39.05	46.18	53.58	53.58	8 / 4							
reaction time	0.159	interval		5.82	6.05	6.37	6.88	7.08	7.13	7.40	PB	# of strides	12.67	12.42	13.96	14.53	25.09	28.49	3.40
		velocity	7.30	8.59	8.26	7.85	7.27	7.06	7.01	6.76	7.47	196.5	7.89	8.05	7.16	6.88	7.97	7.02	

Kawada, Ayaka (JPN) (1999)
FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-18	time	7.06	13.12	19.37	25.84	32.55	39.40	46.36	53.58	53.58	4 / 1							
reaction time	0.184	interval		6.06	6.25	6.47	6.71	6.85	6.96	7.22		# of strides	13.12	12.72	13.56	14.18	25.84	27.74	1.90
		velocity	7.08	8.25	8.00	7.73	7.45	7.30	7.18	6.93	7.47	210.2	7.62	7.86	7.37	7.05	7.74	7.21	

Zbičajnik, Kaorlina (SLO) (2005)
Semi-Final 2 - 2025 European Athletics U23 Championships (Bergen, NOR) — *European Athletics (2025) - 2025 european athletics U23 championships- results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Jul-25	time	6.98	12.71	18.80	25.06	31.45	38.14	45.46	53.58	53.58	8 / 6							
reaction time	0.153	interval		5.73	6.09	6.26	6.39	6.69	7.32	8.12		# of strides	12.71	12.35	13.08	15.44	25.06	28.52	3.46
		velocity	7.16	8.73	8.21	7.99	7.82	7.47	6.83	6.16	7.47		7.87	8.10	7.65	6.48	7.98	7.01	

Best, Ashlan (CAN) (1999)
FINAL - 2018 IAAF World Junior Championships (Tampere, FIN) — *Koyama (2018) - research on athlete performance and technique- 2018 data book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jul-18	time	6.82	12.66	18.60	24.94	31.61	38.61	45.94	53.59	53.59	8 / 8							
reaction time	0.148	interval		5.84	5.94	6.34	6.67	7.00	7.33	7.65		# of strides	12.66	12.28	13.67	14.98	24.94	28.65	3.71
		velocity	7.33	8.56	8.42	7.89	7.50	7.14	6.82	6.54	7.46	197.5	7.90	8.14	7.32	6.68	8.02	6.98	

Depuydt, Manon (BEL) (1997)
National FINAL - 2019 Memorial van Damme (Brussels, BEL) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Sep-19	time	6.8	12.4	18.2	24.5	31.2	38.5	45.8	53.59	53.59	3 / 4							
reaction time	0.129	interval		5.6	5.8	6.3	6.7	7.3	7.3	7.8		# of strides	12.40	12.10	14.00	15.09	24.50	29.09	4.59
		velocity	7.35	8.93	8.62	7.94	7.46	6.85	6.85	6.42	7.46		8.06	8.26	7.14	6.63	8.16	6.88	

McNary, Lauren (USA) (1986)
Quarter-Final 2 - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-08	time		12.60	18.73	25.34	31.54	38.40	45.60	53.60	53.60	6 / 7							
reaction time		interval			6.13	6.61	6.20	6.86	7.20	8.00		# of strides	12.60	12.74	13.06	15.20	25.34	28.26	2.92
		velocity		7.94	8.16	7.56	8.06	7.29	6.94	6.25	7.46		7.94	7.85	7.66	6.58	7.89	7.08	

Slettum, Elisabeth (NOR) (1986)
National FINAL - 2023 Bislett Games (Oslo, NOR) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jun-23	time	6.93	12.83	18.95	25.37	32.06	39.01	46.16	53.60	53.60	6 / 3							
reaction time	0.185	interval		5.90	6.12	6.42	6.69	6.95	7.15	7.44		# of strides	12.83	12.54	13.64	14.59	25.37	28.23	2.86
		velocity	7.22	8.47	8.17	7.79	7.47	7.19	6.99	6.72	7.46		7.79	7.97	7.33	6.85	7.88	7.08	

Austin, Lauren (USA) (1986)
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA) — *USATF Women's Sprint Development (2003)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-03	time				25.00		38.64	45.86	53.61	53.61	2 / 7							
reaction time		interval						13.64	7.22	7.75		# of strides			13.64	14.97	25.00	28.61	3.61
		velocity				8.00		7.33	6.93	6.45	7.46				7.33	6.68	8.00	6.99	

Aoyama, Seika (JPN) (1996)
Heat 2 - 2017 Japanese National Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/07/10/post-978/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		13.11		25.43		38.68		53.61	53.61	8 / 2							
reaction time	0.186	interval				12.32		13.25		14.93		# of strides	13.11	12.32	13.25	14.93	25.43	28.18	2.75
		velocity		7.63		8.12		7.55		6.70	7.46	205.0	7.63	8.12	7.55	6.70	7.86	7.10	

Gubelmann, Catia (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Athletissima (Lausanne, SUI)																	*Omega Timing (2023) - diamond league race analysis*
date 30-Jun-23 time	6.83	12.55	18.51	24.84	31.46	38.56	45.87	53.61	53.61	6 / 3							
reaction time 0.120 interval		5.72	5.96	6.33	6.62	7.10	7.31	7.74	PB	# of strides	12.55	12.29	13.72	15.05	24.84	28.77	3.93
velocity	7.32	8.74	8.39	7.90	7.55	7.04	6.84	6.46	7.46		7.97	8.14	7.29	6.64	8.05	6.95	

Slettum, Elisabeth (NOR) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 Bislett Games (Oslo, NOR)																	*Omega Timing (2025) - diamond league race analysis*
date 12-Jun-25 time	6.88	12.76	18.98	25.31	31.82	38.64	45.76	53.61	53.61	4 / 1							
reaction time 0.206 interval		5.88	6.22	6.33	6.51	6.82	7.12	7.85		# of strides	12.76	12.55	13.33	14.97	25.31	28.30	2.99
velocity	7.27	8.50	8.04	7.90	7.68	7.33	7.02	6.37	7.46		7.84	7.97	7.50	6.68	7.90	7.07	

Spelmeyer, Ruth Sophia (GER) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2019) - diamond league race analysis*
date 06-Sep-19 time	7.0	13.0	19.0	25.3	31.9	38.6	45.8	53.62	53.62	8 / 5							
reaction time 0.170 interval		6.0	6.0	6.3	6.6	6.7	7.2	7.8		# of strides	13.00	12.30	13.30	15.02	25.30	28.32	3.02
velocity	7.14	8.33	8.33	7.94	7.58	7.46	6.94	6.39	7.46		7.69	8.13	7.52	6.66	7.91	7.06	

Merino, Julia (ESP) (1971)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1989 IAAF World Cup (Barcelona, ESP)																	*Pascua (1990) - atletismo (I) carreras y marcha*
date 10-Sep-89 time		13.45		25.20		38.95		53.63	53.63	9 / ~~7~~ 6							
reaction time interval				11.75		13.75		14.68		# of strides	13.45	11.75	13.75	14.68	25.20	28.43	3.23
velocity		7.43		8.51		7.27		6.81	7.46		7.43	8.51	7.27	6.81	7.94	7.03	

Thureson, Milja (FIN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date 15-Aug-22 time		12.58		24.89		38.19		53.63	53.63	1 / 8							
reaction time 0.178 interval				12.31		13.30		15.44		# of strides	12.58	12.31	13.30	15.44	24.89	28.74	3.85
velocity		7.95		8.12		7.52		6.48	7.46	198.0	7.95	8.12	7.52	6.48	8.04	6.96	

Ramanayake, Nadeesha (SRI) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25 time		12.97		25.58		39.08		53.63	53.63	2 / 8							
reaction time 0.230 interval				12.61		13.50		14.55		# of strides	12.97	12.61	13.50	14.55	25.58	28.05	2.47
velocity		7.71		7.93		7.41		6.87	7.46	212.2	7.71	7.93	7.41	6.87	7.82	7.13	

Scott, Jarvis (USA) (1947)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 USA Olympic Trials (Walnut, CA)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 25-Aug-68 time				24.7				53.5	53.5	3 / 1							
reaction time interval								28.8		# of strides					24.70	28.80	4.10
velocity				8.10				6.94	7.48						8.10	6.94	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Memorial Van Damme (Brussels, BEL)																	*Omega Timing (2020) - diamond league race analysis*
date 04-Sep-20 time	7.0	12.9	19.0	25.3	31.9	38.6	45.8	53.64	53.64	1 / 7							
reaction time 0.177 interval		5.90	6.10	6.30	6.60	6.70	7.20	7.84		# of strides	12.90	12.40	13.30	15.04	25.30	28.34	3.04
velocity	7.14	8.47	8.20	7.94	7.58	7.46	6.94	6.38	7.46		7.75	8.06	7.52	6.65	7.91	7.06	

Chiba, Asami (JPN) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Championships (Niigata, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 27-Jun-15 time	6.85	12.71	18.79	25.07	31.87	38.83	45.97	53.65	53.65	9 / 5							
reaction time 0.193 interval		5.86	6.08	6.28	6.80	6.96	7.14	7.68		# of strides	12.71	12.36	13.76	14.82	25.07	28.58	3.51
velocity	7.30	8.53	8.22	7.96	7.35	7.18	7.00	6.51	7.46	202.5	7.87	8.09	7.27	6.75	7.98	7.00	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National Championships (Osaka, JPN)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 24-Jun-17 time	6.90	12.89	19.02	25.33	31.87	38.70	45.98	53.65	53.65	6 / 1							
reaction time 0.163 interval		5.99	6.13	6.31	6.54	6.83	7.28	7.67	PB	# of strides	12.89	12.44	13.37	14.95	25.33	28.32	2.99
velocity	7.25	8.35	8.16	7.92	7.65	7.32	6.87	6.52	7.46	213.5	7.76	8.04	7.48	6.69	7.90	7.06	

Brossier, Amandine (FRA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)																	*Omega Timing (2023) - continental tour race analysis*
date 04-Jun-23 time	6.93	12.59	18.53	24.78	31.30	38.23	45.63	53.65	53.65	2 / 7							
reaction time 0.171 interval		5.66	5.94	6.25	6.52	6.93	7.40	8.02		# of strides	12.59	12.19	13.45	15.42	24.78	28.87	4.09
velocity	7.22	8.83	8.42	8.00	7.67	7.22	6.76	6.23	7.46		7.94	8.20	7.43	6.49	8.07	6.93	

Guei, Floria (FRA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Xiamen Diamond League (Xiamen, CHN)																	*Omega Timing (2024) - diamond league race analysis*
date 20-Apr-24 time	7.07	13.00	19.11	25.38	31.96	38.75	45.86	53.65	53.65	1 / 9							
reaction time 0.167 interval		5.93	6.11	6.27	6.58	6.79	7.11	7.79		# of strides	13.00	12.38	13.37	14.90	25.38	28.27	2.89
velocity	7.07	8.43	8.18	7.97	7.60	7.36	7.03	6.42	7.46		7.69	8.08	7.48	6.71	7.88	7.07	

Oki, Sayaka (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)																	*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*
date 30-Jul-13 time	7.05	13.48	19.89	26.27	32.80	39.58	46.47	53.66	53.66	4 / 1							
reaction time interval		6.43	6.41	6.38	6.53	6.78	6.89	7.19		# of strides	13.48	12.79	13.31	14.08	26.27	27.39	1.12
velocity	7.09	7.78	7.80	7.84	7.66	7.37	7.26	6.95	7.45		7.42	7.82	7.51	7.10	7.61	7.30	

Aoki, Rin (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Championships (Nagoya, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 25-Jun-16 time	6.96	12.74	18.64	24.90	31.51	38.48	45.75	53.66	53.66	4 / 2							
reaction time 0.213 interval		5.78	5.90	6.26	6.61	6.97	7.27	7.91		# of strides	12.74	12.16	13.58	15.18	24.90	28.76	3.86
velocity	7.18	8.65	8.47	7.99	7.56	7.17	6.88	6.32	7.45		7.85	8.22	7.36	6.59	8.03	6.95	

Hooper, Gloria (ITA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Luca Coscioni Memorial (Orvieto, ITA)																	*Tozzi (2017) - FIDAL - analisi gloria hooper, 25 maggio Orvieto*

date	28-May-17	time	12.73		24.63		38.17		53.40	53.67	/ 5						
reaction time		interval			11.90		13.54		15.23		# of strides	12.73	11.90	13.54	15.23	24.63	28.77	4.14
		velocity	7.86		8.40		7.39		6.57	7.45	199	7.86	8.40	7.39	6.57	8.12	6.95	

Arkhipova, Veronika (RUS) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 15-Jul-21	time	13.41		25.90		39.43		53.67	53.67	4 / 2							
reaction time 0.264	interval			12.49		13.53		14.24		# of strides	13.41	12.49	13.53	14.24	25.90	27.77	1.87
	velocity	7.46		8.01		7.39		7.02	7.45		7.46	8.01	7.39	7.02	7.72	7.20	

Coleman, Kenyata (USA) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Carson, CA)																	*USATF Women's Sprint Development (2005)*
date 25-Jun-05	time	13.21	19.33		32.10	38.79	45.96	53.68	53.68	1 / ~~7~~ 6							
reaction time	interval		6.12		12.77	6.69	7.17	7.72		# of strides	13.21			14.89			
	velocity	7.57	8.17		7.83	7.47	6.97	6.48	7.45		7.57			6.72			

Rasnayake, Chandrika (SRI) (1987)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2009 IAAF World Championships (Berlin, GER)																	*Graubner (2009) - biomechanical analyses at the 12th IAAF world championships*
date 15-Aug-09	time	13.21		25.70		38.90		53.68	53.68	4 / ~~4~~ 3							
reaction time 0.162	interval			12.49		13.20		14.78		# of strides	13.21	12.49	13.20	14.78	25.70	27.98	2.28
	velocity	7.57		8.01		7.58		6.77	7.45		7.57	8.01	7.58	6.77	7.78	7.15	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 27-Jun-19	time	6.88	12.69	18.80	25.21	31.82	38.81	46.13	53.68	53.68	5 / 1						
reaction time 0.178	interval		5.81	6.11	6.41	6.61	6.99	7.32	7.55		# of strides	12.69	12.52	13.60	14.87	25.21	28.47	3.26
	velocity	7.27	8.61	8.18	7.80	7.56	7.15	6.83	6.62	7.45		7.88	7.99	7.35	6.72	7.93	7.02	

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - research on athlete performance and technique- 2019 data book*
date 28-Jun-19	time	7.08	13.01	19.15	25.46	31.98	38.85	46.02	53.68	53.68	4 / 1						
reaction time 0.228	interval		5.93	6.14	6.31	6.52	6.87	7.17	7.66		# of strides	13.01	12.45	13.39	14.83	25.46	28.22	2.76
	velocity	7.06	8.43	8.14	7.92	7.67	7.28	6.97	6.53	7.45	209.5	7.69	8.03	7.47	6.74	7.86	7.09	

Takashima, Saki (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - research on athlete performance and technique- 2019 data book*
date 28-Jun-19	time	7.10	13.03	19.10	25.38	31.82	38.60	45.75	53.68	53.68	6 / 2						
reaction time 0.195	interval		5.93	6.07	6.28	6.44	6.78	7.15	7.93		# of strides	13.03	12.35	13.22	15.08	25.38	28.30	2.92
	velocity	7.04	8.43	8.24	7.96	7.76	7.37	6.99	6.31	7.45	207.7	7.67	8.10	7.56	6.63	7.88	7.07	

Couckuyt, Paulien (BEL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2021) - diamond league race analysis*
date 03-Sep-21	time	6.8	12.6	18.6	24.9	31.6	38.5	45.8	53.68	53.68	7 / 4						
reaction time 0.175	interval		5.80	6.00	6.30	6.70	6.90	7.30	7.88		# of strides	12.60	12.30	13.60	15.18	24.90	28.78	3.88
	velocity	7.35	8.62	8.33	7.94	7.46	7.25	6.85	6.35	7.45	198.0	7.94	8.13	7.35	6.59	8.03	6.95	

Vianelli, Clarissa (ITA) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U23 Championships (Bergen, NOR)																	*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date 18-Jul-25	time	6.91	12.64	18.60	24.75	31.22	38.12	45.48	53.68	53.68	2 / 7						
reaction time 0.172	interval		5.73	5.96	6.15	6.47	6.90	7.36	8.20		# of strides	12.64	12.11	13.37	15.56	24.75	28.93	4.18
	velocity	7.24	8.73	8.39	8.13	7.73	7.25	6.79	6.10	7.45		7.91	8.26	7.48	6.43	8.08	6.91	

Hanchak, Heather (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USATF National Junior Championships (Delaware, OH)																	*USATF Women's Sprint Development (1996)*
date 29-Jun-96	time		12.56		24.57		38.02	45.59	53.69	53.69	3 / 4						
reaction time	interval				12.01		13.45	7.57	8.10		# of strides	12.56	12.01	13.45	15.67	24.57	29.12	4.55
	velocity		7.96		8.33		7.43	6.61	6.17	7.45		7.96	8.33	7.43	6.38	8.14	6.87	

Ćirić, Maja (SRB) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time		12.76		24.92		38.63		53.69	53.69	2 / 8						
reaction time 0.220	interval				12.16		13.71		15.06		# of strides	12.76	12.16	13.71	15.06	24.92	28.77	3.85
	velocity		7.84		8.22		7.29		6.64	7.45		7.84	8.22	7.29	6.64	8.03	6.95	

Dyer, Tonette (USA) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 15-Jul-04	time		11.98		23.94	30.36	37.24	44.76	53.70	53.70	6 / 8						
reaction time	interval				11.96	6.42	6.88	7.52	8.94		# of strides	11.98	11.96	13.30	16.46	23.94	29.76	5.82
	velocity		8.35		8.36	7.79	7.27	6.65	5.59	7.45	196.0	8.35	8.36	7.52	6.08	8.35	6.72	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - research on athlete performance and technique- 2019 data book*
date 28-Jun-19	time	6.93	12.70	18.67	24.94	31.52	38.56	45.95	53.70	53.70	5 / 3						
reaction time 0.193	interval		5.77	5.97	6.27	6.58	7.04	7.39	7.75		# of strides	12.70	12.24	13.62	15.14	24.94	28.76	3.82
	velocity	7.22	8.67	8.38	7.97	7.60	7.10	6.77	6.45	7.45	205.7	7.87	8.17	7.34	6.61	8.02	6.95	

Greggs, Charlette (USA) (1983)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2004 USA Olympic Trials (Sacramento, CA)																	*USATF Women's Sprint Development (2004)*
date 12-Jul-04	time		12.48		24.26		38.00	46.96	53.71	53.71	5 / 5						
reaction time	interval				11.78		13.74	8.96	6.75		# of strides	12.48	11.78	13.74	15.71	24.26	29.45	5.19
	velocity		8.01		8.49		7.28	5.58	7.41	7.45	186.0	8.01	8.49	7.28	6.37	8.24	6.79	

Kitamura, Yume (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 08-Oct-17	time	7.12	13.01	19.20	25.71	32.37	39.22	46.30	53.71	53.71	6 / 1						
reaction time 0.168	interval		5.89	6.19	6.51	6.66	6.85	7.08	7.41	**PB**	# of strides	13.01	12.70	13.51	14.49	25.71	28.00	2.29

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.02	8.49	8.08	7.68	7.51	7.30	7.06	6.75	7.45	211.0	7.69	7.87	7.40	6.90	7.78	7.14	

Aoyama, Seika (JPN) (1996)
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)
Yamanaka (2019) - race analysis of men and women 400m competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-19	time	6.98	12.79	18.89	25.16	31.63	38.53	45.82	53.71	53.71	5 / 1							
reaction time	0.235	interval		5.81	6.10	6.27	6.47	6.90	7.29	7.89		# of strides	12.79	12.37	13.37	15.18	25.16	28.55	3.39
		velocity	7.16	8.61	8.20	7.97	7.73	7.25	6.86	6.34	7.45		7.82	8.08	7.48	6.59	7.95	7.01	

Kuboyama, Haruna (JPN) (1996)
FINAL - 2021 Japanese National Championships (Osaka, JPN)
Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-21	time	6.91	12.60	18.55	24.82	31.42	38.33	45.70	53.72	53.72	7 / 4							
reaction time	0.192	interval		5.69	5.95	6.27	6.60	6.91	7.37	8.02	PB	# of strides	12.60	12.22	13.51	15.39	24.82	28.90	4.08
		velocity	7.24	8.79	8.40	7.97	7.58	7.24	6.78	6.23	7.45	205.0	7.94	8.18	7.40	6.50	8.06	6.92	

Williams, Hannah (GBR) (1998)
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.6	12.2	18.3	24.7	31.4	38.4	45.7	53.72	53.72	6 / 5							
reaction time	0.152	interval		5.60	6.10	6.40	6.70	7.00	7.30	8.02	PB	# of strides	12.20	12.50	13.70	15.32	24.70	29.02	4.32
		velocity	7.58	8.93	8.20	7.81	7.46	7.14	6.85	6.23	7.45		8.20	8.00	7.30	6.53	8.10	6.89	

Aoyama, Seika (JPN) (1996)
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)
Yanagiya (2014) - research on athlete performance and technique- 2014 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-14	time	6.88	12.64	18.55	24.78	31.35	38.52	45.98	53.73	53.73	/ 1							
reaction time		interval		5.76	5.91	6.23	6.57	7.17	7.46	7.75		# of strides	12.64	12.14	13.74	15.21	24.78	28.95	4.17
		velocity	7.27	8.68	8.46	8.03	7.61	6.97	6.70	6.45	7.44		7.91	8.24	7.28	6.57	8.07	6.91	

Viljoen, Marlie (RSA) (2000)
Heat 6 - 2023 World Athletics Championships (Budapest, HUN)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.70		24.99		38.40		53.73	53.73	4 / 8							
reaction time	0.189	interval				12.29		13.41		15.33		# of strides	12.70	12.29	13.41	15.33	24.99	28.74	3.75
		velocity		7.87		8.14		7.46		6.52	7.44		7.87	8.14	7.46	6.52	8.00	6.96	

Müller, Laura (GER) (1995)
National FINAL - 2024 FBK Games (Hengelo, NED)
Omega Timing (2024) - continental tour gold race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jul-24	time	6.96	12.71	18.61	24.72	31.11	37.98	45.51	53.73	53.73	2 / 3							
reaction time	0.170	interval		5.75	5.90	6.11	6.39	6.87	7.53	8.22		# of strides	12.71	12.01	13.26	15.75	24.72	29.01	4.29
		velocity	7.18	8.70	8.47	8.18	7.82	7.28	6.64	6.08	7.44		7.87	8.33	7.54	6.35	8.09	6.89	

Jones, Jan'Taijah (USA) (2001)
Heat 2 - 2025 USATF Championships (Eugene, OR)
USATF and Karmarush (2025) - USATF championships results and race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Aug-25	time		13.05		25.82		39.18		53.73	53.73	8 / 8							
reaction time		interval				12.77		13.36		14.55		# of strides	13.05	12.77	13.36	14.55	25.82	27.91	2.09
		velocity		7.66		7.83		7.49		6.87	7.44		7.66	7.83	7.49	6.87	7.75	7.17	

Koba, Dzhoys (UKR) (1998)
FINAL - 2016 IAAF World Junior Championships (Bydgoszcz, POL)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jul-16	time	7.27	13.21	19.29	25.50	32.08	38.92	46.06	53.74	53.74	3 / 8							
reaction time	0.224	interval		5.94	6.08	6.21	6.58	6.84	7.14	7.68		# of strides	13.21	12.29	13.42	14.82	25.50	28.24	2.74
		velocity	6.88	8.42	8.22	8.05	7.60	7.31	7.00	6.51	7.44		7.57	8.14	7.45	6.75	7.84	7.08	

Matsumoto, Nanako (JPN) (1996)
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)
Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-May-21	time	6.96	12.88	19.05	25.46	32.17	39.14	46.27	53.74	53.74	4 / 2							
reaction time	0.157	interval		5.92	6.17	6.41	6.71	6.97	7.13	7.47		# of strides	12.88	12.58	13.68	14.60	25.46	28.28	2.82
		velocity	7.18	8.45	8.10	7.80	7.45	7.17	7.01	6.69	7.44		7.76	7.95	7.31	6.85	7.86	7.07	

van der Veen, Laura (NOR) (2003)
National FINAL - 2025 Bislett Games (Oslo, NOR)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jun-25	time	6.99	12.76	18.83	25.12	31.72	38.72	45.96	53.74	53.74	6 / 2							
reaction time	0.248	interval		5.77	6.07	6.29	6.60	7.00	7.24	7.78		# of strides	12.76	12.36	13.60	15.02	25.12	28.62	3.50
		velocity	7.15	8.67	8.24	7.95	7.58	7.14	6.91	6.43	7.44		7.84	8.09	7.35	6.66	7.96	6.99	

Szentgyörgyi, Zita (HUN) (2006)
B FINAL - 2025 European Team Championships, First Division (Madrid, ESP)
European Athletics (2025) - 2025 european team championships, first division - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-25	time	6.66	12.22	17.95	23.98	30.52	37.54	45.09	53.74	53.74	/ 6							
reaction time	0.148	interval		5.56	5.73	6.03	6.54	7.02	7.55	8.65		# of strides	12.22	11.76	13.56	16.20	23.98	29.76	5.78
		velocity	7.51	8.99	8.73	8.29	7.65	7.12	6.62	5.78	7.44		8.18	8.50	7.37	6.17	8.34	6.72	

Gymerská, Lenka (SVK) (2007)
Semi-Final 2 - 2025 European Athletics U20 Championships (Tampere, FIN)
European Athletics (2025) - 2025 european athletics U20 championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	7.36	13.47	19.51	25.83	32.51	39.44	46.52	53.74	53.74	5 / 3							
reaction time	0.164	interval		6.11	6.04	6.32	6.68	6.93	7.08	7.22		# of strides	13.47	12.36	13.61	14.30	25.83	27.91	2.08
		velocity	6.79	8.18	8.28	7.91	7.49	7.22	7.06	6.93	7.44	201.0	7.42	8.09	7.35	6.99	7.74	7.17	

Aoyama, Seika (JPN) (1996)
FINAL - 2015 National Sports Festival (Wayakama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Oct-15	time	6.94	12.80	19.14	25.70	32.42	39.34	46.40	53.75	53.75	5 / 1							
reaction time		interval		5.86	6.34	6.56	6.72	6.92	7.06	7.35		# of strides	12.80	12.90	13.64	14.41	25.70	28.05	2.35
		velocity	7.20	8.53	7.89	7.62	7.44	7.23	7.08	6.80	7.44		7.81	7.75	7.33	6.94	7.78	7.13	

Kawada, Ayaka (JPN) (1999)
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-18	time	6.91	12.91	19.12	25.67	32.39	39.32	46.35	53.75	53.75	5 / 1							
reaction time	0.176	interval		6.00	6.21	6.55	6.72	6.93	7.03	7.40		# of strides	12.91	12.76	13.65	14.43	25.67	28.08	2.41
		velocity	7.24	8.33	8.05	7.63	7.44	7.22	7.11	6.76	7.44	211.5	7.75	7.84	7.33	6.93	7.79	7.12	

Holstad, Borghild Oline (NOR) (2006)
National FINAL - 2025 Bislett Games (Oslo, NOR)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jun-25	time	6.93	12.80	19.00	25.44	31.92	38.64	45.79	53.75	53.75	7 / 3							
reaction time	0.179	interval		5.87	6.20	6.44	6.48	6.72	7.15	7.96	PB	# of strides	12.80	12.64	13.20	15.11	25.44	28.31	2.87
		velocity	7.22	8.52	8.06	7.76	7.72	7.44	6.99	6.28	7.44		7.81	7.91	7.58	6.62	7.86	7.06	

Claesson, Jonna (SWE) (2000)
National FINAL - 2025 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jun-25	time	7.14	13.24	19.44	25.97	32.33	39.10	46.29	53.75	53.75	6 / 4							
reaction time	0.231	interval		6.10	6.20	6.53	6.36	6.77	7.19	7.46		# of strides	13.24	12.73	13.13	14.65	25.97	27.78	1.81
		velocity	7.00	8.20	8.06	7.66	7.86	7.39	6.95	6.70	7.44		7.55	7.86	7.62	6.83	7.70	7.20	

Hardeman, Christina (USA) (1984)
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-03	time				25.11		38.64	45.75	53.76	53.76	9 / 8							
reaction time		interval						13.53	7.11	8.01	PB	# of strides			13.53	15.12	25.11	28.65	3.54
		velocity				7.96		7.39	7.03	6.24	7.44				7.39	6.61	7.96	6.98	

Kashiyama, Kaede (JPN) (1994)
FINAL - 2016 Japanese National Championships (Nagoya, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-16	time	6.92	13.01	19.30	25.66	32.13	38.97	46.11	53.76	53.76	1 / 3							
reaction time	0.192	interval		6.09	6.29	6.36	6.47	6.84	7.14	7.65	PB	# of strides	13.01	12.65	13.31	14.79	25.66	28.10	2.44
		velocity	7.23	8.21	7.95	7.86	7.73	7.31	7.00	6.54	7.44		7.69	7.91	7.51	6.76	7.79	7.12	

Kuboyama, Haruna (JPN) (1996)
Heat 3 - 2023 Japanese National Championsips (Osaka, JPN)
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-23	time	6.98	13.14	19.44	25.87	32.39	39.12	46.22	53.76	53.76	5 / 1							
reaction time	0.243	interval		6.16	6.30	6.43	6.52	6.73	7.10	7.54		# of strides	13.14	12.73	13.25	14.64	25.87	27.89	2.02
		velocity	7.16	8.12	7.94	7.78	7.67	7.43	7.04	6.63	7.44	208.0	7.61	7.86	7.55	6.83	7.73	7.17	

Greggs, Charlette (USA) (1983)
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				24.21		38.16	45.56	53.77	53.77	8 / 5							
reaction time		interval						13.95	7.40	8.21		# of strides			13.95	15.61	24.21	29.56	5.35
		velocity				8.26		7.17	6.76	6.09	7.44				7.17	6.41	8.26	6.77	

Matsumoto, Nanako (JPN) (1996)
FINAL - 2020 Japanese National Championships (Niigata, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Oct-20	time	6.89	12.81	18.89	25.21	31.82	38.76	46.00	53.77	53.77	7 / 2							
reaction time	0.176	interval		5.92	6.08	6.32	6.61	6.94	7.24	7.77		# of strides	12.81	12.40	13.55	15.01	25.21	28.56	3.35
		velocity	7.26	8.45	8.22	7.91	7.56	7.20	6.91	6.44	7.44	204.7	7.81	8.06	7.38	6.66	7.93	7.00	

Shida, Leni (UGA) (1994)
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)
Longines Timing (2022) - commonwealth games race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Aug-22	time	6.9	12.6	18.8	25.3	32.0	39.0	46.0	53.77	53.77	8 / 7							
reaction time	0.178	interval		5.70	6.20	6.50	6.70	7.00	7.00	7.77		# of strides	12.60	12.70	13.70	14.77	25.30	28.47	3.17
		velocity	7.25	8.77	8.06	7.69	7.46	7.14	7.14	6.44	7.44		7.94	7.87	7.30	6.77	7.91	7.02	

Shintaku, Asami (JPN) (1994)
FINAL - 2015 Japanese National Championships (Niigata, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time	7.07	13.03	19.05	25.21	31.77	38.53	45.68	53.78	53.78	6 / 6							
reaction time	0.180	interval		5.96	6.02	6.16	6.56	6.76	7.15	8.10	PB	# of strides	13.03	12.18	13.32	15.25	25.21	28.57	3.36
		velocity	7.07	8.39	8.31	8.12	7.62	7.40	6.99	6.17	7.44	221.2	7.67	8.21	7.51	6.56	7.93	7.00	

Takashima, Saki (JPN) (2002)
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)
Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-18	time	7.09	13.26	19.52	25.91	32.44	39.18	46.18	53.78	53.78	8 / 1							
reaction time		interval		6.17	6.26	6.39	6.53	6.74	7.00	7.60		# of strides	13.26	12.65	13.27	14.60	25.91	27.87	1.96
		velocity	7.05	8.10	7.99	7.82	7.66	7.42	7.14	6.58	7.44		7.54	7.91	7.54	6.85	7.72	7.18	

Iwata, Yuna (JPN) (1997)
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	7.05	13.01	19.10	25.54	32.17	39.06	46.26	53.79	53.79	/ 1							
reaction time		interval		5.96	6.09	6.44	6.63	6.89	7.20	7.53		# of strides	13.01	12.53	13.52	14.73	25.54	28.25	2.71
		velocity	7.09	8.39	8.21	7.76	7.54	7.26	6.94	6.64	7.44		7.69	7.98	7.40	6.79	7.83	7.08	

Hjelmer, Moa (SWE) (1990)
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2020) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Aug-20	time	6.9	12.7	18.7	25.1	31.7	38.8	46.1	53.79	53.79	3 / 7							
reaction time	0.171	interval		5.80	6.00	6.40	6.60	7.10	7.30	7.69		# of strides	12.70	12.40	13.70	14.99	25.10	28.69	3.59
		velocity	7.25	8.62	8.33	7.81	7.58	7.04	6.85	6.50	7.44		7.87	8.06	7.30	6.67	7.97	6.97	

Slettum, Elisabeth (NOR) (1986)
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time	7.01	12.92	19.05	25.55	32.14	39.03	46.24	53.79	53.79	8 / 4							
reaction time	0.182	interval		5.91	6.13	6.50	6.59	6.89	7.21	7.55		# of strides	12.92	12.63	13.48	14.76	25.55	28.24	2.69
		velocity	7.13	8.46	8.16	7.69	7.59	7.26	6.93	6.62	7.44		7.74	7.92	7.42	6.78	7.83	7.08	

Abraham, Shiny (IND) (1965)
FINAL - 1989 IAAF World Cup (Barcelona, ESP)
Pascua (1990) - atletismo (I) carreras y marcha

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Sep-89	time		13.68		25.50		31.18		53.80	53.80	1 / ~~8~~ 7							
reaction time		interval				11.82		5.68		22.62	PB	# of strides	13.68	11.82	5.68	22.62	25.50	28.30	2.80
		velocity		7.31		8.46		17.61		4.42	7.43		7.31	8.46	17.61	4.42	7.84	7.07	

Kubokura, Satomi (JPN) (1982)
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)
Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential

date	19-Sep-05	time		12.82		25.51		38.90	45.95	53.80	53.80	2 / 6						
reaction time		interval				12.69		13.39	7.05	7.85		# of strides	12.82	12.69	13.39	14.90	25.51	28.29	2.78
		velocity		7.80		7.88		7.47	7.09	6.37	7.43		7.80	7.88	7.47	6.71	7.84	7.07	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)																	
date 23-Aug-20	time	6.97	12.83	18.85	25.19	31.98	39.06	46.25	53.80	53.80	6 / 2							
reaction time 0.183	interval		5.86	6.02	6.34	6.79	7.08	7.19	7.55		# of strides	12.83	12.36	13.87	14.74	25.19	28.61	3.42
	velocity	7.17	8.53	8.31	7.89	7.36	7.06	6.95	6.62	7.43		7.79	8.09	7.21	6.78	7.94	6.99	

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

Takashima, Saki (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese National Championships (Niigata, JPN)																	
date 02-Oct-20	time	7.21	13.37	19.64	26.04	32.62	39.39	46.36	53.81	53.81	8 / 3							
reaction time 0.191	interval		6.16	6.27	6.40	6.58	6.77	6.97	7.45		# of strides	13.37	12.67	13.35	14.42	26.04	27.77	1.73
	velocity	6.93	8.12	7.97	7.81	7.60	7.39	7.17	6.71	7.43	204.0	7.48	7.89	7.49	6.93	7.68	7.20	

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

Kobayashi, Mayu (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN)																	
date 06-Jun-21	time	7.14	13.23	19.44	25.87	32.58	39.48	46.49	53.81	53.81	/ 2							
reaction time	interval		6.09	6.21	6.43	6.71	6.90	7.01	7.32		# of strides	13.23	12.64	13.61	14.33	25.87	27.94	2.07
	velocity	7.00	8.21	8.05	7.78	7.45	7.25	7.13	6.83	7.43		7.56	7.91	7.35	6.98	7.73	7.16	

Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)																	
date 23-Jun-17	time		12.94		25.45		39.11		53.82	53.82	5 / 1							
reaction time 0.173	interval				12.51		13.66		14.71		# of strides	12.94	12.51	13.66	14.71	25.45	28.37	2.92
	velocity		7.73		7.99		7.32		6.80	7.43	212.2	7.73	7.99	7.32	6.80	7.86	7.05	

(2017) - tfdata-store.com/2017/07/10/post-978/

Aguilar, Evelyn (COL) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2025 World Athletics Championships (Tokyo, JPN)																	
date 14-Sep-25	time		12.69		24.80		37.94		53.82	53.82	8 / 9							
reaction time 0.187	interval				12.11		13.14		15.88		# of strides	12.69	12.11	13.14	15.88	24.80	29.02	4.22
	velocity		7.88		8.26		7.61		6.30	7.43	191.7	7.88	8.26	7.61	6.30	8.06	6.89	

Seiko Timing (2025) - 2025 World Championships race analysis

Barnes, Tiffany (USA) (1981)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)																	
date 20-Jun-03	time				24.73		38.49	45.80	53.83	53.83	9 / 6							
reaction time	interval						13.76	7.31	8.03		# of strides			13.76	15.34	24.73	29.10	4.37
	velocity				8.09		7.27	6.84	6.23	7.43				7.27	6.52	8.09	6.87	

USATF Women's Sprint Development (2003)

Kira, Manami (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2016 Japanese National Championships (Nagoya, JPN)																	
date 24-Jun-16	time	7.05	12.93	18.95	25.29	31.88	38.80	46.08	53.83	53.83	6 / 1							
reaction time 0.199	interval		5.88	6.02	6.34	6.59	6.92	7.28	7.75	PB	# of strides	12.93	12.36	13.51	15.03	25.29	28.54	3.25
	velocity	7.09	8.50	8.31	7.89	7.59	7.23	6.87	6.45	7.43		7.73	8.09	7.40	6.65	7.91	7.01	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National Championships (Osaka, JPN)																	
date 24-Jun-17	time	6.90	12.86	18.94	25.33	31.98	38.97	46.21	53.83	53.83	5 / 2							
reaction time 0.163	interval		5.96	6.08	6.39	6.65	6.99	7.24	7.62		# of strides	12.86	12.47	13.64	14.86	25.33	28.50	3.17
	velocity	7.25	8.39	8.22	7.82	7.52	7.15	6.91	6.56	7.43	194.7	7.78	8.02	7.33	6.73	7.90	7.02	

Yamanaka (2017) - male and female 400m analysis in the 2017 season

Drljačić, Veronika (CRO) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																	
date 13-Jul-23	time		13.22		25.87		39.70		53.83	53.83	8 / 5							
reaction time 0.240	interval				12.65		13.83		14.13		# of strides	13.22	12.65	13.83	14.13	25.87	27.96	2.09
	velocity		7.56		7.91		7.23		7.08	7.43		7.56	7.91	7.23	7.08	7.73	7.15	

European Athletics (2023) - european athletics U23 championships results book

Hillyard, Amy (GBR) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Müller British Grand Prix (Gateshead, GBR)																	
date 13-Jun-21	time	7.0	12.7	18.7	25.0	31.6	38.7	46.1	53.84	53.84	2 / 6							
reaction time 0.149	interval		5.70	6.00	6.30	6.60	7.10	7.40	7.74		# of strides	12.70	12.30	13.70	15.14	25.00	28.84	3.84
	velocity	7.14	8.77	8.33	7.94	7.58	7.04	6.76	6.46	7.43		7.87	8.13	7.30	6.61	8.00	6.93	

Omega Timing (2021) - diamond league race analysis

Holstad, Borghild Oline (NOR) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U20 Championships (Tampere, FIN)																	
date 08-Aug-25	time	7.13	13.15	19.41	25.90	32.49	39.17	46.13	53.84	53.84	3 / 2							
reaction time 0.174	interval		6.02	6.26	6.49	6.59	6.68	6.96	7.71		# of strides	13.15	12.75	13.27	14.67	25.90	27.94	2.04
	velocity	7.01	8.31	7.99	7.70	7.59	7.49	7.18	6.49	7.43		7.60	7.84	7.54	6.82	7.72	7.16	

European Athletics (2025) - 2025 european athletics U20 championships - results book

Steinbrecher, Lara-Noelle (GER) (200

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)																	
date 15-Jul-21	time		13.19		25.57		39.02		53.85	53.85	3 / 3							
reaction time 0.222	interval				12.38		13.45		14.83		# of strides	13.19	12.38	13.45	14.83	25.57	28.28	2.71
	velocity		7.58		8.08		7.43		6.74	7.43		7.58	8.08	7.43	6.74	7.82	7.07	

European Athletics (2021) - european athletics U20 championships results book

Bezeková, Alexandra (SVK) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																	
date 20-Jun-23	time		12.69		24.85		38.50		53.85	53.85	5 / 2							
reaction time 0.221	interval				12.16		13.65		15.35		# of strides	12.69	12.16	13.65	15.35	24.85	29.00	4.15
	velocity		7.88		8.22		7.33		6.51	7.43		7.88	8.22	7.33	6.51	8.05	6.90	

European Athletics (2023) - 3rd european games, athletics - results book

Dunmore, Makenzie (USA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Xiamen Diamond League (Xiamen, CHN)																	
date 02-Sep-23	time	6.76	12.39	18.35	24.68	31.49	38.63	45.97	53.85	53.85	2 / 9							
reaction time 0.135	interval		5.63	5.96	6.33	6.81	7.14	7.34	7.88		# of strides	12.39	12.29	13.95	15.22	24.68	29.17	4.49

Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.40	8.88	8.39	7.90	7.34	7.00	6.81	6.35	7.43		8.07	8.14	7.17	6.57	8.10	6.86	

Aoyama, Seika (JPN) (1996)

A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN) — *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time	7.03	13.09	19.25	25.50	32.01	38.86	46.09	53.86	53.86	/ 2							
reaction time		interval		6.06	6.16	6.25	6.51	6.85	7.23	7.77		# of strides	13.09	12.41	13.36	15.00	25.50	28.36	2.86
		velocity	7.11	8.25	8.12	8.00	7.68	7.30	6.92	6.44	7.43		7.64	8.06	7.49	6.67	7.84	7.05	

Formella, Aleksandra (POL) (2001)

National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) — *Omega Timing (2022) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Aug-22	time	7.03	12.73	18.83	25.37	32.12	38.98	46.15	53.86	53.86	4 / 3							
reaction time	0.151	interval		5.70	6.10	6.54	6.75	6.86	7.17	7.71		# of strides	12.73	12.64	13.61	14.88	25.37	28.49	3.12
		velocity	7.11	8.77	8.20	7.65	7.41	7.29	6.97	6.49	7.43		7.86	7.91	7.35	6.72	7.88	7.02	

Wilson, Britton (USA) (2000)

Heat 4 - 2023 World Athletics Championships (Budapest, HUN) — *Seiko Timing (2023) - world championship race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Aug-23	time		12.74		24.37		37.54		53.87	53.87	4 / 8							
reaction time	0.190	interval				11.63		13.17		16.33		# of strides	12.74	11.63	13.17	16.33	24.37	29.50	5.13
		velocity		7.85		8.60		7.59		6.12	7.43		7.85	8.60	7.59	6.12	8.21	6.78	

Al-Saiddi, Line (NOR) (2006)

National FINAL - 2025 Bislett Games (Oslo, NOR) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	12-Jun-25	time	6.91	12.90	19.09	25.41	31.97	38.80	45.89	53.87	53.87	5 / 4							
reaction time	0.133	interval		5.99	6.19	6.32	6.56	6.83	7.09	7.98		# of strides	12.90	12.51	13.39	15.07	25.41	28.46	3.05
		velocity	7.24	8.35	8.08	7.91	7.62	7.32	7.05	6.27	7.43		7.75	7.99	7.47	6.64	7.87	7.03	

Werro, Audrey (SUI) (2004)

B FINAL - 2021 Weltklasse (Zürich, SUI) — *Omega Timing (2021) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-21	time	7.2	12.9	18.8	25.2	32.0	39.1	46.4	53.88	53.88	8 / 8							
reaction time	0.160	interval		5.70	5.90	6.40	6.80	7.10	7.30	7.48		# of strides	12.90	12.30	13.90	14.78	25.20	28.68	3.48
		velocity	6.94	8.77	8.47	7.81	7.35	7.04	6.85	6.68	7.42		7.75	8.13	7.19	6.77	7.94	6.97	

Folorunso, Ayomide (ITA) (1996)

Long Hurdles - 2025 Grand Slam Track Philadelphia (Philadelphia, PA) — *Grand Slam Track (2025) - results and splits by race*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-25	time		12.94		25.96		39.11		53.88	53.88	5 / 7							
reaction time	0.199	interval				13.02		13.15		14.77		# of strides	12.94	13.02	13.15	14.77	25.96	27.92	1.96
		velocity		7.73		7.68		7.60		6.77	7.42		7.73	7.68	7.60	6.77	7.70	7.16	

Takeishi, Konomi (JPN) (1991)

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-May-18	time	6.76	12.63	18.72	25.23	32.09	39.23	46.45	53.89	53.89	2 / 6							
reaction time	0.148	interval		5.87	6.09	6.51	6.86	7.14	7.22	7.44		# of strides	12.63	12.60	14.00	14.66	25.23	28.66	3.43
		velocity	7.40	8.52	8.21	7.68	7.29	7.00	6.93	6.72	7.42		7.92	7.94	7.14	6.82	7.93	6.98	

Huang Guifen (CHN) (1997)

FINAL - 2018 Asian Games (Jakarta, INA) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-18	time	6.77	12.75	18.86	25.36	32.03	38.98	46.26	53.89	53.89	8 / 5							
reaction time	0.201	interval		5.98	6.11	6.50	6.67	6.95	7.28	7.63		# of strides	12.75	12.61	13.62	14.91	25.36	28.53	3.17
		velocity	7.39	8.36	8.18	7.69	7.50	7.19	6.87	6.55	7.42		7.84	7.93	7.34	6.71	7.89	7.01	

Soldatova, Olesya (RUS) (2002)

FINAL - 2021 European Athletics U20 Championships (Tallin, EST) — *European Athletics (2021) - european athletics U20 championships results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jul-21	time		12.82		25.29		38.82		53.89	53.89	3 / 4							
reaction time	0.241	interval				12.47		13.53		15.07		# of strides	12.82	12.47	13.53	15.07	25.29	28.60	3.31
		velocity		7.80		8.02		7.39		6.64	7.42		7.80	8.02	7.39	6.64	7.91	6.99	

Blake, Dominique (USA) (1987)

Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR) — *USATF Women's Sprint Development with HPC (2008)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-08	time		12.91	18.94	25.35	31.92	38.91	46.18	53.90	53.90	7 / 5							
reaction time		interval			6.03	6.41	6.57	6.99	7.27	7.72		# of strides	12.91	12.44	13.56	14.99	25.35	28.55	3.20
		velocity		7.75	8.29	7.80	7.61	7.15	6.88	6.48	7.42		7.75	8.04	7.37	6.67	7.89	7.01	

Vasiliou, Iríni (GRE) (1990)

B FINAL - 2023 European Team Championships, First Division (Chorzów, POL) — *European Athletics (2023) - 3rd european games, athletics - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-23	time		12.96		25.49		38.87		53.90	53.90	9 / 8							
reaction time	0.238	interval				12.53		13.38		15.03		# of strides	12.96	12.53	13.38	15.03	25.49	28.41	2.92
		velocity		7.72		7.98		7.47		6.65	7.42		7.72	7.98	7.47	6.65	7.85	7.04	

Sambell, Kathy (AUS) (1963)

FINAL - 1989 IAAF World Cup (Barcelona, ESP) — *Pascua (1990) - atletismo (I) carreras y marcha*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Sep-89	time		13.41		25.01		38.42		53.92	53.92	/ ~~9~~ 8							
reaction time		interval				11.60		13.41		15.50		# of strides	13.41	11.60	13.41	15.50	25.01	28.91	3.90
		velocity		7.46		8.62		7.46		6.45	7.42		7.46	8.62	7.46	6.45	8.00	6.92	

Kawada, Ayaka (JPN) (1999)

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN) — *Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-17	time	6.98	12.86	19.02	25.46	32.16	39.20	46.40	53.92	53.92	5 / 1							
reaction time	0.205	interval		5.88	6.16	6.44	6.70	7.04	7.20	7.52		# of strides	12.86	12.60	13.74	14.72	25.46	28.46	3.00
		velocity	7.16	8.50	8.12	7.76	7.46	7.10	6.94	6.65	7.42		7.78	7.94	7.28	6.79	7.86	7.03	

van der Veen, Laura (NOR) (2003)

FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-25	time	7.12	13.07	19.44	25.91	32.54	39.54	46.79	53.93	53.93	2 / 5							
reaction time	0.248	interval		5.95	6.37	6.47	6.63	7.00	7.25	7.14	PB	# of strides	13.07	12.84	13.63	14.39	25.91	28.02	2.11
		velocity	7.02	8.40	7.85	7.73	7.54	7.14	6.90	7.00	7.42		7.65	7.79	7.34	6.95	7.72	7.14	

Pieroni, Messalina (BEL) (1998)
Invitational - 2025 Memorial van Damme (Brussels, BEL)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-25	time	7.04	12.95	19.10	25.59	32.17	38.97	46.15	53.93	53.93	8 / 6							
reaction time	0.215	interval		5.91	6.15	6.49	6.58	6.80	7.18	7.78		# of strides	12.95	12.64	13.38	14.96	25.59	28.34	2.75
		velocity	7.10	8.46	8.13	7.70	7.60	7.35	6.96	6.43	7.42		7.72	7.91	7.47	6.68	7.82	7.06	

Eguchi, Kotomi (JPN) (1997)
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)
Yanagiya (2014) - research on athlete performance and technique- 2014 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-14	time	7.14	13.17	19.25	25.46	31.91	38.80	46.09	53.94	53.94	/ 2							
reaction time		interval		6.03	6.08	6.21	6.45	6.89	7.29	7.85		# of strides	13.17	12.29	13.34	15.14	25.46	28.48	3.02
		velocity	7.00	8.29	8.22	8.05	7.75	7.26	6.86	6.37	7.42		7.59	8.14	7.50	6.61	7.86	7.02	

Kuboyama, Haruna (JPN) (1996)
FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN)
Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	06-Jun-21	time	6.82	12.64	18.77	25.18	31.86	38.85	46.19	53.94	53.94	/ 3							
reaction time		interval		5.82	6.13	6.41	6.68	6.99	7.34	7.75	PB	# of strides	12.64	12.54	13.67	15.09	25.18	28.76	3.58
		velocity	7.33	8.59	8.16	7.80	7.49	7.15	6.81	6.45	7.42		7.91	7.97	7.32	6.63	7.94	6.95	

Liu Yutong (CHN) (2002)
FINAL - 2024 Chinese National Championships (Quzhou, CHN)
Shandong Athletics Sport Science (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-24	time		14.35		25.96		39.60	46.51	53.94	53.94	5 / 2							
reaction time	0.176	interval				11.61		13.64	6.91	7.43		# of strides	14.35	11.61	13.64	14.34	25.96	27.98	2.02
		velocity		6.97		8.61		7.33	7.24	6.73	7.42	193.5	6.97	8.61	7.33	6.97	7.70	7.15	

Trinquant, Romane (FRA) (2006)
Semi-Final 1 - 2025 European Athletics U20 Championships (Tampere, FIN)
European Athletics (2025) - 2025 european athletics U20 championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	7.11	13.09	19.16	25.47	32.11	39.01	46.23	53.94	53.94	6 / 3							
reaction time	0.203	interval		5.98	6.07	6.31	6.64	6.90	7.22	7.71		# of strides	13.09	12.38	13.54	14.93	25.47	28.47	3.00
		velocity	7.03	8.36	8.24	7.92	7.53	7.25	6.93	6.49	7.42	202.5	7.64	8.08	7.39	6.70	7.85	7.02	

van Leur, Madelief (NED) (2007)
Semi-Final 1 - 2025 European Athletics U20 Championships (Tampere, FIN)
European Athletics (2025) - 2025 european athletics U20 championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	7.15	13.10	19.22	25.55	32.12	38.97	46.13	53.94	53.94	4 / 4							
reaction time	0.217	interval		5.95	6.12	6.33	6.57	6.85	7.16	7.81		# of strides	13.10	12.45	13.42	14.97	25.55	28.39	2.84
		velocity	6.99	8.40	8.17	7.90	7.61	7.30	6.98	6.40	7.42		7.63	8.03	7.45	6.68	7.83	7.04	

Patterson, Angel (USA) (1979)
FINAL - 1996 USATF National Junior Championships (Delaware, OH)
USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-96	time		12.94		25.11		38.58	45.96	53.95	53.95	6 / 5							
reaction time		interval				12.17		13.47	7.38	7.99		# of strides	12.94	12.17	13.47	15.37	25.11	28.84	3.73
		velocity		7.73		8.22		7.42	6.78	6.26	7.41		7.73	8.22	7.42	6.51	7.96	6.93	

Hirosawa, Mae (JPN) (1997)
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-18	time	6.80	12.83	19.09	25.56	32.32	39.27	46.37	53.95	53.95	8 / 2							
reaction time	0.149	interval		6.03	6.26	6.47	6.76	6.95	7.10	7.58	PB	# of strides	12.83	12.73	13.71	14.68	25.56	28.39	2.83
		velocity	7.35	8.29	7.99	7.73	7.40	7.19	7.04	6.60	7.41	199.0	7.79	7.86	7.29	6.81	7.82	7.04	

Tong Zenghuan (CHN) (1995)
FINAL - 2018 Asian Games (Jakarta, INA)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-18	time	7.26	13.37	19.61	26.04	32.66	39.44	46.44	53.95	53.95	7 / 6							
reaction time	0.296	interval		6.11	6.24	6.43	6.62	6.78	7.00	7.51		# of strides	13.37	12.67	13.40	14.51	26.04	27.91	1.87
		velocity	6.89	8.18	8.01	7.78	7.55	7.37	7.14	6.66	7.41		7.48	7.89	7.46	6.89	7.68	7.17	

Balint, Stefania (ROU) (2006)
Semi-Final 3 - 2025 European Athletics U20 Championships (Tampere, FIN)
European Athletics (2025) - 2025 european athletics U20 championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	6.93	12.86	19.15	25.66	32.30	39.09	46.29	53.95	53.95	6 / 3							
reaction time	0.146	interval		5.93	6.29	6.51	6.64	6.79	7.20	7.66		# of strides	12.86	12.80	13.43	14.86	25.66	28.29	2.63
		velocity	7.22	8.43	7.95	7.68	7.53	7.36	6.94	6.53	7.41	203.7	7.78	7.81	7.45	6.73	7.79	7.07	

Aoki, Sayaka (JPN))1986)
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)
Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-05	time		13.32		26.03		38.93	46.25	53.96	53.96	8 / 7							
reaction time		interval				12.71		12.90	7.32	7.71	PB	# of strides	13.32	12.71	12.90	15.03	26.03	27.93	1.90
		velocity		7.51		7.87		7.75	6.83	6.49	7.41		7.51	7.87	7.75	6.65	7.68	7.16	

Oshima, Airi (JPN) (2000)
Heat 1 - 2020 Japanese National Championships (Niigata, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Oct-20	time	7.04	12.93	19.04	25.49	32.21	39.18	46.37	53.96	53.96	4 / 2							
reaction time	0.172	interval		5.89	6.11	6.45	6.72	6.97	7.19	7.59	PB	# of strides	12.93	12.56	13.69	14.78	25.49	28.47	2.98
		velocity	7.10	8.49	8.18	7.75	7.44	7.17	6.95	6.59	7.41	220.7	7.73	7.96	7.30	6.77	7.85	7.02	

Nielsen, Laviai (GBR) (1988)
FINAL - 2021 Müller Grand Prix (Gateshead, GBR)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-May-21	time	7.2	12.8	18.6	24.6	31.0	37.9	45.7	53.96	53.96	3 / 8							
reaction time	0.140	interval		5.60	5.80	6.00	6.40	6.90	7.80	8.26		# of strides	12.80	11.80	13.30	16.06	24.60	29.36	4.76
		velocity	6.94	8.93	8.62	8.33	7.81	7.25	6.41	6.05	7.41		7.81	8.47	7.52	6.23	8.13	6.81	

Kawada, Ayaka (JPN) (1999)
FINAL - 2018 National Sports Festival (Fukui, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Oct-18	time	6.87	12.91	19.27	25.92	32.76	39.66	46.65	53.97	53.97	6 / 1							
reaction time	0.183	interval		6.04	6.36	6.65	6.84	6.90	6.99	7.32		# of strides	12.91	13.01	13.74	14.31	25.92	28.05	2.13
		velocity	7.28	8.28	7.86	7.52	7.31	7.25	7.15	6.83	7.41		7.75	7.69	7.28	6.99	7.72	7.13	

Takeishi, Konomi (JPN) (1991)
Heat 1 - 2019 Japanese National Championships (Fukuoka, JPN)
Yamanaka (2019) - race analysis of men and women 400m competition

date	27-Jun-19	time	6.81	12.75	19.09	25.58	32.20	39.07	46.30	53.97	53.97	6 / 2						
reaction time	0.158	interval		5.94	6.34	6.49	6.62	6.87	7.23	7.67		# of strides	12.75	12.83	13.49	14.90	25.58	28.39	2.81
		velocity	7.34	8.42	7.89	7.70	7.55	7.28	6.92	6.52	7.41		7.84	7.79	7.41	6.71	7.82	7.04	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)																	
date 27-Jun-19 time	6.84	12.83	19.05	25.56	32.23	39.17	46.41	53.97	53.97	7 / 3							
reaction time 0.135 interval		5.99	6.22	6.51	6.67	6.94	7.24	7.56		# of strides	12.83	12.73	13.61	14.80	25.56	28.41	2.85
velocity	7.31	8.35	8.04	7.68	7.50	7.20	6.91	6.61	7.41		7.79	7.86	7.35	6.76	7.82	7.04	

Yamanaka (2019) - race analysis of men and women 400m competition

Oshima, Airi (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)																	
date 23-Aug-20 time	7.16	13.12	19.20	25.54	32.11	38.93	46.09	53.97	53.97	4 / 3							
reaction time 0.161 interval		5.96	6.08	6.34	6.57	6.82	7.16	7.88	PB	# of strides	13.12	12.42	13.39	15.04	25.54	28.43	2.89
velocity	6.98	8.39	8.22	7.89	7.61	7.33	6.98	6.35	7.41		7.62	8.05	7.47	6.65	7.83	7.03	

Yamanaka (2020) - 400m race analysis of men and women during 2020 season

Pouzancre Hoyer, Lou-Anne (FRA) (2

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U23 Championships (Bergen, NOR)																	
date 18-Jul-25 time	7.07	12.92	18.90	25.12	31.63	38.61	45.95	53.97	53.97	1 / 8							
reaction time 0.228 interval		5.85	5.98	6.22	6.51	6.98	7.34	8.02		# of strides	12.92	12.20	13.49	15.36	25.12	28.85	3.73
velocity	7.07	8.55	8.36	8.04	7.68	7.16	6.81	6.23	7.41		7.74	8.20	7.41	6.51	7.96	6.93	

European Athletics (2025) - 2025 european athletics U23 championships- results book

Duvigneau, Marie (FRA) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Regional FINAL - 2025 Meeting de Paris (Paris, FRA)																	
date 20-Jun-25 time	6.96	12.87	19.14	25.81	32.63	39.49	46.52	53.98	53.98	8 / 3							
reaction time 0.205 interval		5.91	6.27	6.67	6.82	6.86	7.03	7.46		# of strides	12.87	12.94	13.68	14.49	25.81	28.17	2.36
velocity	7.18	8.46	7.97	7.50	7.33	7.29	7.11	6.70	7.41		7.77	7.73	7.31	6.90	7.75	7.10	

Omega Timing (2025) - diamond league race analysis

Trinquant, Romane (FRA) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U20 Championships (Tampere, FIN)																	
date 09-Aug-25 time	7.08	12.99	19.24	25.56	32.21	39.20	46.41	53.98	53.98	1 / 6							
reaction time 0.162 interval		5.91	6.25	6.32	6.65	6.99	7.21	7.57		# of strides	12.99	12.57	13.64	14.78	25.56	28.42	2.86
velocity	7.06	8.46	8.00	7.91	7.52	7.15	6.93	6.61	7.41		7.70	7.96	7.33	6.77	7.82	7.04	

European Athletics (2025) - 2025 european athletics U20 championships - results book

Liang Nuo (CHN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Chinese National Games (Tianjin, CHN)																	
date 03-Sep-17 time		12.56		24.89		38.49		53.99	53.99	/ 5							
reaction time interval				12.33		13.60		15.50		# of strides	12.56	12.33	13.60	15.50	24.89	29.10	4.21
velocity		7.96		8.11		7.35		6.45	7.41	202	7.96	8.11	7.35	6.45	8.04	6.87	

Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m

Descoux, Mathilde (FRA) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)																	
date 15-Jul-21 time		13.43		26.18		39.68		53.99	53.99	6 / 4							
reaction time 0.223 interval				12.75		13.50		14.31	PB	# of strides	13.43	12.75	13.50	14.31	26.18	27.81	1.63
velocity		7.45		7.84		7.41		6.99	7.41		7.45	7.84	7.41	6.99	7.64	7.19	

European Athletics (2021) - european athletics U20 championships results book

Kojima, Yuzuki (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Championsips (Osaka, JPN)																	
date 02-Jun-23 time	6.84	12.90	19.12	25.63	32.42	39.33	46.48	53.99	53.99	3 / 2							
reaction time 0.196 interval		6.06	6.22	6.51	6.79	6.91	7.15	7.51	PB	# of strides	12.90	12.73	13.70	14.66	25.63	28.36	2.73
velocity	7.31	8.25	8.04	7.68	7.36	7.24	6.99	6.66	7.41	203.0	7.75	7.86	7.30	6.82	7.80	7.05	

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

Sato, Hinako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Championships (Niigata, JPN)																	
date 27-Jun-15 time	7.17	12.95	18.95	25.20	31.76	38.82	46.13	54.00	54.00	2 / 7							
reaction time 0.184 interval		5.78	6.00	6.25	6.56	7.06	7.31	7.87	PB	# of strides	12.95	12.25	13.62	15.18	25.20	28.80	3.60
velocity	6.97	8.65	8.33	8.00	7.62	7.08	6.84	6.35	7.41		7.72	8.16	7.34	6.59	7.94	6.94	

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 National Sports Festival (Fukui, JPN)																	
date 07-Oct-18 time	6.91	12.96	19.32	25.96	32.84	39.78	46.75	54.00	54.00	5 / 2							
reaction time 0.162 interval		6.05	6.36	6.64	6.88	6.94	6.97	7.25		# of strides	12.96	13.00	13.82	14.22	25.96	28.04	2.08
velocity	7.24	8.26	7.86	7.53	7.27	7.20	7.17	6.90	7.41		7.72	7.69	7.24	7.03	7.70	7.13	

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

King, Sarah (SUI) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Athletissima (Lausanne, SUI)																	
date 26-Aug-22 time	6.9	12.5	18.4	24.7	31.3	38.3	45.9	54.00	54.00	3 / 5							
reaction time 0.194 interval		5.60	5.90	6.30	6.60	7.00	7.60	8.10		# of strides	12.50	12.20	13.60	15.70	24.70	29.30	4.60
velocity	7.25	8.93	8.47	7.94	7.58	7.14	6.58	6.17	7.41		8.00	8.20	7.35	6.37	8.10	6.83	

Omega Timing (2022) - diamond league race analysis

Jefferson, Kyra (USA) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Doha Diamond League (Doha, QAT)																	
date 05-May-23 time	6.85	12.60	18.76	25.20	31.92	38.84	45.91	54.00	54.00	1 / 8							
reaction time 0.164 interval		5.75	6.16	6.44	6.72	6.92	7.07	8.09		# of strides	12.60	12.60	13.64	15.16	25.20	28.80	3.60
velocity	7.30	8.70	8.12	7.76	7.44	7.23	7.07	6.18	7.41		7.94	7.94	7.33	6.60	7.94	6.94	

Omega Timing (2023) - diamond league race analysis

Baldwin, LaJada (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 4 - 2008 USA Olympic Trials (Sacramento, CA)																	
date 29-Jun-08 time		13.16		26.31	32.92	39.76	46.58	54.01	54.01	5 / 7							
reaction time interval				13.15	6.61	6.84	6.82	7.43		# of strides	13.16	13.15	13.45	14.25	26.31	27.70	1.39
velocity		7.60		7.60	7.56	7.31	7.33	6.73	7.41		7.60	7.60	7.43	7.02	7.60	7.22	

USATF Women's Sprint Development with HPC (2008)

King, Sarah (SUI) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)																	
date 26-Aug-21 time	6.9	12.9	19.4	26.1	32.8	39.8	46.8	54.01	54.01	3 / 5							
reaction time 0.163 interval		6.00	6.50	6.70	6.70	7.00	7.00	7.21		# of strides	12.90	13.20	13.70	14.21	26.10	27.91	1.81

Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.25	8.33	7.69	7.46	7.46	7.14	7.14	6.93	7.41		7.75	7.58	7.30	7.04	7.66	7.17	

Frobe, Linnéa (SWE) (1998)

FINAL - 2024 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-24	time	6.98	12.74	18.82	25.16	31.61	38.40	45.75	54.03	54.03	8 / 5							
reaction time	0.210	interval		5.76	6.08	6.34	6.45	6.79	7.35	8.28		# of strides	12.74	12.42	13.24	15.63	25.16	28.87	3.71
		velocity	7.16	8.68	8.22	7.89	7.75	7.36	6.80	6.04	7.40		7.85	8.05	7.55	6.40	7.95	6.93	

Disch, Karin (SUI) (1997)

FINAL - 2024 Athletissima (Lausanne, SUI) — *Omega Timing (2024) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	6.97	12.97	19.23	25.82	32.57	39.62	46.72	54.03	54.03	8 / 4							
reaction time	0.154	interval		6.00	6.26	6.59	6.75	7.05	7.10	7.31		# of strides	12.97	12.85	13.80	14.41	25.82	28.21	2.39
		velocity	7.17	8.33	7.99	7.59	7.41	7.09	7.04	6.84	7.40		7.71	7.78	7.25	6.94	7.75	7.09	

Huang Guifen (CHN) (1997)

FINAL - 2024 Chinese National Championships (Quzhou, CHN) — *Shandong Athletics Sport Science (2024)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-24	time		14.55		26.12		39.75	46.69	54.03	54.03	6 / 3							
reaction time	0.211	interval				11.57		13.63	6.94	7.34		# of strides	14.55	11.57	13.63	14.28	26.12	27.91	1.79
		velocity		6.87		8.64		7.34	7.20	6.81	7.40	191.5	6.87	8.64	7.34	7.00	7.66	7.17	

Meletto, Francesca (ITA) (2006)

Semi-Final 1 - 2025 European Athletics U20 Championships (Tampere, FIN) — *European Athletics (2025) - 2025 european athletics U20 championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	7.12	13.26	19.65	26.22	32.90	39.74	46.68	54.03	54.03	8 / 5							
reaction time	0.168	interval		6.14	6.39	6.57	6.68	6.84	6.94	7.35		# of strides	13.26	12.96	13.52	14.29	26.22	27.81	1.59
		velocity	7.02	8.14	7.82	7.61	7.49	7.31	7.20	6.80	7.40	212.7	7.54	7.72	7.40	7.00	7.63	7.19	

Takeuchi, Masako (JPN) (1982)

FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN) — *Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Sep-06	time	6.9	12.9	18.9	25.2	31.8	38.8	46.1	54.04	54.04	4 / 4							
reaction time		interval		6.00	6.00	6.30	6.60	7.00	7.30	7.94	PB	# of strides	12.90	12.30	13.60	15.24	25.20	28.84	3.64
		velocity	7.25	8.33	8.33	7.94	7.58	7.14	6.85	6.30	7.40		7.75	8.13	7.35	6.56	7.94	6.93	

Takeishi, Konomi (JPN) (1991)

Heat 2 - 2018 Japanese National Championships (Yamaguchi, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-18	time	6.87	12.73	18.84	25.27	32.00	39.07	46.33	54.04	54.04	4 / 1							
reaction time	0.149	interval		5.86	6.11	6.43	6.73	7.07	7.26	7.71		# of strides	12.73	12.54	13.80	14.97	25.27	28.77	3.50
		velocity	7.28	8.53	8.18	7.78	7.43	7.07	6.89	6.49	7.40	200.7	7.86	7.97	7.25	6.68	7.91	6.95	

Kojima, Yuzuki (JPN) (2004)

FINAL - 2022 Japanese National High School Championships (Naruto, JPN) — *Kishima (2022) - national high school championships biomechanics data collection*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Aug-22	time		13.25		26.15		39.53		54.04	54.04	6 / 1							
reaction time	0.206	interval				12.90		13.38		14.51	PB	# of strides	13.25	12.90	13.38	14.51	26.15	27.89	1.74
		velocity		7.55		7.75		7.47		6.89	7.40	201.2	7.55	7.75	7.47	6.89	7.65	7.17	

Roland, Melanie (FRA) (1999)

Regional FINAL - 2025 Meeting de Paris (Paris, FRA) — *Omega Timing (2025) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-25	time	6.83	12.65	18.75	25.14	31.81	38.75	46.04	54.04	54.04	4 / 4							
reaction time	0.174	interval		5.82	6.10	6.39	6.67	6.94	7.29	8.00		# of strides	12.65	12.49	13.61	15.29	25.14	28.90	3.76
		velocity	7.32	8.59	8.20	7.82	7.50	7.20	6.86	6.25	7.40		7.91	8.01	7.35	6.54	7.96	6.92	

Fischer, Luna (GER) (2007)

Semi-Final 2 - 2025 European Athletics U20 Championships (Tampere, FIN) — *European Athletics (2025) - 2025 european athletics U20 championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	6.95	12.65	18.53	24.80	31.47	38.57	46.08	54.04	54.04	3 / 4							
reaction time	0.205	interval		5.70	5.88	6.27	6.67	7.10	7.51	7.96		# of strides	12.65	12.15	13.77	15.47	24.80	29.24	4.44
		velocity	7.19	8.77	8.50	7.97	7.50	7.04	6.66	6.28	7.40	197.0	7.91	8.23	7.26	6.46	8.06	6.84	

Kawada, Ayaka (JPN) (1999)

Heat 2 - 2018 Japanese National Championships (Yamaguchi, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Jun-18	time	6.90	12.78	18.90	25.35	32.09	39.09	46.35	54.05	54.05	5 / 2							
reaction time	0.174	interval		5.88	6.12	6.45	6.74	7.00	7.26	7.70		# of strides	12.78	12.57	13.74	14.96	25.35	28.70	3.35
		velocity	7.25	8.50	8.17	7.75	7.42	7.14	6.89	6.49	7.40	210.7	7.82	7.96	7.28	6.68	7.89	6.97	

Adachi, Marin (JPN) (2003)

FINAL - 2023 Japanese National Championsips (Osaka, JPN) — *Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-23	time	6.91	13.03	19.30	25.68	32.28	39.10	46.31	54.05	54.05	5 / 3							
reaction time	0.185	interval		6.12	6.27	6.38	6.60	6.82	7.21	7.74		# of strides	13.03	12.65	13.42	14.95	25.68	28.37	2.69
		velocity	7.24	8.17	7.97	7.84	7.58	7.33	6.93	6.46	7.40	208.0	7.67	7.91	7.45	6.69	7.79	7.05	

Žížalová, Tereza (CZE) (1981)

FINAL - 2001 European Cup (Bremen, GER) — *Graubner (2007) - http://www.fgs.uni-halle.de*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-01	time		13.28		25.84		39.42		54.06	54.06	/ 8							
reaction time		interval				12.56		13.58		14.64	PB	# of strides	13.28	12.56	13.58	14.64	25.84	28.22	2.38
		velocity		7.53		7.96		7.36		6.83	7.40		7.53	7.96	7.36	6.83	7.74	7.09	

Melnyk, Tetyana (UKR) (1995)

Heat 3 - 2024 European Athletics Championships (Roma, ITA) — *European Athletics (2024) - 2024 european athletics championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Jun-24	time		13.16		25.57		39.01		54.06	54.06	9 / 7							
reaction time	0.267	interval				12.41		13.44		15.05		# of strides	13.16	12.41	13.44	15.05	25.57	28.49	2.92
		velocity		7.60		8.06		7.44		6.64	7.40		7.60	8.06	7.44	6.64	7.82	7.02	

Hao Miao (CHN) (2002)

FINAL - 2023 Chinese National Championships (Quzhou, CHN) — *Shandong Athletics Sport Science (2023)*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jul-23	time		13.00		26.01		39.81	46.79	54.07	54.07	6 / 1							
reaction time	0.338	interval				13.01		13.80	6.98	7.28		# of strides	13.00	13.01	13.80	14.26	26.01	28.06	2.05
		velocity		7.69		7.69		7.25	7.16	6.87	7.40	196.0	7.69	7.69	7.25	7.01	7.69	7.13	

Moroko, Galefele (BOT) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)																	*Omega Timing (2025) - diamond league race analysis*
date 16-May-25 time	7.08	13.02	19.30	25.79	32.48	39.44	46.54	54.07	54.07	6 / 1							
reaction time 0.222 interval		5.94	6.28	6.49	6.69	6.96	7.10	7.53		# of strides	13.02	12.77	13.65	14.63	25.79	28.28	2.49
velocity	7.06	8.42	7.96	7.70	7.47	7.18	7.04	6.64	7.40		7.68	7.83	7.33	6.84	7.75	7.07	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 23-Jun-18 time	7.06	13.12	19.52	26.12	32.92	39.85	46.87	54.08	54.08	3 / 3							
reaction time 0.153 interval		6.06	6.40	6.60	6.80	6.93	7.02	7.21		# of strides	13.12	13.00	13.73	14.23	26.12	27.96	1.84
velocity	7.08	8.25	7.81	7.58	7.35	7.22	7.12	6.93	7.40	211.0	7.62	7.69	7.28	7.03	7.66	7.15	

Doe, Carielle (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 20-Jun-03 time				24.56		38.46	45.93	54.09	54.09	3 / 7							
reaction time interval						13.90	7.47	8.16		# of strides			13.90	15.63	24.56	29.53	4.97
velocity				8.14		7.19	6.69	6.13	7.40				7.19	6.40	8.14	6.77	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese National Championships (Osaka, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 25-Jun-21 time	6.95	12.99	19.14	25.57	32.27	39.28	46.51	54.09	54.09	5 / 5							
reaction time 0.166 interval		6.04	6.15	6.43	6.70	7.01	7.23	7.58		# of strides	12.99	12.58	13.71	14.81	25.57	28.52	2.95
velocity	7.19	8.28	8.13	7.78	7.46	7.13	6.92	6.60	7.40		7.70	7.95	7.29	6.75	7.82	7.01	

Gröbli, Michelle (SUI) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Athletissima (Lausanne, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 26-Aug-22 time	6.8	12.7	18.8	25.2	31.8	38.7	46.0	54.09	54.09	7 / 6							
reaction time 0.154 interval		5.90	6.10	6.40	6.60	6.90	7.30	8.09		# of strides	12.70	12.50	13.50	15.39	25.20	28.89	3.69
velocity	7.35	8.47	8.20	7.81	7.58	7.25	6.85	6.18	7.40		7.87	8.00	7.41	6.50	7.94	6.92	

Sugiura, Haruka (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)																	*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*
date 30-Jul-13 time		13.17		26.10		39.55		54.10	54.10	6 / 2							
reaction time interval				12.93		13.45		14.55		# of strides	13.17	12.93	13.45	14.55	26.10	28.00	1.90
velocity		7.59		7.73		7.43		6.87	7.39		7.59	7.73	7.43	6.87	7.66	7.14	

Okumura, Yuri (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17 time		12.86		25.43		39.21		54.11	54.11	7 / 2							
reaction time 0.171 interval				12.57		13.78		14.90		# of strides	12.86	12.57	13.78	14.90	25.43	28.68	3.25
velocity		7.78		7.96		7.26		6.71	7.39	210.0	7.78	7.96	7.26	6.71	7.86	6.97	

Franke, Nina (NED) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 FBK Games (Hengelo, NED)																	*Omega Timing (2024) - continental tour gold race analysis*
date 07-Jul-24 time	6.97	12.68	18.51	24.64	31.15	38.15	45.69	54.11	54.11	4 / 4							
reaction time 0.153 interval		5.71	5.83	6.13	6.51	7.00	7.54	8.42		# of strides	12.68	11.96	13.51	15.96	24.64	29.47	4.83
velocity	7.17	8.76	8.58	8.16	7.68	7.14	6.63	5.94	7.39		7.89	8.36	7.40	6.27	8.12	6.79	

Veninga, Dominique (NED) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 FBK Games (Hengelo, NED)																	*Omega Timing (2024) - continental tour gold race analysis*
date 07-Jul-24 time	7.00	12.65	18.55	24.71	31.23	38.19	45.71	54.12	54.12	1 / 5							
reaction time 0.209 interval		5.65	5.90	6.16	6.52	6.96	7.52	8.41		# of strides	12.65	12.06	13.48	15.93	24.71	29.41	4.70
velocity	7.14	8.85	8.47	8.12	7.67	7.18	6.65	5.95	7.39		7.91	8.29	7.42	6.28	8.09	6.80	

Gymerská, Lenka (SVK) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U20 Championships (Tampere, FIN)																	*European Athletics (2025) - 2025 european athletics U20 championships - results book*
date 09-Aug-25 time	7.17	13.18	19.38	25.79	32.54	39.64	46.81	54.12	54.12	2 / 7							
reaction time 0.153 interval		6.01	6.20	6.41	6.75	7.10	7.17	7.31		# of strides	13.18	12.61	13.85	14.48	25.79	28.33	2.54
velocity	6.97	8.32	8.06	7.80	7.41	7.04	6.97	6.84	7.39		7.59	7.93	7.22	6.91	7.75	7.06	

Aoki, Sayaka (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/10/05/post-1097/*
date 24-Sep-17 time		12.94		25.79		39.31		54.13	54.13	6 / 1							
reaction time 0.213 interval				12.85		13.52		14.82		# of strides	12.94	12.85	13.52	14.82	25.79	28.34	2.55
velocity		7.73		7.78		7.40		6.75	7.39	203.5	7.73	7.78	7.40	6.75	7.75	7.06	

Kountouri, Kalliopi (CYP) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23 time		13.01		25.20		38.90		54.13	54.13	8 / 3							
reaction time 0.178 interval				12.19		13.70		15.23	PB	# of strides	13.01	12.19	13.70	15.23	25.20	28.93	3.73
velocity		7.69		8.20		7.30		6.57	7.39		7.69	8.20	7.30	6.57	7.94	6.91	

Drinkwater, Lois (USA) (1951)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 USA Olympic Trials (Walnut, CA)																	*Hymans (2008) - history of the US olympic trials - track and field*
date 25-Aug-68 time				24.7				54.0	54.0	8 / 2							
reaction time interval								29.3		# of strides					24.70	29.30	4.60
velocity				8.10				6.83	7.41						8.10	6.83	

Parrish, Donniece (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 3 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 29-Jun-08 time		12.65	18.73	25.00	31.67	38.68	45.95	54.14	54.14	6 / 6							
reaction time interval			6.08	6.27	6.67	7.01	7.27	8.19		# of strides	12.65	12.35	13.68	15.46	25.00	29.14	4.14
velocity		7.91	8.22	7.97	7.50	7.13	6.88	6.11	7.39		7.91	8.10	7.31	6.47	8.00	6.86	

George, Regina (USA) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 NCAA Championships (Eugene, OR)																	*Track Newsletter (2010) - NCAA women's championships*

date	11-Jun-10	time			25.4		39.0		54.1	54.14	/ 8							
reaction time		interval					13.6		15.1		# of strides			13.60	15.10	25.40	28.70	3.30
		velocity			7.87		7.35		6.62	7.39				7.35	6.62	7.87	6.97	

Aoki, Rin (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 29-Jul-16	time	6.99	12.65	18.55	24.96	31.80	39.07	46.51	54.14	54.14	7 / 1							
reaction time 0.177	interval		5.66	5.90	6.41	6.84	7.27	7.44	7.63		# of strides	12.65	12.31	14.11	15.07	24.96	29.18	4.22
	velocity	7.15	8.83	8.47	7.80	7.31	6.88	6.72	6.55	7.39		7.91	8.12	7.09	6.64	8.01	6.85	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 03-May-18	time	6.97	13.01	19.22	25.65	32.34	39.31	46.51	54.15	54.15	5 / 3							
reaction time 0.169	interval		6.04	6.21	6.43	6.69	6.97	7.20	7.64		# of strides	13.01	12.64	13.66	14.84	25.65	28.50	2.85
	velocity	7.17	8.28	8.05	7.78	7.47	7.17	6.94	6.54	7.39	199.5	7.69	7.91	7.32	6.74	7.80	7.02	

de Carvalho, Tabata (BRA) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 5 - 2023 World Athletics Championships (Budapest, HUN)										*Seiko Timing (2023) - world championship race analysis*							
date 20-Aug-23	time		12.46						54.15	2 / 8							
reaction time 0.181	interval									# of strides	12.46						
	velocity		8.03						7.39		8.03						

Holstad, Borghild Oline (NOR) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 European Athletics U20 Championships (Tampere, FIN)										*European Athletics (2025) - 2025 european athletics U20 championships - results book*							
date 09-Aug-25	time	6.95	12.67	18.67	24.96	31.46	38.33	45.80	54.15	54.15	3 / 8							
reaction time 0.150	interval		5.72	6.00	6.29	6.50	6.87	7.47	8.35		# of strides	12.67	12.29	13.37	15.82	24.96	29.19	4.23
	velocity	7.19	8.74	8.33	7.95	7.69	7.28	6.69	5.99	7.39	212.0	7.89	8.14	7.48	6.32	8.01	6.85	

Recio, Belén (ESP) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 European Cup (Munich, GER)										*Graubner (2007) - http://www.fgs.uni-halle.de*							
date 23-Jun-07	time		13.30		25.76		38.91		54.16	54.16	/ 8							
reaction time 0.228	interval				12.46		13.15		15.25		# of strides	13.30	12.46	13.15	15.25	25.76	28.40	2.64
	velocity		7.52		8.03		7.60		6.56	7.39		7.52	8.03	7.60	6.56	7.76	7.04	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN)										*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
date 08-Oct-17	time	6.79	12.51	18.54	24.94	31.71	38.84	46.30	54.16	54.16	5 / 2							
reaction time 0.157	interval		5.72	6.03	6.40	6.77	7.13	7.46	7.86		# of strides	12.51	12.43	13.90	15.32	24.94	29.22	4.28
	velocity	7.36	8.74	8.29	7.81	7.39	7.01	6.70	6.36	7.39	216.0	7.99	8.05	7.19	6.53	8.02	6.84	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 03-May-18	time	6.96	13.04	19.29	25.74	32.44	39.35	46.56	54.16	54.16	8 / 4							
reaction time 0.163	interval		6.08	6.25	6.45	6.70	6.91	7.21	7.60		# of strides	13.04	12.70	13.61	14.81	25.74	28.42	2.68
	velocity	7.18	8.22	8.00	7.75	7.46	7.24	6.93	6.58	7.39	215.0	7.67	7.87	7.35	6.75	7.77	7.04	

Oshima, Airi (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese National Championships (Niigata, JPN)										*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*							
date 02-Oct-20	time	7.07	13.13	19.52	26.15	32.89	39.77	46.77	54.16	54.16	6 / 4							
reaction time 0.174	interval		6.06	6.39	6.63	6.74	6.88	7.00	7.39		# of strides	13.13	13.02	13.62	14.39	26.15	28.01	1.86
	velocity	7.07	8.25	7.82	7.54	7.42	7.27	7.14	6.77	7.39	225.7	7.62	7.68	7.34	6.95	7.65	7.14	

Segura, Berta (ESP) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 European Athletics U23 Championships (Bergen, NOR)										*European Athletics (2025) - 2025 european athletics U23 championships- results book*							
date 18-Jul-25	time	7.10	12.91	18.86	24.98	31.49	38.37	45.80	54.16	54.16	2 / 7							
reaction time 0.242	interval		5.81	5.95	6.12	6.51	6.88	7.43	8.36		# of strides	12.91	12.07	13.39	15.79	24.98	29.18	4.20
	velocity	7.04	8.61	8.40	8.17	7.68	7.27	6.73	5.98	7.39		7.75	8.29	7.47	6.33	8.01	6.85	

Chen Jingwen (CHN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Chinese National Games (Tianjin, CHN)										*Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m*							
date 03-Sep-17	time		13.13		25.69		39.32		54.17	54.17	/ 6							
reaction time	interval				12.56		13.63		14.85		# of strides	13.13	12.56	13.63	14.85	25.69	28.48	2.79
	velocity		7.62		7.96		7.34		6.73	7.38	207.0	7.62	7.96	7.34	6.73	7.79	7.02	

Huang Guifen (CHN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shanghai (Shanghai, CHN)										*Omega Timing (2019) - diamond league race analysis*							
date 18-May-19	time		12.8		25.5		39.3		54.17	54.17	1 / 9							
reaction time 0.168	interval				12.7		13.8		14.9		# of strides	12.80	12.70	13.80	14.87	25.50	28.67	3.17
	velocity		7.81		7.87		7.25		6.72	7.38		7.81	7.87	7.25	6.72	7.84	6.98	

Kawada, Ayaka (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National Championships (Osaka, JPN)										*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
date 24-Jun-17	time	6.96	12.90	19.04	25.51	32.28	39.31	46.57	54.18	54.18	7 / 3							
reaction time 0.171	interval		5.94	6.14	6.47	6.77	7.03	7.26	7.61		# of strides	12.90	12.61	13.80	14.87	25.51	28.67	3.16
	velocity	7.18	8.42	8.14	7.73	7.39	7.11	6.89	6.57	7.38	214.0	7.75	7.93	7.25	6.72	7.84	6.98	

Frobe, Linnéa (SWE) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2025) - diamond league race analysis*							
date 15-Jun-25	time	7.49	13.20	19.64	26.27	32.62	39.47	46.56	54.18	54.18	8 / 5							
reaction time 0.200	interval		5.71	6.44	6.63	6.35	6.85	7.09	7.62		# of strides	13.20	13.07	13.20	14.71	26.27	27.91	1.64
	velocity	6.68	8.76	7.76	7.54	7.87	7.30	7.05	6.56	7.38		7.58	7.65	7.58	6.80	7.61	7.17	

Jassim, Iman Isa (BRN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Asian Games (Jakarta, INA)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 26-Aug-18	time	6.77	12.73	18.85	25.35	32.00	38.89	46.22	54.19	54.19	6 / 7							
reaction time 0.158	interval		5.96	6.12	6.50	6.65	6.89	7.33	7.97		# of strides	12.73	12.62	13.54	15.30	25.35	28.84	3.49

		velocity	7.39	8.39	8.17	7.69	7.52	7.26	6.82	6.27	7.38		7.86	7.92	7.39	6.54	7.89	6.93

Takashima, Saki (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2019 Japanese National Championships (Fukuoka, JPN)											*Yamanaka (2019) - race analysis of men and women 400m competition*						
date 27-Jun-19 time	7.11	13.07	19.29	25.72	32.32	39.18	46.38	54.19	54.19	4 / 1							
reaction time 0.239 interval		5.96	6.22	6.43	6.60	6.86	7.20	7.81		# of strides	13.07	12.65	13.46	15.01	25.72	28.47	2.75
velocity	7.03	8.39	8.04	7.78	7.58	7.29	6.94	6.40	7.38	197.0	7.65	7.91	7.43	6.66	7.78	7.02	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National Championships (Fukuoka, JPN)											*Yamanaka (2019) - research on athlete performance and technique- 2019 data book*						
date 28-Jun-19 time	6.85	12.71	18.92	25.48	32.22	39.28	46.56	54.19	54.19	8 / 4							
reaction time 0.160 interval		5.86	6.21	6.56	6.74	7.06	7.28	7.63		# of strides	12.71	12.77	13.80	14.91	25.48	28.71	3.23
velocity	7.30	8.53	8.05	7.62	7.42	7.08	6.87	6.55	7.38		7.87	7.83	7.25	6.71	7.85	6.97	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2020 Japanese National Championships (Niigata, JPN)											*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*						
date 01-Oct-20 time	6.89	12.74	18.84	25.23	31.89	38.95	46.31	54.19	54.19	5 / 3							
reaction time 0.157 interval		5.85	6.10	6.39	6.66	7.06	7.36	7.88		# of strides	12.74	12.49	13.72	15.24	25.23	28.96	3.73
velocity	7.26	8.55	8.20	7.82	7.51	7.08	6.79	6.35	7.38		7.85	8.01	7.29	6.56	7.93	6.91	

Gaye, Fatou (SEN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Memorial van Damme (Brussels, BEL)											*Seiko Timing (2023) - world championship race analysis*						
date 08-Sep-23 time	6.83	12.85	19.15	25.74	32.72	39.74	46.84	54.19	54.19	2 / 7							
reaction time 0.197 interval		6.02	6.30	6.59	6.98	7.02	7.10	7.35		# of strides	12.85	12.89	14.00	14.45	25.74	28.45	2.71
velocity	7.32	8.31	7.94	7.59	7.16	7.12	7.04	6.80	7.38		7.78	7.76	7.14	6.92	7.77	7.03	

Yaroshyna, Alina (UKR) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2025 European Team Championships, First Division (Madrid, ESP)											*European Athletics (2025) - 2025 european team championships, first division - results book*						
date 27-Jun-25 time	6.97	12.94	19.13	25.45	32.20	39.39	46.70	54.19	54.19	/ 7							
reaction time 0.179 interval		5.97	6.19	6.32	6.75	7.19	7.31	7.49		# of strides	12.94	12.51	13.94	14.80	25.45	28.74	3.29
velocity	7.17	8.38	8.08	7.91	7.41	6.95	6.84	6.68	7.38		7.73	7.99	7.17	6.76	7.86	6.96	

Gulli-Nance, Jess (AUS) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 03-May-16 time	7.10	13.06	19.29	25.77	32.43	39.50	46.72	54.20	54.20	/ 1							
reaction time interval		5.96	6.23	6.48	6.66	7.07	7.22	7.48		# of strides	13.06	12.71	13.73	14.70	25.77	28.43	2.66
velocity	7.04	8.39	8.03	7.72	7.51	7.07	6.93	6.68	7.38		7.66	7.87	7.28	6.80	7.76	7.03	

Vandi, Elisabetta (ITA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Memorial van Damme (Brussels, BEL)											*Omega Timing (2019) - diamond league race analysis*						
date 06-Sep-19 time	7.0	12.8	18.9	25.4	32.2	39.1	46.4	54.20	54.20	2 / 6							
reaction time 0.214 interval		5.8	6.1	6.5	6.8	6.9	7.3	7.8		# of strides	12.80	12.60	13.70	15.10	25.40	28.80	3.40
velocity	7.14	8.62	8.20	7.69	7.35	7.25	6.85	6.41	7.38		7.81	7.94	7.30	6.62	7.87	6.94	

Shingu, Miho (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Japanese National High School Championships (Nara, JPN)											*Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data*						
date 29-Jul-09 time		13.07		26.17		40.08		54.21	54.21	3 / 1							
reaction time interval				13.10		13.91		14.13		# of strides	13.07	13.10	13.91	14.13	26.17	28.04	1.87
velocity		7.65		7.63		7.19		7.08	7.38		7.65	7.63	7.19	7.08	7.64	7.13	

Hatano, Minami (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 29-Jul-16 time	7.01	12.94	19.05	25.47	32.28	39.34	46.57	54.21	54.21	9 / 2							
reaction time 0.161 interval		5.93	6.11	6.42	6.81	7.06	7.23	7.64	PB	# of strides	12.94	12.53	13.87	14.87	25.47	28.74	3.27
velocity	7.13	8.43	8.18	7.79	7.34	7.08	6.92	6.54	7.38		7.73	7.98	7.21	6.72	7.85	6.96	

Ishizuka, Haruko (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)											*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 16-Oct-15 time	7.04	12.97	19.10	25.51	32.17	39.14	46.44	54.21	54.21	/ 2							
reaction time interval		5.93	6.13	6.41	6.66	6.97	7.30	7.77		# of strides	12.97	12.54	13.63	15.07	25.51	28.70	3.19
velocity	7.10	8.43	8.16	7.80	7.51	7.17	6.85	6.44	7.38		7.71	7.97	7.34	6.64	7.84	6.97	

Drozd, Wiktoria (POL) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)											*Omega Timing (2022) - diamond league race analysis*						
date 06-Aug-22 time	7.02	12.84	18.92	25.28	31.91	38.92	46.30	54.22	54.22	7 / 4							
reaction time 0.192 interval		5.82	6.08	6.36	6.63	7.01	7.38	7.92		# of strides	12.84	12.44	13.64	15.30	25.28	28.94	3.66
velocity	7.12	8.59	8.22	7.86	7.54	7.13	6.78	6.31	7.38		7.79	8.04	7.33	6.54	7.91	6.91	

Barber, Mikele (USA) (1980)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2003 USATF National Championship (Palo Alto, CA)											*USATF Women's Sprint Development (2003)*						
date 20-Jun-03 time				24.63		38.12	45.73	54.23	54.23	2 / 8							
reaction time interval						13.49	7.61	8.50		# of strides			13.49	16.11	24.63	29.60	4.97
velocity				8.12		7.41	6.57	5.88	7.38				7.41	6.21	8.12	6.76	

Hilaire, Elan (USA) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)											*USATF Women's Sprint Development (2006)*						
date 24-Jun-06 time		13.36	19.52	23.47	32.67	39.64	46.66	54.23	54.23	1 / 6							
reaction time interval			6.16	3.95	9.20	6.97	7.02	7.57	PB	# of strides	13.36	10.11	16.17	14.59	23.47	30.76	7.29
velocity		7.49	8.12	12.66	5.43	7.17	7.12	6.61	7.38		7.49	9.89	6.18	6.85	8.52	6.50	

Ishizuka, Haruko (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2016 Japanese National Championships (Nagoya, JPN)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 24-Jun-16 time	7.00	12.85	18.85	25.09	31.68	38.73	46.25	54.23	54.23	7 / 2							
reaction time 0.250 interval		5.85	6.00	6.24	6.59	7.05	7.52	7.98		# of strides	12.85	12.24	13.64	15.50	25.09	29.14	4.05
velocity	7.14	8.55	8.33	8.01	7.59	7.09	6.65	6.27	7.38		7.78	8.17	7.33	6.45	7.97	6.86	

Matsumoto, Nanako (JPN) (1996)
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/07/10/post-978/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		13.10		25.47		38.98		54.23	54.23	3 / 3							
reaction time	0.187	interval				12.37		13.51		15.25		# of strides	13.10	12.37	13.51	15.25	25.47	28.76	3.29
		velocity		7.63		8.08		7.40		6.56	7.38	206.0	7.63	8.08	7.40	6.56	7.85	6.95	

Harrison, Natasha (GBR) (2001)
National FINAL - 2025 London Athletics Meet (London, GBR)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Jul-25	time	6.99	12.88	18.87	25.03	31.58	38.58	46.01	54.23	54.23	1 / 8							
reaction time	0.157	interval		5.89	5.99	6.16	6.55	7.00	7.43	8.22		# of strides	12.88	12.15	13.55	15.65	25.03	29.20	4.17
		velocity	7.15	8.49	8.35	8.12	7.63	7.14	6.73	6.08	7.38		7.76	8.23	7.38	6.39	7.99	6.85	

Trent, Tia (USA) (1979)
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)
USATF Women's Sprint Development (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-03	time				24.64		38.37	45.89	54.24	54.24	9 / 7							
reaction time		interval						13.73	7.52	8.35		# of strides			13.73	15.87	24.64	29.60	4.96
		velocity				8.12		7.28	6.65	5.99	7.37				7.28	6.30	8.12	6.76	

Jingbo, Yuki (JPN) (1995)
FINAL - 2013 Japanese National High School Championships (Oita, JPN)
Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-13	time		13.47		26.53		39.98		54.24	54.24	9 / 3							
reaction time		interval				13.06		13.45		14.26		# of strides	13.47	13.06	13.45	14.26	26.53	27.71	1.18
		velocity		7.42		7.66		7.43		7.01	7.37		7.42	7.66	7.43	7.01	7.54	7.22	

Aoyama, Seika (JPN) (1996)
FINAL - 2013 Japanese National High School Championships (Oita, JPN)
Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-13	time		13.50		26.70		40.12		54.24	54.24	7 / 4							
reaction time		interval				13.20		13.42		14.12		# of strides	13.50	13.20	13.42	14.12	26.70	27.54	0.84
		velocity		7.41		7.58		7.45		7.08	7.37		7.41	7.58	7.45	7.08	7.49	7.26	

Takeishi, Konomi (JPN) (1991)
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Sep-18	time	7.00	12.99	19.10	25.63	32.52	39.58	46.80	54.24	54.24	4 / 1							
reaction time	0.145	interval		5.99	6.11	6.53	6.89	7.06	7.22	7.44		# of strides	12.99	12.64	13.95	14.66	25.63	28.61	2.98
		velocity	7.14	8.35	8.18	7.66	7.26	7.08	6.93	6.72	7.37		7.70	7.91	7.17	6.82	7.80	6.99	

Matsumoto, Nanako (JPN) (1996)
Heat 3 - 2020 Japanese National Championships (Niigata, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Oct-20	time	6.91	12.78	18.89	25.38	32.15	39.20	46.49	54.24	54.24	4 / 1							
reaction time	0.180	interval		5.87	6.11	6.49	6.77	7.05	7.29	7.75		# of strides	12.78	12.60	13.82	15.04	25.38	28.86	3.48
		velocity	7.24	8.52	8.18	7.70	7.39	7.09	6.86	6.45	7.37	204.7	7.82	7.94	7.24	6.65	7.88	6.93	

Miyaji, Rika (JPN)
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)
Takashima (2023) - national high school sports festival - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-23	time		13.06		26.24		40.07		54.24	54.24	7 / 1							
reaction time	0.242	interval				13.18		13.83		14.17		# of strides	13.06	13.18	13.83	14.17	26.24	28.00	1.76
		velocity		7.66		7.59		7.23		7.06	7.37		7.66	7.59	7.23	7.06	7.62	7.14	

de Marez, Manon (BEL) (1997)
Invitational - 2025 Memorial van Damme (Brussels, BEL)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-25	time	7.17	13.11	19.32	25.69	32.34	39.30	46.54	54.24	54.24	1 / 7							
reaction time	0.200	interval		5.94	6.21	6.37	6.65	6.96	7.24	7.70		# of strides	13.11	12.58	13.61	14.94	25.69	28.55	2.86
		velocity	6.97	8.42	8.05	7.85	7.52	7.18	6.91	6.49	7.37		7.63	7.95	7.35	6.69	7.79	7.01	

Hirosawa, Mae (JPN) (1997)
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)
Kobayashi (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time	6.99	12.99	19.10	25.46	32.18	39.26	46.56	54.25	54.25	/ 3							
reaction time		interval		6.00	6.11	6.36	6.72	7.08	7.30	7.69		# of strides	12.99	12.47	13.80	14.99	25.46	28.79	3.33
		velocity	7.15	8.33	8.18	7.86	7.44	7.06	6.85	6.50	7.37		7.70	8.02	7.25	6.67	7.86	6.95	

Oshima, Airi (JPN) (2000)
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)
Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-May-21	time	7.20	13.43	19.87	26.60	33.42	40.28	47.19	54.25	54.25	7 / 3							
reaction time	0.146	interval		6.23	6.44	6.73	6.82	6.86	6.91	7.06		# of strides	13.43	13.17	13.68	13.97	26.60	27.65	1.05
		velocity	6.94	8.03	7.76	7.43	7.33	7.29	7.24	7.08	7.37		7.45	7.59	7.31	7.16	7.52	7.23	

Borga, Rebecca (ITA) (1998)
Invitational - 2024 Memorial van damme (Brussels, BEL)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Sep-24	time	6.95	12.82	18.91	25.27	31.93	38.85	46.07	54.25	54.25	2 / 7							
reaction time	0.165	interval		5.87	6.09	6.36	6.66	6.92	7.22	8.18		# of strides	12.82	12.45	13.58	15.40	25.27	28.98	3.71
		velocity	7.19	8.52	8.21	7.86	7.51	7.23	6.93	6.11	7.37	210.0	7.80	8.03	7.36	6.49	7.91	6.90	

Helander, Klara (SWE) (1995)
National FINAL - 2025 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	15-Jun-25	time	7.05	13.00	19.40	25.73	32.12	38.95	46.26	54.25	54.25	2 / 6							
reaction time	0.161	interval		5.95	6.40	6.33	6.39	6.83	7.31	7.99	PB	# of strides	13.00	12.73	13.22	15.30	25.73	28.52	2.79
		velocity	7.09	8.40	7.81	7.90	7.82	7.32	6.84	6.26	7.37		7.69	7.86	7.56	6.54	7.77	7.01	

Lopes Patey, Lilje (NOR) (2007)
Semi-Final 3 - 2025 European Athletics U20 Championships (Tampere, FIN)
European Athletics (2025) - 2025 european athletics U20 championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	7.19	13.22	19.46	25.94	32.68	39.62	46.77	54.25	54.25	8 / 4							
reaction time	0.185	interval		6.03	6.24	6.48	6.74	6.94	7.15	7.48		# of strides	13.22	12.72	13.68	14.63	25.94	28.31	2.37
		velocity	6.95	8.29	8.01	7.72	7.42	7.20	6.99	6.68	7.37	213.0	7.56	7.86	7.31	6.84	7.71	7.06	

Mager, Anna (AUT) (2002)
A FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)
European Athletics (2023) - 3rd european games, athletics - results book

date	20-Jun-23	time		13.06		25.45		39.10		54.26	54.26	8 / 3						
reaction time	0.231	interval				12.39		13.65		15.16	PB	# of strides	13.06	12.39	13.65	15.16	25.45	28.81	3.36
		velocity		7.66		8.07		7.33		6.60	7.37	202.0	7.66	8.07	7.33	6.60	7.86	6.94	

Iwata, Yuna (JPN) (1997)

U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Oct-15	time	7.19	13.44	19.84	26.41	33.19	40.10	47.08	54.28	54.28	/ 1							
reaction time		interval		6.25	6.40	6.57	6.78	6.91	6.98	7.20		# of strides	13.44	12.97	13.69	14.18	26.41	27.87	1.46
		velocity	6.95	8.00	7.81	7.61	7.37	7.24	7.16	6.94	7.37		7.44	7.71	7.30	7.05	7.57	7.18	

Takeishi, Konomi (JPN) (1991)

FINAL - 2018 National Sports Festival (Fukui, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Oct-18	time	6.82	12.76	19.04	25.80	32.74	39.76	46.85	54.28	54.28	4 / 3							
reaction time	0.153	interval		5.94	6.28	6.76	6.94	7.02	7.09	7.43		# of strides	12.76	13.04	13.96	14.52	25.80	28.48	2.68
		velocity	7.33	8.42	7.96	7.40	7.20	7.12	7.05	6.73	7.37		7.84	7.67	7.16	6.89	7.75	7.02	

Laus, Camille (BEL) (1993)

Semi-Final 2 - 2022 European Athletics Championships (Munich, GER)

European Athletics (2022) - european athletics championships race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Aug-22	time		13.01		25.62		39.55		54.28	54.28	1 / 8							
reaction time	0.265	interval				12.61		13.93		14.73		# of strides	13.01	12.61	13.93	14.73	25.62	28.66	3.04
		velocity		7.69		7.93		7.18		6.79	7.37	197.0	7.69	7.93	7.18	6.79	7.81	6.98	

Akasaka, Miyu (JPN)

FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)

Takashima (2023) - national high school sports festival - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Aug-23	time		13.46		27.03		40.24		54.28	54.28	5 / 2							
reaction time	0.291	interval				13.57		13.21		14.04		# of strides	13.46	13.57	13.21	14.04	27.03	27.25	0.22
		velocity		7.43		7.37		7.57		7.12	7.37		7.43	7.37	7.57	7.12	7.40	7.34	

Adachi, Marin (JPN) (2003)

Heat 3 - 2023 Japanese National Championsips (Osaka, JPN)

Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-23	time	7.07	13.32	19.69	26.21	32.85	39.65	46.68	54.29	54.29	8 / 2							
reaction time	0.182	interval		6.25	6.37	6.52	6.64	6.80	7.03	7.61		# of strides	13.32	12.89	13.44	14.64	26.21	28.08	1.87
		velocity	7.07	8.00	7.85	7.67	7.53	7.35	7.11	6.57	7.37		7.51	7.76	7.44	6.83	7.63	7.12	

Nguyen Thi Hang (VIE) (1990)

FINAL - 2018 Asian Games (Jakarta, INA)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-18	time	6.89	12.77	18.94	25.33	32.06	39.09	46.47	54.30	54.30	2 / 8							
reaction time	0.175	interval		5.88	6.17	6.39	6.73	7.03	7.38	7.83	PB	# of strides	12.77	12.56	13.76	15.21	25.33	28.97	3.64
		velocity	7.26	8.50	8.10	7.82	7.43	7.11	6.78	6.39	7.37		7.83	7.96	7.27	6.57	7.90	6.90	

Ellsworth, Maureen (NED) (1991)

National FINAL - 2024 FBK Games (Hengelo, NED)

Omega Timing (2024) - continental tour gold race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Jul-24	time	7.17	13.11	19.13	25.43	32.05	39.09	46.39	54.30	54.30	8 / 6							
reaction time	0.158	interval		5.94	6.02	6.30	6.62	7.04	7.30	7.91		# of strides	13.11	12.32	13.66	15.21	25.43	28.87	3.44
		velocity	6.97	8.42	8.31	7.94	7.55	7.10	6.85	6.32	7.37		7.63	8.12	7.32	6.57	7.86	6.93	

Oki, Sayaka (JPN) (1995)

FINAL - 2012 Japanese National High School Championships (Niigata, JPN)

Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-12	time		12.93		25.38		39.14		54.31	54.31	6 / 1							
reaction time		interval				12.45		13.76		15.17		# of strides	12.93	12.45	13.76	15.17	25.38	28.93	3.55
		velocity		7.73		8.03		7.27		6.59	7.37		7.73	8.03	7.27	6.59	7.88	6.91	

Matsumoto, Nanako (JPN) (1996)

FINAL - 2015 Japanese National Championships (Niigata, JPN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-15	time	7.23	13.15	19.20	25.55	32.37	39.48	46.70	54.31	54.31	3 / 8							
reaction time	0.185	interval		5.92	6.05	6.35	6.82	7.11	7.22	7.61		# of strides	13.15	12.40	13.93	14.83	25.55	28.76	3.21
		velocity	6.92	8.45	8.26	7.87	7.33	7.03	6.93	6.57	7.37		7.60	8.06	7.18	6.74	7.83	6.95	

Iwata, Yuna (JPN) (1997)

FINAL - 2019 Japanese National Championships (Fukuoka, JPN)

Yamanaka (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jun-19	time	6.98	13.10	19.39	25.93	32.63	39.60	46.79	54.31	54.31	3 / 5							
reaction time	0.151	interval		6.12	6.29	6.54	6.70	6.97	7.19	7.52		# of strides	13.10	12.83	13.67	14.71	25.93	28.38	2.45
		velocity	7.16	8.17	7.95	7.65	7.46	7.17	6.95	6.65	7.37		7.63	7.79	7.32	6.80	7.71	7.05	

Hillyard, Amy (GBR) (1995)

FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)

Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.9	12.5	18.6	25.0	31.8	38.9	46.4	54.31	54.31	8 / 6							
reaction time	0.158	interval		5.60	6.10	6.40	6.80	7.10	7.50	7.91		# of strides	12.50	12.50	13.90	15.41	25.00	29.31	4.31
		velocity	7.25	8.93	8.20	7.81	7.35	7.04	6.67	6.32	7.37		8.00	8.00	7.19	6.49	8.00	6.82	

Faleme, Laure-Anne (FRA) (2003)

Regional FINAL - 2025 Meeting de Paris (Paris, FRA)

Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-25	time	6.64	12.50	18.81	25.44	32.34	39.37	46.66	54.31	54.31	7 / 5							
reaction time	0.204	interval		5.86	6.31	6.63	6.90	7.03	7.29	7.65		# of strides	12.50	12.94	13.93	14.94	25.44	28.87	3.43
		velocity	7.53	8.53	7.92	7.54	7.25	7.11	6.86	6.54	7.37		8.00	7.73	7.18	6.69	7.86	6.93	

Macchi, Giulia (ITA) (2007)

Semi-Final 2 - 2025 European Athletics U20 Championships (Tampere, FIN)

European Athletics (2025) - 2025 european athletics U20 championships - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	7.24	13.24	19.43	25.84	32.32	39.21	46.44	54.31	54.31	4 / 5							
reaction time	0.196	interval		6.00	6.19	6.41	6.48	6.89	7.23	7.87		# of strides	13.24	12.60	13.37	15.10	25.84	28.47	2.63
		velocity	6.91	8.33	8.08	7.80	7.72	7.26	6.92	6.35	7.37	192.2	7.55	7.94	7.48	6.62	7.74	7.02	

Takeishi, Konomi (JPN) (1991)

FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)

Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-18	time	6.88	12.88	19.17	25.72	32.52	39.49	46.65	54.32	54.32	6 / 4							
reaction time	0.161	interval		6.00	6.29	6.55	6.80	6.97	7.16	7.67		# of strides	12.88	12.84	13.77	14.83	25.72	28.60	2.88

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.27	8.33	7.95	7.63	7.35	7.17	6.98	6.52	7.36	199.2	7.76	7.79	7.26	6.74	7.78	6.99	

Shiomi, Ayano (JPN) (1999)
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	7.19	13.24	19.40	25.81	32.49	39.45	46.61	54.32	54.32	3 / 1							
reaction time		interval		6.05	6.16	6.41	6.68	6.96	7.16	7.71	PB	# of strides	13.24	12.57	13.64	14.87	25.81	28.51	2.70
		velocity	6.95	8.26	8.12	7.80	7.49	7.18	6.98	6.49	7.36		7.55	7.96	7.33	6.72	7.75	7.02	

van Puyvelde, Margo (BEL) (1995)
FINAL - 2020 Memorial Van Damme (Brussels, BEL)
Omega Timing (2020) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Sep-20	time	7.2	13.2	19.4	25.9	32.6	39.5	46.6	54.32	54.32	8 / 8							
reaction time	0.182	interval		6.00	6.20	6.50	6.70	6.90	7.10	7.72		# of strides	13.20	12.70	13.60	14.82	25.90	28.42	2.52
		velocity	6.94	8.33	8.06	7.69	7.46	7.25	7.04	6.48	7.36		7.58	7.87	7.35	6.75	7.72	7.04	

Grant, Sharkara (USA) (1978)
FINAL - 1996 USATF National Junior Championships (Delaware, OH)
USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jun-96	time		12.93		25.05		38.55	46.14	54.33	54.33	2 / 6							
reaction time		interval				12.12		13.50	7.59	8.19		# of strides	12.93	12.12	13.50	15.78	25.05	29.28	4.23
		velocity		7.73		8.25		7.41	6.59	6.11	7.36		7.73	8.25	7.41	6.34	7.98	6.83	

Mu, Athing (USA) (2002)
FINAL - 2019 The Match - Europe v USA (Minsk, BLR)
European Athletics (2019) - race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Sep-19	time		12.97		25.66		39.29		54.34	54.34	2 / 8							
reaction time	0.182	interval				12.69		13.63		15.05		# of strides	12.97	12.69	13.63	15.05	25.66	28.68	3.02
		velocity		7.71		7.88		7.34		6.64	7.36		7.71	7.88	7.34	6.64	7.79	6.97	

Papavasiliou, Alexia (GRE) (1997)
B FINAL - 2025 European Team Championships, First Division (Madrid, ESP)
European Athletics (2025) - 2025 european team championships, first division - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	27-Jun-25	time	7.41	13.75	20.09	26.32	32.79	39.66	46.69	54.34	54.34	/ 8							
reaction time	0.187	interval		6.34	6.34	6.23	6.47	6.87	7.03	7.65		# of strides	13.75	12.57	13.34	14.68	26.32	28.02	1.70
		velocity	6.75	7.89	7.89	8.03	7.73	7.28	7.11	6.54	7.36		7.27	7.96	7.50	6.81	7.60	7.14	

Aoyama, Seika (JPN) (1996)
FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Oct-16	time	6.90	12.76	18.79	25.11	31.73	38.75	46.17	54.35	54.35	5 / 1							
reaction time	0.247	interval		5.86	6.03	6.32	6.62	7.02	7.42	8.18		# of strides	12.76	12.35	13.64	15.60	25.11	29.24	4.13
		velocity	7.25	8.53	8.29	7.91	7.55	7.12	6.74	6.11	7.36		7.84	8.10	7.33	6.41	7.96	6.84	

Pan Gaoqin (CHN) (1991)
FINAL - 2017 Chinese National Games (Tianjin, CHN)
Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-17	time		13.56		26.60		39.92		54.35	54.35	/ 7							
reaction time		interval				13.04		13.32		14.43		# of strides	13.56	13.04	13.32	14.43	26.60	27.75	1.15
		velocity		7.37		7.67		7.51		6.93	7.36	206.0	7.37	7.67	7.51	6.93	7.52	7.21	

McAulay, Carys (GBR) (1998)
FINAL - 2022 Müller Birmingham Diamond League (Birmingham, GBR)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-May-22	time	6.9	12.5	18.4	24.6	31.1	38.2	45.8	54.35	54.35	2 / 7							
reaction time	0.160	interval		5.60	5.90	6.20	6.50	7.10	7.60	8.55		# of strides	12.50	12.10	13.60	16.15	24.60	29.75	5.15
		velocity	7.25	8.93	8.47	8.06	7.69	7.04	6.58	5.85	7.36		8.00	8.26	7.35	6.19	8.13	6.72	

Matsumoto, Nanako (JPN) (1996)
Heat 2 - 2023 Japanese National Championsips (Osaka, JPN)
Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Jun-23	time	6.95	13.04	19.25	25.72	32.39	39.32	46.58	54.35	54.35	2 / 1							
reaction time	0.255	interval		6.09	6.21	6.47	6.67	6.93	7.26	7.77		# of strides	13.04	12.68	13.60	15.03	25.72	28.63	2.91
		velocity	7.19	8.21	8.05	7.73	7.50	7.22	6.89	6.44	7.36		7.67	7.89	7.35	6.65	7.78	6.99	

Iwata, Yuna (JPN) (1997)
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/01/post-786/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		13.14		25.90		39.75		54.36	54.36	7 / 1							
reaction time		interval				12.76		13.85		14.61		# of strides	13.14	12.76	13.85	14.61	25.90	28.46	2.56
		velocity		7.61		7.84		7.22		6.84	7.36	214.2	7.61	7.84	7.22	6.84	7.72	7.03	

Iwata, Yuna (JPN) (1997)
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-15	time	7.05	13.16	19.39	25.83	32.52	39.51	46.71	54.37	54.37	/ 2							
reaction time		interval		6.11	6.23	6.44	6.69	6.99	7.20	7.66		# of strides	13.16	12.67	13.68	14.86	25.83	28.54	2.71
		velocity	7.09	8.18	8.03	7.76	7.47	7.15	6.94	6.53	7.36		7.60	7.89	7.31	6.73	7.74	7.01	

Kawada, Ayaka (JPN) (1999)
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/07/10/post-978/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		12.85		25.40		39.20		54.37	54.37	6 / 2							
reaction time	0.174	interval				12.55		13.80		15.17		# of strides	12.85	12.55	13.80	15.17	25.40	28.97	3.57
		velocity		7.78		7.97		7.25		6.59	7.36	213.2	7.78	7.97	7.25	6.59	7.87	6.90	

Reid, Suziann (USA) (1977)
Semi-Final 1 - 1996 USA Olympic Trials (Deleware, OH)
USATF Women's Sprint Development (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-96	time		12.56		24.76		38.55	46.18	54.39	54.39	8 / 8							
reaction time		interval				12.20		13.79	7.63	8.21		# of strides	12.56	12.20	13.79	15.84	24.76	29.63	4.87
		velocity		7.96		8.20		7.25	6.55	6.09	7.35		7.96	8.20	7.25	6.31	8.08	6.75	

Matsumoto, Nanako (JPN) (1996)
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)
Yamanaka (2020) - 400m race analysis of men and women during 2020 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Sep-20	time	7.01	12.96	19.09	25.48	32.18	39.32	46.71	54.39	54.39	5 / 2							
reaction time	0.243	interval		5.95	6.13	6.39	6.70	7.14	7.39	7.68		# of strides	12.96	12.52	13.84	15.07	25.48	28.91	3.43
		velocity	7.13	8.40	8.16	7.82	7.46	7.00	6.77	6.51	7.35		7.72	7.99	7.23	6.64	7.85	6.92	

Kong Yingying (CHN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 23-Jul-23 time		13.21		25.96		39.47	46.64	54.39	54.39	4 / 2							
reaction time 0.285 interval				12.75		13.51	7.17	7.75	PB	# of strides	13.21	12.75	13.51	14.92	25.96	28.43	2.47
velocity		7.57		7.84		7.40	6.97	6.45	7.35	198.0	7.57	7.84	7.40	6.70	7.70	7.03	

Zuo Siyu (CHN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2024)*
date 16-Sep-24 time		14.38		25.67		39.40	46.64	54.39	54.39	2 / 4							
reaction time 0.202 interval				11.29		13.73	7.24	7.75		# of strides	14.38	11.29	13.73	14.99	25.67	28.72	3.05
velocity		6.95		8.86		7.28	6.91	6.45	7.35	207.5	6.95	8.86	7.28	6.67	7.79	6.96	

Jiang Yutong (CHN) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2024)*
date 16-Sep-24 time		14.81		26.52		39.91	46.91	54.39	54.39	8 / 5							
reaction time 0.171 interval				11.71		13.39	7.00	7.48		# of strides	14.81	11.71	13.39	14.48	26.52	27.87	1.35
velocity		6.75		8.54		7.47	7.14	6.68	7.35	209.7	6.75	8.54	7.47	6.91	7.54	7.18	

Dematté, Nancy (ITA) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 European Athletics U23 Championships (Bergen, NOR)																	*European Athletics (2025) - 2025 european athletics U23 championships- results book*
date 18-Jul-25 time 7.06	12.97	19.17	25.53	32.09	39.06	46.41	54.39	54.39	1 / 8								
reaction time 0.161 interval	5.91	6.20	6.36	6.56	6.97	7.35	7.98		# of strides	12.97	12.56	13.53	15.33	25.53	28.86	3.33	
velocity 7.08	8.46	8.06	7.86	7.62	7.17	6.80	6.27	7.35		7.71	7.96	7.39	6.52	7.83	6.93		

Shintaku, Asami (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/10/post-978/*
date 23-Jun-17 time		13.47		26.32		39.70		54.40	54.40	7 / 3							
reaction time 0.170 interval				12.85		13.38		14.70		# of strides	13.47	12.85	13.38	14.70	26.32	28.08	1.76
velocity		7.42		7.78		7.47		6.80	7.35	218.7	7.42	7.78	7.47	6.80	7.60	7.12	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 06-Jun-21 time 7.10	13.13	19.34	25.91	32.69	39.65	46.80	54.40	54.40	/ 4								
reaction time interval	6.03	6.21	6.57	6.78	6.96	7.15	7.60		# of strides	13.13	12.78	13.74	14.75	25.91	28.49	2.58	
velocity 7.04	8.29	8.05	7.61	7.37	7.18	6.99	6.58	7.35		7.62	7.82	7.28	6.78	7.72	7.02		

Yoshioka, Rina (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																	*Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*
date 04-Aug-19 time 7.39	13.82	20.23	26.73	33.31	40.04	47.02	54.41	54.41	7 / 2								
reaction time interval	6.43	6.41	6.50	6.58	6.73	6.98	7.39	PB	# of strides	13.82	12.91	13.31	14.37	26.73	27.68	0.95	
velocity 6.77	7.78	7.80	7.69	7.60	7.43	7.16	6.77	7.35		7.24	7.75	7.51	6.96	7.48	7.23		

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 Japanese National Championsips (Osaka, JPN)																	*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 01-Jun-23 time 6.92	12.97	19.19	25.69	32.48	39.46	46.67	54.41	54.41	7 / 2								
reaction time 0.167 interval	6.05	6.22	6.50	6.79	6.98	7.21	7.74		# of strides	12.97	12.72	13.77	14.95	25.69	28.72	3.03	
velocity 7.23	8.26	8.04	7.69	7.36	7.16	6.93	6.46	7.35		7.71	7.86	7.26	6.69	7.79	6.96		

Steinbrecher, Lara-Noelle (GER) (200

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 16-Jul-21 time		12.95		25.51		39.06		54.42	54.42	7 / 5							
reaction time 0.201 interval				12.56		13.55		15.36		# of strides	12.95	12.56	13.55	15.36	25.51	28.91	3.40
velocity		7.72		7.96		7.38		6.51	7.35		7.72	7.96	7.38	6.51	7.84	6.92	

Taneru, Asuruhan Marino (JPN) (200

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)																	*Shibayama (2021) - national high school and U20 national championhsips*
date 28-Jul-21 time 7.05	13.23	19.60	26.12	32.95	39.90	46.90	54.42	54.42	3 / 1								
reaction time 0.194 interval	6.18	6.37	6.52	6.83	6.95	7.00	7.52	PB	# of strides	13.23	12.89	13.78	14.52	26.12	28.30	2.18	
velocity 7.09	8.09	7.85	7.67	7.32	7.19	7.14	6.65	7.35		7.56	7.76	7.26	6.89	7.66	7.07		

Kojima, Yuzuki (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 Japanese National Championsips (Osaka, JPN)																	*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 01-Jun-23 time 7.02	13.03	19.27	25.81	32.48	39.43	46.64	54.42	54.42	6 / 3								
reaction time 0.207 interval	6.01	6.24	6.54	6.67	6.95	7.21	7.78		# of strides	13.03	12.78	13.62	14.99	25.81	28.61	2.80	
velocity 7.12	8.32	8.01	7.65	7.50	7.19	6.93	6.43	7.35		7.67	7.82	7.34	6.67	7.75	6.99		

Henderson, Monique (USA) (1976)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2003 USATF National Championship (Palo Alto, CA)																	*USATF Women's Sprint Development (2003)*
date 20-Jun-03 time						38.77	46.05	54.43	54.43	3 / 8							
reaction time interval							7.28	8.38		# of strides				15.66			
velocity						7.74	6.87	5.97	7.35					6.39			

He Ke (CHN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Chinese National Games (Tianjin, CHN)																	*Yang (2019) - analysis of the characteristics of Yang Huizhen's running speed in 400m*
date 03-Sep-17 time		13.30		26.00		39.43		54.43	54.43	/ 8							
reaction time interval				12.70		13.43		15.00		# of strides	13.30	12.70	13.43	15.00	26.00	28.43	2.43
velocity		7.52		7.87		7.45		6.67	7.35	211.0	7.52	7.87	7.45	6.67	7.69	7.03	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 All Japan Corporate Championships (Kumagaya, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 19-Sep-20 time 6.96	12.95	19.15	25.67	32.48	39.59	46.90	54.43	54.43	4 / 3								
reaction time 0.190 interval	5.99	6.20	6.52	6.81	7.11	7.31	7.53		# of strides	12.95	12.72	13.92	14.84	25.67	28.76	3.09	
velocity 7.18	8.35	8.06	7.67	7.34	7.03	6.84	6.64	7.35		7.72	7.86	7.18	6.74	7.79	6.95		

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

date	06-Jun-21	time	7.11	13.26	19.55	26.19	32.99	39.91	47.03	54.53	54.43	/ 5						
reaction time		interval		6.15	6.29	6.64	6.80	6.92	7.12	7.50		# of strides	13.26	12.93	13.72	14.62	26.19	28.34	2.15
		velocity	7.03	8.13	7.95	7.53	7.35	7.23	7.02	6.67	7.35		7.54	7.73	7.29	6.84	7.64	7.06	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Championsips (Osaka, JPN)											*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*						
date 02-Jun-23	time	6.93	13.00	19.22	25.69	32.41	39.45	46.78	54.43	54.43	6 / 4							
reaction time 0.230	interval		6.07	6.22	6.47	6.72	7.04	7.33	7.65		# of strides	13.00	12.69	13.76	14.98	25.69	28.74	3.05
	velocity	7.22	8.24	8.04	7.73	7.44	7.10	6.82	6.54	7.35	205.0	7.69	7.88	7.27	6.68	7.79	6.96	

Stroy, Esther (USA) (1953)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1968 USA Olympic Trials (Walnut, CA)											*Hymans (2008) - history of the US olympic trials - track and field*						
date 25-Aug-68	time			25.2				54.3	54.3	6 / 3							
reaction time	interval							29.1		# of strides					25.20	29.10	3.90
	velocity			7.94				6.87	7.37						7.94	6.87	

Ishizuka, Haruko (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)											*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 05-Oct-15	time	6.99	12.97	19.29	25.77	32.44	39.43	46.76	54.44	54.44	/ 2							
reaction time	interval		5.98	6.32	6.48	6.67	6.99	7.33	7.68		# of strides	12.97	12.80	13.66	15.01	25.77	28.67	2.90
	velocity	7.15	8.36	7.91	7.72	7.50	7.15	6.82	6.51	7.35		7.71	7.81	7.32	6.66	7.76	6.98	

Segura, Berta (ESP) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)											*European Athletics (2021) - european athletics U20 championships results book*						
date 15-Jul-21	time		13.60		26.43		40.09		54.44	54.44	8 / 3							
reaction time	interval				12.83		13.66		14.35		# of strides	13.60	12.83	13.66	14.35	26.43	28.01	1.58
	velocity		7.35		7.79		7.32		6.97	7.35		7.35	7.79	7.32	6.97	7.57	7.14	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)											*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*						
date 03-May-19	time	7.03	13.00	19.12	25.45	32.20	39.28	46.68	54.45	54.45	/ 4							
reaction time	interval		5.97	6.12	6.33	6.75	7.08	7.40	7.77		# of strides	13.00	12.45	13.83	15.17	25.45	29.00	3.55
	velocity	7.11	8.38	8.17	7.90	7.41	7.06	6.76	6.44	7.35		7.69	8.03	7.23	6.59	7.86	6.90	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN)											*Yamanaka (2017) - male and female 400m analysis in the 2017 season*						
date 08-Oct-17	time	6.83	12.67	18.79	25.31	32.14	39.27	46.62	54.46	54.46	4 / 3							
reaction time 0.168	interval		5.84	6.12	6.52	6.83	7.13	7.35	7.84		# of strides	12.67	12.64	13.96	15.19	25.31	29.15	3.84
	velocity	7.32	8.56	8.17	7.67	7.32	7.01	6.80	6.38	7.34	196.7	7.89	7.91	7.16	6.58	7.90	6.86	

Kawada, Ayaka (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)											*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
date 09-May-21	time	7.05	13.18	19.49	26.05	32.80	39.74	46.92	54.46	54.46	8 / 4							
reaction time 0.170	interval		6.13	6.31	6.56	6.75	6.94	7.18	7.54		# of strides	13.18	12.87	13.69	14.72	26.05	28.41	2.36
	velocity	7.09	8.16	7.92	7.62	7.41	7.20	6.96	6.63	7.34		7.59	7.77	7.30	6.79	7.68	7.04	

Hespel, Nina (BEL) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Memorial van Damme (Brussels, BEL)											*Omega Timing (2022) - diamond league race analysis*						
date 02-Sep-22	time	6.90	12.65	18.76	25.19	31.85	38.82	46.23	54.47	54.47	1 / 8							
reaction time 0.196	interval		5.75	6.11	6.43	6.66	6.97	7.41	8.24		# of strides	12.65	12.54	13.63	15.65	25.19	29.28	4.09
	velocity	7.25	8.70	8.18	7.78	7.51	7.17	6.75	6.07	7.34		7.91	7.97	7.34	6.39	7.94	6.83	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)											*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*						
date 03-May-19	time	7.10	13.16	19.34	25.79	32.57	39.59	46.89	54.48	54.48	/ 5							
reaction time	interval		6.06	6.18	6.45	6.78	7.02	7.30	7.59		# of strides	13.16	12.63	13.80	14.89	25.79	28.69	2.90
	velocity	7.04	8.25	8.09	7.75	7.37	7.12	6.85	6.59	7.34		7.60	7.92	7.25	6.72	7.75	6.97	

van den Broeck, Naomi (BEL) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)											*Omega Timing (2019) - diamond league race analysis*						
date 13-Jun-19	time		12.7		25.3		39.4		54.48	54.48	5 / 1							
reaction time 0.134	interval				12.6		14.1		15.1	PB	# of strides	12.70	12.60	14.10	15.08	25.30	29.18	3.88
	velocity		7.87		7.94		7.09		6.63	7.34		7.87	7.94	7.09	6.63	7.91	6.85	

Ono, Mizuna (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)											*Kobayashi (2020) - national high school and U20 national championhsips*						
date 23-Oct-20	time	6.92	13.04	19.40	25.96	32.75	39.73	46.89	54.48	54.48	5 / 1							
reaction time 0.166	interval		6.12	6.36	6.56	6.79	6.98	7.16	7.59		# of strides	13.04	12.92	13.77	14.75	25.96	28.52	2.56
	velocity	7.23	8.17	7.86	7.62	7.36	7.16	6.98	6.59	7.34	196.7	7.67	7.74	7.26	6.78	7.70	7.01	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Championsips (Osaka, JPN)											*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*						
date 02-Jun-23	time	6.97	12.95	19.07	25.46	32.14	39.12	46.55	54.48	54.48	8 / 5							
reaction time 0.171	interval		5.98	6.12	6.39	6.68	6.98	7.43	7.93		# of strides	12.95	12.51	13.66	15.36	25.46	29.02	3.56
	velocity	7.17	8.36	8.17	7.82	7.49	7.16	6.73	6.31	7.34	213.5	7.72	7.99	7.32	6.51	7.86	6.89	

Aoki, Rin (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)											*(2017) - tfdata-store.com/2017/07/10/post-978/*						
date 23-Jun-17	time		12.95		25.42		39.23		54.49	54.49	3 / 4							
reaction time 0.156	interval				12.47		13.81		15.26		# of strides	12.95	12.47	13.81	15.26	25.42	29.07	3.65
	velocity		7.72		8.02		7.24		6.55	7.34	216.5	7.72	8.02	7.24	6.55	7.87	6.88	

Takashima, Saki (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2020 Japanese National Championships (Niigata, JPN)											*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*						
date 01-Oct-20	time	7.25	13.60	20.02	26.53	33.21	40.10	47.13	54.49	54.49	5 / 2							
reaction time 0.217	interval		6.35	6.42	6.51	6.68	6.89	7.03	7.36		# of strides	13.60	12.93	13.57	14.39	26.53	27.96	1.43

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	6.90	7.87	7.79	7.68	7.49	7.26	7.11	6.79	7.34	203.5	7.35	7.73	7.37	6.95	7.54	7.15	

Rami, Laura Elena (ITA) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2023 European Athletics U23 Championships (Espoo, FIN)																			*European Athletics (2023) - european athletics U23 championships results book*
date	13-Jul-23	time		13.23		25.73		39.68		54.49	54.49	2 / 8							
reaction time	0.495	interval				12.50		13.95		14.81		# of strides	13.23	12.50	13.95	14.81	25.73	28.76	3.03
		velocity		7.56		8.00		7.17		6.75	7.34		7.56	8.00	7.17	6.75	7.77	6.95	

Aoki, Sayaka (JPN) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)																			*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date	03-May-17	time	6.84	12.62	18.67	24.96	31.66	38.80	46.37	54.50	54.50	/ 1							
reaction time		interval		5.78	6.05	6.29	6.70	7.14	7.57	8.13		# of strides	12.62	12.34	13.84	15.70	24.96	29.54	4.58
		velocity	7.31	8.65	8.26	7.95	7.46	7.00	6.61	6.15	7.34		7.92	8.10	7.23	6.37	8.01	6.77	

Kelly, Ashley (IVB) (1991)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2017 IAAF World Championships (London, GBR)																			*Pollitt (2018) - biomechanical report for the IAAF World Champs - London 2017 - Women's 400m*
date	07-Aug-17	time		11.89		23.83		37.75	44.67	54.32	54.50	9 / 8							
reaction time	0.184	interval				11.94		13.92	6.92	9.65		# of strides	11.89	11.94	13.92	16.57	23.83	30.49	6.66
		velocity		8.41		8.38		7.18	7.23	5.18	7.34	205.7	8.41	8.38	7.18	6.04	8.39	6.56	

Disch, Karin (SUI) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Athletissima (Lausanne, SUI)																			*Omega Timing (2023) - diamond league race analysis*
date	30-Jun-23	time	7.10	13.19	19.56	26.16	32.88	39.92	47.08	54.50	54.50	8 / 4							
reaction time	0.216	interval		6.09	6.37	6.60	6.72	7.04	7.16	7.42	PB	# of strides	13.19	12.97	13.76	14.58	26.16	28.34	2.18
		velocity	7.04	8.21	7.85	7.58	7.44	7.10	6.98	6.74	7.34		7.58	7.71	7.27	6.86	7.65	7.06	

King, Sarah (SUI) (1996)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Athletissima (Lausanne, SUI)																			*Omega Timing (2023) - diamond league race analysis*
date	30-Jun-23	time	7.14	13.02	19.10	25.56	32.24	39.35	46.68	54.50	54.50	7 / 5							
reaction time	0.245	interval		5.88	6.08	6.46	6.68	7.11	7.33	7.82		# of strides	13.02	12.54	13.79	15.15	25.56	28.94	3.38
		velocity	7.00	8.50	8.22	7.74	7.49	7.03	6.82	6.39	7.34		7.68	7.97	7.25	6.60	7.82	6.91	

Richard, Janet (MLT) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2023 World Athletics Championships (Budapest, HUN)																			*Seiko Timing (2023) - world championship race analysis*
date	20-Aug-23	time		12.97		25.51		39.24		54.50	54.50	5 / 8							
reaction time	0.172	interval				12.54		13.73		15.26		# of strides	12.97	12.54	13.73	15.26	25.51	28.99	3.48
		velocity		7.71		7.97		7.28		6.55	7.34		7.71	7.97	7.28	6.55	7.84	6.90	

Boatright, Tominique (USA) (1986)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Carson, CA)																			*USATF Women's Sprint Development (2005)*
date	25-Jun-05	time				25.34	32.03	39.02	46.43	54.51	54.51	9 / ~~8~~ 7							
reaction time		interval					6.69	6.99	7.41	8.08	PB	# of strides			13.68	15.49	25.34	29.17	3.83
		velocity				7.89	7.47	7.15	6.75	6.19	7.34				7.31	6.46	7.89	6.86	

Iwata, Yuna (JPN) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)																			*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date	03-May-21	time	7.04	13.26	19.69	26.30	33.03	39.94	47.08	54.51	54.51	6 / 1							
reaction time	0.164	interval		6.22	6.43	6.61	6.73	6.91	7.14	7.43		# of strides	13.26	13.04	13.64	14.57	26.30	28.21	1.91
		velocity	7.10	8.04	7.78	7.56	7.43	7.24	7.00	6.73	7.34	209.0	7.54	7.67	7.33	6.86	7.60	7.09	

Almici, Alexandra (ITA) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)																			*European Athletics (2021) - european athletics U20 championships results book*
date	15-Jul-21	time		13.56		26.51		40.12		54.51	54.51	3 / 4							
reaction time		interval				12.95		13.61		14.39	PB	# of strides	13.56	12.95	13.61	14.39	26.51	28.00	1.49
		velocity		7.37		7.72		7.35		6.95	7.34		7.37	7.72	7.35	6.95	7.54	7.14	

Korzuch, Julia (POL) (1995)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																			*Omega Timing (2022) - diamond league race analysis*
date	06-Aug-22	time	7.23	13.33	19.56	26.05	32.74	39.73	46.89	54.51	54.51	8 / 5							
reaction time	0.135	interval		6.10	6.23	6.49	6.69	6.99	7.16	7.62		# of strides	13.33	12.72	13.68	14.78	26.05	28.46	2.41
		velocity	6.92	8.20	8.03	7.70	7.47	7.15	6.98	6.56	7.34		7.50	7.86	7.31	6.77	7.68	7.03	

Iwata, Yuna (JPN) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)																			*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date	03-May-17	time	7.14	13.21	19.44	25.84	32.63	39.69	47.00	54.53	54.53	/ 2							
reaction time		interval		6.07	6.23	6.40	6.79	7.06	7.31	7.53		# of strides	13.21	12.63	13.85	14.84	25.84	28.69	2.85
		velocity	7.00	8.24	8.03	7.81	7.36	7.08	6.84	6.64	7.34		7.57	7.92	7.22	6.74	7.74	6.97	

Kawachi, Sena (JPN) (2003)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)																			*Shibayama (2021) - national high school and U20 national championhsips*
date	28-Jul-21	time	7.04	13.26	19.70	26.36	33.21	40.08	47.05	54.53	54.53	5 / 2							
reaction time	0.152	interval		6.22	6.44	6.66	6.85	6.87	6.97	7.48	PB	# of strides	13.26	13.10	13.72	14.45	26.36	28.17	1.81
		velocity	7.10	8.04	7.76	7.51	7.30	7.28	7.17	6.68	7.34		7.54	7.63	7.29	6.92	7.59	7.10	

Munkácsi, Antónia (HUN) (1938)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Tokyo, JPN)																			*Müller (1965) - die leichtathletik-wettkampfe der XVIII olympiischen sommerspielen Tokio 1964 - 400m lauf*
date	17-Oct-64	time				24.8				54.4	54.4	1 / 4							
reaction time		interval								29.6		# of strides					24.80	29.60	4.80
		velocity				8.06				6.76	7.35						8.06	6.76	

Takeishi, Konomi (JPN) (1991)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																			*(2017) - tfdata-store.com/2017/10/05/post-1097/*
date	24-Sep-17	time		12.80		25.65		39.57		54.54	54.54	5 / 2							
reaction time	0.165	interval				12.85		13.92		14.97		# of strides	12.80	12.85	13.92	14.97	25.65	28.89	3.24
		velocity		7.81		7.78		7.18		6.68	7.33	193.0	7.81	7.78	7.18	6.68	7.80	6.92	

Kharashchuk, Tetyana (UKR) (2002)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23	time		13.39		26.57		40.62		54.55	54.55	1 / 6						
reaction time 0.220	interval				13.18		14.05		13.93		# of strides	13.39	13.18	14.05	13.93	26.57	27.98	1.41
	velocity		7.47		7.59		7.12		7.18	7.33		7.47	7.59	7.12	7.18	7.53	7.15	

Haugen, Nora (NOR) (2003)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 Bislett Games (Oslo, NOR)																	*Omega Timing (2025) - diamond league race analysis*
date 12-Jun-25	time	7.09	13.01	19.23	25.52	31.98	38.81	46.17	54.55	54.55	3 / 5							
reaction time 0.216	interval		5.92	6.22	6.29	6.46	6.83	7.36	8.38	PB	# of strides	13.01	12.51	13.29	15.74	25.52	29.03	3.51
	velocity	7.05	8.45	8.04	7.95	7.74	7.32	6.79	5.97	7.33		7.69	7.99	7.52	6.35	7.84	6.89	

Rupp, Katharina (GER) (2006)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U20 Championships (Tampere, FIN)																	*European Athletics (2025) - 2025 european athletics U20 championships - results book*
date 08-Aug-25	time	7.21	13.24	19.48	25.87	32.42	39.24	46.51	54.55	54.55	5 / 6							
reaction time 0.159	interval		6.03	6.24	6.39	6.55	6.82	7.27	8.04		# of strides	13.24	12.63	13.37	15.31	25.87	28.68	2.81
	velocity	6.93	8.29	8.01	7.82	7.63	7.33	6.88	6.22	7.33		7.55	7.92	7.48	6.53	7.73	6.97	

Kitamura, Yume (JPN) (1995)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time		13.10		25.80		39.80		54.56	54.56	4 / 1						
reaction time 0.178	interval				12.70		14.00		14.76	PB	# of strides	13.10	12.70	14.00	14.76	25.80	28.76	2.96
	velocity		7.63		7.87		7.14		6.78	7.33	212.0	7.63	7.87	7.14	6.78	7.75	6.95	

Adachi, Marin (JPN) (2003)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)																	*Kobayashi (2020) - national high school and U20 national championhsips*
date 23-Oct-20	time	6.94	13.05	19.44	26.04	32.71	39.62	46.84	54.57	54.57	6 / 2							
reaction time 0.165	interval		6.11	6.39	6.60	6.67	6.91	7.22	7.73		# of strides	13.05	12.99	13.58	14.95	26.04	28.53	2.49
	velocity	7.20	8.18	7.82	7.58	7.50	7.24	6.93	6.47	7.33	210.1	7.66	7.70	7.36	6.69	7.68	7.01	

Claesson, Jonna (SWE) (2000)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2024) - diamond league race analysis*
date 02-Jun-24	time	7.05	12.92	18.94	25.38	32.15	39.17	46.54	54.57	54.57	4 / 6							
reaction time 0.222	interval		5.87	6.02	6.44	6.77	7.02	7.37	8.03		# of strides	12.92	12.46	13.79	15.40	25.38	29.19	3.81
	velocity	7.09	8.52	8.31	7.76	7.39	7.12	6.78	6.23	7.33		7.74	8.03	7.25	6.49	7.88	6.85	

Takashima, Saki (JPN) (2002)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 23-Jun-18	time	7.11	13.37	19.86	26.49	33.20	39.98	47.01	54.58	54.58	7 / 5							
reaction time 0.194	interval		6.26	6.49	6.63	6.71	6.78	7.03	7.57		# of strides	13.37	13.12	13.49	14.60	26.49	28.09	1.60
	velocity	7.03	7.99	7.70	7.54	7.45	7.37	7.11	6.61	7.33	209.2	7.48	7.62	7.41	6.85	7.55	7.12	

Liem, Michelle (SUI) (2005)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2023 Athletissima (Lausanne, SUI)																	*Omega Timing (2023) - diamond league race analysis*
date 30-Jun-23	time	7.05	12.78	18.76	25.09	31.78	38.90	46.48	54.58	54.58	3 / 6							
reaction time 0.166	interval		5.73	5.98	6.33	6.69	7.12	7.58	8.10		# of strides	12.78	12.31	13.81	15.68	25.09	29.49	4.40
	velocity	7.09	8.73	8.36	7.90	7.47	7.02	6.60	6.17	7.33		7.82	8.12	7.24	6.38	7.97	6.78	

Gröbli, Michelle (SUI) (2001)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Athletissima (Lausanne, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 22-Aug-24	time	7.01	12.88	19.02	25.46	32.17	39.25	46.62	54.58	54.58	3 / 5							
reaction time 0.164	interval		5.87	6.14	6.44	6.71	7.08	7.37	7.96		# of strides	12.88	12.58	13.79	15.33	25.46	29.12	3.66
	velocity	7.13	8.52	8.14	7.76	7.45	7.06	6.78	6.28	7.33		7.76	7.95	7.25	6.52	7.86	6.87	

Horie, Mayu (JPN) (1983)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)																	*Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix*
date 19-Sep-05	time		13.25		25.91		39.14	46.61	54.59	54.59	9 / 8						
reaction time	interval				12.66		13.23	7.47	7.98	PB	# of strides	13.25	12.66	13.23	15.45	25.91	28.68	2.77
	velocity		7.55		7.90		7.56	6.69	6.27	7.33		7.55	7.90	7.56	6.47	7.72	6.97	

Shimada, Yukina (JPN) (1998)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2016 Japanese National Championships (Nagoya, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 24-Jun-16	time	6.98	12.91	18.95	25.24	31.79	38.94	46.63	54.59	54.59	8 / 2							
reaction time 0.208	interval		5.93	6.04	6.29	6.55	7.15	7.69	7.96	PB	# of strides	12.91	12.33	13.70	15.65	25.24	29.35	4.11
	velocity	7.16	8.43	8.28	7.95	7.63	6.99	6.50	6.28	7.33		7.75	8.11	7.30	6.39	7.92	6.81	

Descoux, Mathilde (FRA) (2003)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)																	*European Athletics (2021) - european athletics U20 championships results book*
date 16-Jul-21	time		12.92		25.61		39.57		54.60	54.60	2 / 6						
reaction time 0.253	interval				12.69		13.96		15.03		# of strides	12.92	12.69	13.96	15.03	25.61	28.99	3.38
	velocity		7.74		7.88		7.16		6.65	7.33		7.74	7.88	7.16	6.65	7.81	6.90	

Kawada, Ayaka (JPN) (1999)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time		12.90		25.77		39.55		54.61	54.61	7 / 1						
reaction time 0.225	interval				12.87		13.78		15.06		# of strides	12.90	12.87	13.78	15.06	25.77	28.84	3.07
	velocity		7.75		7.77		7.26		6.64	7.32	211.0	7.75	7.77	7.26	6.64	7.76	6.93	

Takashima, Saki (JPN) (2002)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2018 National Sports Festival (Fukui, JPN)																	*Joshi (2018) - research on athlete performance and technique- 2018 data book*
date 08-Oct-18	time	7.35	13.78	20.39	27.07	33.78	40.50	47.30	54.61	54.61	6 / 1							
reaction time 0.240	interval		6.43	6.61	6.68	6.71	6.72	6.80	7.31		# of strides	13.78	13.29	13.43	14.11	27.07	27.54	0.47
	velocity	6.80	7.78	7.56	7.49	7.45	7.44	7.35	6.84	7.32		7.26	7.52	7.45	7.09	7.39	7.26	

Hirosawa, Mae (JPN) (1997)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*

date	23-Aug-20	time	7.02	13.03	19.25	25.85	32.77	39.86	47.06	54.61	54.61	9 / 4						
reaction time	0.179	interval		6.01	6.22	6.60	6.92	7.09	7.20	7.55		# of strides	13.03	12.82	14.01	14.75	25.85	28.76	2.91
		velocity	7.12	8.32	8.04	7.58	7.23	7.05	6.94	6.62	7.32		7.67	7.80	7.14	6.78	7.74	6.95	

Shiomi, Ayano (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time			26.05		40.03		54.62	54.62	9 / 3							
reaction time 0.192	interval					13.98		14.59		# of strides			13.98	14.59	26.05	28.57	2.52
	velocity			7.68		7.15		6.85	7.32	223.5			7.15	6.85	7.68	7.00	

Kobayashi, Mayu (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 23-Jun-18	time	7.15	13.24	19.57	26.16	32.92	39.86	46.96	54.62	54.62	4 / 6							
reaction time 0.161	interval		6.09	6.33	6.59	6.76	6.94	7.10	7.66	PB	# of strides	13.24	12.92	13.70	14.76	26.16	28.46	2.30
	velocity	6.99	8.21	7.90	7.59	7.40	7.20	7.04	6.53	7.32	203.7	7.55	7.74	7.30	6.78	7.65	7.03	

Zhang Jialin (CHN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 23-Jul-23	time		13.36		26.26		40.01	47.16	54.62	54.62	5 / 3							
reaction time 0.301	interval				12.90		13.75	7.15	7.46		# of strides	13.36	12.90	13.75	14.61	26.26	28.36	2.10
	velocity		7.49		7.75		7.27	6.99	6.70	7.32	197.0	7.49	7.75	7.27	6.84	7.62	7.05	

Sato, Hinako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																	*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*
date 30-Jul-14	time	7.18	13.25	19.25	25.49	32.06	39.08	46.57	54.63	54.63	/ 3							
reaction time	interval		6.07	6.00	6.24	6.57	7.02	7.49	8.06	PB	# of strides	13.25	12.24	13.59	15.55	25.49	29.14	3.65
	velocity	6.96	8.24	8.33	8.01	7.61	7.12	6.68	6.20	7.32		7.55	8.17	7.36	6.43	7.85	6.86	

Saki, Shima (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)																	*Kijima (2019) - research on athlete performance and technique- 2019 data book*
date 18-Oct-19	time	7.57	14.10	20.75	27.48	34.24	41.01	47.81	54.63	54.63	4 / 1							
reaction time 0.241	interval		6.53	6.65	6.73	6.76	6.77	6.80	6.82		# of strides	14.10	13.38	13.53	13.62	27.48	27.15	-0.33
	velocity	6.61	7.66	7.52	7.43	7.40	7.39	7.35	7.33	7.32		7.09	7.47	7.39	7.34	7.28	7.37	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Seiko Golden Grand Prix (Tokyo, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 23-Aug-20	time	7.05	13.03	19.19	25.80	32.64	39.78	47.04	54.63	54.63	8 / 5							
reaction time 0.144	interval		5.98	6.16	6.61	6.84	7.14	7.26	7.59		# of strides	13.03	12.77	13.98	14.85	25.80	28.83	3.03
	velocity	7.09	8.36	8.12	7.56	7.31	7.00	6.89	6.59	7.32		7.67	7.83	7.15	6.73	7.75	6.94	

Ikezaki, Airi (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)																	*Kota (2016) - 69th high school championships: JAF scientific committee - biomechanics data collection*
date 29-Jul-16	time		13.20		25.73		39.68		54.64	54.64	5 / 3							
reaction time 0.221	interval				11.46		12.31		13.81	PB	# of strides	13.20	12.53	13.95	14.97	25.73	28.92	3.19
	velocity		8.24		8.73		8.12		7.24	7.32		7.58	7.98	7.17	6.68	7.77	6.92	

Ikezaki, Airi (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 29-Jul-16	time	7.31	13.21	19.27	25.79	32.61	39.68	47.00	54.64	54.64	5 / 3							
reaction time 0.221	interval		5.90	6.06	6.52	6.82	7.07	7.32	7.64	PB	# of strides	13.21	12.58	13.89	14.96	25.79	28.85	3.06
	velocity	6.84	8.47	8.25	7.67	7.33	7.07	6.83	6.54	7.32		7.57	7.95	7.20	6.68	7.75	6.93	

Nekhubui, Shirley (RSA) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 FBK Games (Hengelo, NED)																	*Omega Timing (2023) - continental tour race analysis*
date 04-Jun-23	time	6.95	12.75	18.88	25.30	31.94	38.90	46.39	54.64	54.64	7 / 8							
reaction time 0.189	interval		5.80	6.13	6.42	6.64	6.96	7.49	8.25		# of strides	12.75	12.55	13.60	15.74	25.30	29.34	4.04
	velocity	7.19	8.62	8.16	7.79	7.53	7.18	6.68	6.06	7.32		7.84	7.97	7.35	6.35	7.91	6.82	

Foudraz, Eleonora (ITA) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)																	*European Athletics (2023) - european athletics U23 championships results book*
date 13-Jul-23	time		13.49		26.75		40.82		54.64	54.64	2 / 7							
reaction time 0.163	interval				13.26		14.07		13.82		# of strides	13.49	13.26	14.07	13.82	26.75	27.89	1.14
	velocity		7.41		7.54		7.11		7.24	7.32		7.41	7.54	7.11	7.24	7.48	7.17	

Inaoka, Mayu (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/05/13/post-441/*
date 11-May-17	time		13.04		25.49		39.23		54.65	54.65	5 / 2							
reaction time	interval				12.45		13.74		15.42	PB	# of strides	13.04	12.45	13.74	15.42	25.49	29.16	3.67
	velocity		7.67		8.03		7.28		6.49	7.32		7.67	8.03	7.28	6.49	7.85	6.86	

Sudo, Mio (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																	*Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*
date 04-Aug-19	time	7.29	13.57	19.98	26.56	33.26	40.21	47.20	54.65	54.65	3 / 3							
reaction time	interval		6.28	6.41	6.58	6.70	6.95	6.99	7.45	PB	# of strides	13.57	12.99	13.65	14.44	26.56	28.09	1.53
	velocity	6.86	7.96	7.80	7.60	7.46	7.19	7.15	6.71	7.32		7.37	7.70	7.33	6.93	7.53	7.12	

Zhou Li (CHN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 23-Jul-23	time		13.21		25.64		39.24	46.73	54.65	54.65	2 / 4							
reaction time 0.260	interval				12.43		13.60	7.49	7.92		# of strides	13.21	12.43	13.60	15.41	25.64	29.01	3.37
	velocity		7.57		8.05		7.35	6.68	6.31	7.32	210.0	7.57	8.05	7.35	6.49	7.80	6.89	

Lei Yuxin (CHN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)																	*Omega Timing (2025) - diamond league race analysis*
date 03-May-25	time	7.12	13.18	19.51	26.08	32.90	39.95	47.17	54.66	54.66	7 / 6							
reaction time 0.181	interval		6.06	6.33	6.57	6.82	7.05	7.22	7.49	PB	# of strides	13.18	12.90	13.87	14.71	26.08	28.58	2.50

		velocity	7.02	8.25	7.90	7.61	7.33	7.09	6.93	6.68	7.32		7.59	7.75	7.21	6.80	7.67	7.00	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Championships (Nagoya, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 25-Jun-16	time	7.16	13.25	19.47	25.96	32.69	39.69	46.96	54.67	54.67	2 / 4							
reaction time 0.210	interval		6.09	6.22	6.49	6.73	7.00	7.27	7.71		# of strides	13.25	12.71	13.73	14.98	25.96	28.71	2.75
	velocity	6.98	8.21	8.04	7.70	7.43	7.14	6.88	6.49	7.32		7.55	7.87	7.28	6.68	7.70	6.97	

Ishizuka, Haruko (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Championships (Nagoya, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 25-Jun-16	time	6.99	12.84	18.82	25.14	31.75	38.84	46.41	54.67	54.67	3 / 4							
reaction time 0.257	interval		5.85	5.98	6.32	6.61	7.09	7.57	8.26		# of strides	12.84	12.30	13.70	15.83	25.14	29.53	4.39
	velocity	7.15	8.55	8.36	7.91	7.56	7.05	6.61	6.05	7.32		7.79	8.13	7.30	6.32	7.96	6.77	

Aoki, Rin (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 10-Oct-16	time	6.97	12.93	19.09	25.78	32.72	39.73	46.97	54.67	54.67	7 / 1							
reaction time 0.175	interval		5.96	6.16	6.69	6.94	7.01	7.24	7.70		# of strides	12.93	12.85	13.95	14.94	25.78	28.89	3.11
	velocity	7.17	8.39	8.12	7.47	7.20	7.13	6.91	6.49	7.32		7.73	7.78	7.17	6.69	7.76	6.92	

Kawada, Ayaka (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)										*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
date 03-May-17	time	7.05	13.08	19.34	25.95	32.71	39.76	47.15	54.67	54.67	/ 1							
reaction time	interval		6.03	6.26	6.61	6.76	7.05	7.39	7.52	PB	# of strides	13.08	12.87	13.81	14.91	25.95	28.72	2.77
	velocity	7.09	8.29	7.99	7.56	7.40	7.09	6.77	6.65	7.32		7.65	7.77	7.24	6.71	7.71	6.96	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2016 Japanese National Championships (Nagoya, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 24-Jun-16	time	7.29	13.47	19.70	26.11	32.77	39.77	47.09	54.68	54.68	3 / 3							
reaction time 0.214	interval		6.18	6.23	6.41	6.66	7.00	7.32	7.59		# of strides	13.47	12.64	13.66	14.91	26.11	28.57	2.46
	velocity	6.86	8.09	8.03	7.80	7.51	7.14	6.83	6.59	7.32		7.42	7.91	7.32	6.71	7.66	7.00	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wayakama, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 04-Oct-15	time	7.20	13.60	20.27	26.98	33.71	40.48	47.41	54.69	54.69	3 / 2							
reaction time	interval		6.40	6.67	6.71	6.73	6.77	6.93	7.28		# of strides	13.60	13.38	13.50	14.21	26.98	27.71	0.73
	velocity	6.94	7.81	7.50	7.45	7.43	7.39	7.22	6.87	7.31		7.35	7.47	7.41	7.04	7.41	7.22	

Shiiya, Kanako (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/07/10/post-978/*							
date 23-Jun-17	time		13.58		26.41		39.95		54.69	54.69	6 / 4							
reaction time	interval				12.83		13.54		14.74		# of strides	13.58	12.83	13.54	14.74	26.41	28.28	1.87
	velocity		7.36		7.79		7.39		6.78	7.31	198.5	7.36	7.79	7.39	6.78	7.57	7.07	

Sato, Mayu (JPN) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 Seiko Super Grand Prix (Yokohama, JPN)										*Masaaki (2006) - time analysis in the 400m at the Seiko Super Grand Prix*							
date 19-Sep-05	time		12.85		25.63		39.25	46.58	54.70	54.70	1 / 9							
reaction time	interval				12.78		13.62	7.33	8.12		# of strides	12.85	12.78	13.62	15.45	25.63	29.07	3.44
	velocity		7.78		7.82		7.34	6.82	6.16	7.31		7.78	7.82	7.34	6.47	7.80	6.88	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 National Sports Festival (Fukui, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 07-Oct-18	time	7.10	13.06	19.29	25.87	32.66	39.66	46.91	54.70	54.70	3 / 4							
reaction time 0.208	interval		5.96	6.23	6.58	6.79	7.00	7.25	7.79		# of strides	13.06	12.81	13.79	15.04	25.87	28.83	2.96
	velocity	7.04	8.39	8.03	7.60	7.36	7.14	6.90	6.42	7.31		7.66	7.81	7.25	6.65	7.73	6.94	

Yoshioka, Rina (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2018 National Sports Festival (Fukui, JPN)										*Joshi (2018) - research on athlete performance and technique- 2018 data book*							
date 08-Oct-18	time	6.96	13.32	19.95	26.71	33.49	40.32	47.27	54.70	54.70	4 / 2							
reaction time 0.183	interval		6.36	6.63	6.76	6.78	6.83	6.95	7.43		# of strides	13.32	13.39	13.61	14.38	26.71	27.99	1.28
	velocity	7.18	7.86	7.54	7.40	7.37	7.32	7.19	6.73	7.31		7.51	7.47	7.35	6.95	7.49	7.15	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2018 Japanese National Championships (Yamaguchi, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 22-Jun-18	time	6.94	12.87	19.07	25.72	32.53	39.56	46.89	54.71	54.71	4 / 3							
reaction time 0.160	interval		5.93	6.20	6.65	6.81	7.03	7.33	7.82		# of strides	12.87	12.85	13.84	15.15	25.72	28.99	3.27
	velocity	7.20	8.43	8.06	7.52	7.34	7.11	6.82	6.39	7.31		7.77	7.78	7.23	6.60	7.78	6.90	

Hatano, Minami (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 21-Oct-16	time	7.07	13.08	19.25	25.59	32.21	39.43	46.85	54.72	54.72	3 / 1							
reaction time	interval		6.01	6.17	6.34	6.62	7.22	7.42	7.87		# of strides	13.08	12.51	13.84	15.29	25.59	29.13	3.54
	velocity	7.07	8.32	8.10	7.89	7.55	6.93	6.74	6.35	7.31		7.65	7.99	7.23	6.54	7.82	6.87	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National Championships (Osaka, JPN)										*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
date 24-Jun-17	time	7.08	13.15	19.37	25.85	32.55	39.65	46.92	54.72	54.72	8 / 4							
reaction time 0.180	interval		6.07	6.22	6.48	6.70	7.10	7.27	7.80		# of strides	13.15	12.70	13.80	15.07	25.85	28.87	3.02
	velocity	7.06	8.24	8.04	7.72	7.46	7.04	6.88	6.41	7.31	207.0	7.60	7.87	7.25	6.64	7.74	6.93	

Williams, Alycia (USA) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2003 USATF National Junior Championship (Palo Alto, CA)										*USATF Women's Sprint Development (2003)*							
date 22-Jun-03	time				25.18		39.07	46.53	54.73	54.73	1 / 9							
reaction time	interval						13.89	7.46	8.20		# of strides			13.89	15.66	25.18	29.55	4.37
	velocity				7.94		7.20	6.70	6.10	7.31				7.20	6.39	7.94	6.77	

Fuji, Mio (JPN)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)										*Kijima (2019) - research on athlete performance and technique- 2019 data book*						
date 18-Oct-19	time	7.16	13.43	19.79	26.46	33.24	40.21	47.34	54.73	54.73	7 / 2							
reaction time 0.172	interval		6.27	6.36	6.67	6.78	6.97	7.13	7.39		# of strides	13.43	13.03	13.75	14.52	26.46	28.27	1.81
	velocity	6.98	7.97	7.86	7.50	7.37	7.17	7.01	6.77	7.31	202.2	7.45	7.67	7.27	6.89	7.56	7.07	

Pinacchio, Lucia (ESP) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)										*European Athletics (2021) - european athletics U20 championships results book*						
date 15-Jul-21	time		13.73		26.56		40.26		54.73	54.73	7 / 5							
reaction time 0.180	interval				12.83		13.70		14.47		# of strides	13.73	12.83	13.70	14.47	26.56	28.17	1.61
	velocity		7.28		7.79		7.30		6.91	7.31		7.28	7.79	7.30	6.91	7.53	7.10	

Trinquant, Romane (FRA) (2006)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Regional FINAL - 2025 Meeting de Paris (Paris, FRA)										*Omega Timing (2025) - diamond league race analysis*						
date 20-Jun-25	time	6.99	12.99	19.29	25.81	32.60	39.66	46.97	54.73	54.73	1 / 6							
reaction time 0.228	interval		6.00	6.30	6.52	6.79	7.06	7.31	7.76		# of strides	12.99	12.82	13.85	15.07	25.81	28.92	3.11
	velocity	7.15	8.33	7.94	7.67	7.36	7.08	6.84	6.44	7.31		7.70	7.80	7.22	6.64	7.75	6.92	

Itkina, Mariya (URS) (1932)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Tokyo, JPN)										*Müller (1965) - die leichtathletik-wettkampfe der XVIII olympiischen sommerspielen Tokio 1964 - 400m lauf*						
date 17-Oct-64	time				24.6				54.6	54.6	5 / 5							
reaction time	interval								30.0		# of strides					24.60	30.00	5.40
	velocity				8.13				6.67	7.33						8.13	6.67	

Aoki, Rin (JPN) (1998)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 29-Jul-15	time	7.21	13.29	19.49	26.00	32.84	39.90	47.05	54.74	54.74	/ 3							
reaction time	interval		6.08	6.20	6.51	6.84	7.06	7.15	7.69	PB	# of strides	13.29	12.71	13.90	14.84	26.00	28.74	2.74
	velocity	6.93	8.22	8.06	7.68	7.31	7.08	6.99	6.50	7.31		7.52	7.87	7.19	6.74	7.69	6.96	

Chiba, Asami (JPN) (1985)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wayakama, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 04-Oct-15	time	7.01	13.24	19.84	26.64	33.45	40.27	47.36	54.74	54.74	7 / 3							
reaction time	interval		6.23	6.60	6.80	6.81	6.82	7.09	7.38		# of strides	13.24	13.40	13.63	14.47	26.64	28.10	1.46
	velocity	7.13	8.03	7.58	7.35	7.34	7.33	7.05	6.78	7.31		7.55	7.46	7.34	6.91	7.51	7.12	

Okumura, Yuri (JPN) (2000)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)										*Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data*						
date 29-Jul-17	time	6.95	12.87	19.12	25.68	32.54	39.68	47.00	54.75	54.75	7 / 2							
reaction time 0.187	interval		5.92	6.25	6.56	6.86	7.14	7.32	7.75		# of strides	12.87	12.81	14.00	15.07	25.68	29.07	3.39
	velocity	7.19	8.45	8.00	7.62	7.29	7.00	6.83	6.45	7.31		7.77	7.81	7.14	6.64	7.79	6.88	

Aoki, Sayaka (JPN) (1986)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date 08-Oct-17	time		12.91		26.06		39.97		54.75	54.75	8 / 2							
reaction time 0.232	interval				13.15		13.91		14.78		# of strides	12.91	13.15	13.91	14.78	26.06	28.69	2.63
	velocity		7.75		7.60		7.19		6.77	7.31	200.5	7.75	7.60	7.19	6.77	7.67	6.97	

Okumura, Yuri (JPN) (2000)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date 08-Oct-17	time		12.93		25.83		39.84		54.75	54.75	6 / 1							
reaction time 0.177	interval				12.90		14.01		14.91		# of strides	12.93	12.90	14.01	14.91	25.83	28.92	3.09
	velocity		7.73		7.75		7.14		6.71	7.31	211.5	7.73	7.75	7.14	6.71	7.74	6.92	

Pajęcka, Lena (POL) (2007)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U20 Championships (Tampere, FIN)										*European Athletics (2025) - 2025 european athletics U20 championships - results book*						
date 08-Aug-25	time	7.18	13.18	19.50	25.95	32.65	39.65	46.91	54.76	54.76	1 / 7							
reaction time 0.150	interval		6.00	6.32	6.45	6.70	7.00	7.26	7.85		# of strides	13.18	12.77	13.70	15.11	25.95	28.81	2.86
	velocity	6.96	8.33	7.91	7.75	7.46	7.14	6.89	6.37	7.30		7.59	7.83	7.30	6.62	7.71	6.94	

Blake, Dominique (USA) (1987)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)										*USATF Women's Sprint Development (2006)*						
date 24-Jun-06	time		12.98	18.92	25.27	31.72	38.74	46.43	54.77	54.77	8 / ~~7~~							
reaction time	interval			5.94	6.35	6.45	7.02	7.69	8.34	DV	# of strides	12.98	12.29	13.47	16.03	25.27	29.50	4.23
	velocity		7.70	8.42	7.87	7.75	7.12	6.50	6.00	7.30		7.70	8.14	7.42	6.24	7.91	6.78	

Takeishi, Konomi (JPN) (1991)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)										*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*						
date 03-May-19	time	6.94	12.84	18.88	25.39	32.30	39.45	46.86	54.77	54.77	/ 7							
reaction time	interval		5.90	6.04	6.51	6.91	7.15	7.41	7.91		# of strides	12.84	12.55	14.06	15.32	25.39	29.38	3.99
	velocity	7.20	8.47	8.28	7.68	7.24	6.99	6.75	6.32	7.30		7.79	7.97	7.11	6.53	7.88	6.81	

Montout, Emilie (FRA) (2006)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2025 European Athletics U20 Championships (Tampere, FIN)										*European Athletics (2025) - 2025 european athletics U20 championships - results book*						
date 08-Aug-25	time	7.11	13.08	19.14	25.56	32.08	38.90	46.26	54.77	54.77	4 / 5							
reaction time 0.181	interval		5.97	6.06	6.42	6.52	6.82	7.36	8.51		# of strides	13.08	12.48	13.34	15.87	25.56	29.21	3.65
	velocity	7.03	8.38	8.25	7.79	7.67	7.33	6.79	5.88	7.30	182.0	7.65	8.01	7.50	6.30	7.82	6.85	

Kharashchuk, Tetyana (UKR) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)										*European Athletics (2021) - european athletics U20 championships results book*						
date 15-Jul-21	time		13.22		25.90		39.84		54.78	54.78	1 / 6							
reaction time 0.146	interval				12.68		13.94		14.94		# of strides	13.22	12.68	13.94	14.94	25.90	28.88	2.98
	velocity		7.56		7.89		7.17		6.69	7.30		7.56	7.89	7.17	6.69	7.72	6.93	

Formella, Aleksandra (POL) (2001)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2023 European Athletics U23 Championships (Espoo, FIN)										*European Athletics (2023) - european athletics U23 championships results book*						

date	13-Jul-23	time		13.53		26.59		40.61		54.78	54.78	3 / 8						
reaction time	0.273	interval				13.06		14.02		14.17		# of strides	13.53	13.06	14.02	14.17	26.59	28.19	1.60
		velocity		7.39		7.66		7.13		7.06	7.30		7.39	7.66	7.13	7.06	7.52	7.09	

Munchow, Marie (FRA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Regional FINAL - 2025 Meeting de Paris (Paris, FRA)																	*Omega Timing (2025) - diamond league race analysis*
date 20-Jun-25	time	7.05	13.04	19.42	26.01	32.89	40.01	47.24	54.78	54.78	3 / 7							
reaction time 0.210	interval		5.99	6.38	6.59	6.88	7.12	7.23	7.54		# of strides	13.04	12.97	14.00	14.77	26.01	28.77	2.76
	velocity	7.09	8.35	7.84	7.59	7.27	7.02	6.92	6.63	7.30		7.67	7.71	7.14	6.77	7.69	6.95	

Mori, Miyu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																	*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*
date 30-Jul-14	time	7.01	13.10	19.35	25.83	32.49	39.71	47.05	54.79	54.79	/ 4							
reaction time	interval		6.09	6.25	6.48	6.66	7.22	7.34	7.74		# of strides	13.10	12.73	13.88	15.08	25.83	28.96	3.13
	velocity	7.13	8.21	8.00	7.72	7.51	6.93	6.81	6.46	7.30		7.63	7.86	7.20	6.63	7.74	6.91	

Ishizuka, Haruko (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 03-May-16	time	6.99	12.88	19.00	25.44	32.17	39.34	46.85	54.79	54.79	/ 2							
reaction time	interval		5.89	6.12	6.44	6.73	7.17	7.51	7.94		# of strides	12.88	12.56	13.90	15.45	25.44	29.35	3.91
	velocity	7.15	8.49	8.17	7.76	7.43	6.97	6.66	6.30	7.30		7.76	7.96	7.19	6.47	7.86	6.81	

Shintaku, Asami (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Denka Athletics Challenge Cup (Niigata, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 06-Jun-21	time	7.15	13.39	19.82	26.56	33.37	40.26	47.27	54.79	54.79	/ 6							
reaction time	interval		6.24	6.43	6.74	6.81	6.89	7.01	7.52		# of strides	13.39	13.17	13.70	14.53	26.56	28.23	1.67
	velocity	6.99	8.01	7.78	7.42	7.34	7.26	7.13	6.65	7.30		7.47	7.59	7.30	6.88	7.53	7.08	

Gaworska, Aleksandra (POL) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																	*Omega Timing (2022) - diamond league race analysis*
date 06-Aug-22	time	7.13	12.98	19.03	25.39	32.04	39.08	46.58	54.79	54.79	3 / 6							
reaction time 0.202	interval		5.85	6.05	6.36	6.65	7.04	7.50	8.21		# of strides	12.98	12.41	13.69	15.71	25.39	29.40	4.01
	velocity	7.01	8.55	8.26	7.86	7.52	7.10	6.67	6.09	7.30		7.70	8.06	7.30	6.37	7.88	6.80	

Seta, Hina (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)																	*Takashima (2023) - national high school sports festival - biomechanics data*
date 02-Aug-23	time		13.90		27.29		40.86		54.79	54.79	4 / 3							
reaction time 0.257	interval				13.39		13.57		13.93		# of strides	13.90	13.39	13.57	13.93	27.29	27.50	0.21
	velocity		7.19		7.47		7.37		7.18	7.30		7.19	7.47	7.37	7.18	7.33	7.27	

Hjelmer, Moa (SWE) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)																	*Omega Timing (2024) - diamond league race analysis*
date 02-Jun-24	time	7.00	12.76	18.80	25.27	32.03	39.12	46.53	54.79	54.79	6 / 7							
reaction time 0.176	interval		5.76	6.04	6.47	6.76	7.09	7.41	8.26		# of strides	12.76	12.51	13.85	15.67	25.27	29.52	4.25
	velocity	7.14	8.68	8.28	7.73	7.40	7.05	6.75	6.05	7.30		7.84	7.99	7.22	6.38	7.91	6.78	

Kira, Manami (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Championships (Nagoya, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 25-Jun-16	time	7.08	13.02	19.19	25.64	32.38	39.35	46.76	54.80	54.80	6 / 6							
reaction time 0.221	interval		5.94	6.17	6.45	6.74	6.97	7.41	8.04		# of strides	13.02	12.62	13.71	15.45	25.64	29.16	3.52
	velocity	7.06	8.42	8.10	7.75	7.42	7.17	6.75	6.22	7.30		7.68	7.92	7.29	6.47	7.80	6.86	

Hirosawa, Mae (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 27-Jun-19	time	7.10	13.27	19.69	26.30	33.03	40.04	47.19	54.80	54.80	4 / 3							
reaction time 0.191	interval		6.17	6.42	6.61	6.73	7.01	7.15	7.61		# of strides	13.27	13.03	13.74	14.76	26.30	28.50	2.20
	velocity	7.04	8.10	7.79	7.56	7.43	7.13	6.99	6.57	7.30		7.54	7.67	7.28	6.78	7.60	7.02	

Mutua, Veronica (KEN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2022 Commonwealth Games (Birmingham, GBR)																	*Longines Timing (2022) - commonwealth games race analysis*
date 05-Aug-22	time	7.0	12.8	18.9	25.3	31.9	39.1	46.6	54.80	54.80	3 / 8							
reaction time 0.158	interval		5.80	6.10	6.40	6.60	7.20	7.50	8.20		# of strides	12.80	12.50	13.80	15.70	25.30	29.50	4.20
	velocity	7.14	8.62	8.20	7.81	7.58	6.94	6.67	6.10	7.30	214.0	7.81	8.00	7.25	6.37	7.91	6.78	

Čechová, Kateřina (CZE) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2025 European Athletics U20 Championships (Tampere, FIN)																	*European Athletics (2025) - 2025 european athletics U20 championships - results book*
date 08-Aug-25	time	7.28	13.29	19.47	25.82	32.46	39.43	46.77	54.80	54.80	1 / 6							
reaction time 0.174	interval		6.01	6.18	6.35	6.64	6.97	7.34	8.03		# of strides	13.29	12.53	13.61	15.37	25.82	28.98	3.16
	velocity	6.87	8.32	8.09	7.87	7.53	7.17	6.81	6.23	7.30		7.52	7.98	7.35	6.51	7.75	6.90	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)																	*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*
date 30-Jul-13	time		13.50		26.47		39.97		54.81	54.81	5 / 5							
reaction time	interval				12.97		13.50		14.84		# of strides	13.50	12.97	13.50	14.84	26.47	28.34	1.87
	velocity		7.41		7.71		7.41		6.74	7.30		7.41	7.71	7.41	6.74	7.56	7.06	

Shimada, Yukina (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 10-Oct-16	time	6.83	12.72	18.85	25.39	32.28	39.48	47.04	54.82	54.82	4 / 2							
reaction time 0.215	interval		5.89	6.13	6.54	6.89	7.20	7.56	7.78		# of strides	12.72	12.67	14.09	15.34	25.39	29.43	4.04
	velocity	7.32	8.49	8.16	7.65	7.26	6.94	6.61	6.43	7.30		7.86	7.89	7.10	6.52	7.88	6.80	

Koyama, Kana (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/01/post-786/*
date 26-May-17	time		13.57		26.58		40.41		54.82	54.82	4 / 2							
reaction time	interval				13.01		13.83		14.41	PB	# of strides	13.57	13.01	13.83	14.41	26.58	28.24	1.66

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.37		7.69		7.23		6.94	7.30	199.2	7.37	7.69	7.23	6.94	7.52	7.08	

Aoki, Rin (JPN) (1998)
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)
Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-17	time	7.02	12.91	19.04	25.50	32.40	39.48	46.89	54.83	54.83	/ 3							
reaction time		interval		5.89	6.13	6.46	6.90	7.08	7.41	7.94		# of strides	12.91	12.59	13.98	15.35	25.50	29.33	3.83
		velocity	7.12	8.49	8.16	7.74	7.25	7.06	6.75	6.30	7.30		7.75	7.94	7.15	6.51	7.84	6.82	

Jensen, Sara Dorthea (NOR) (1996)
National FINAL - 2019 Bislett Games (Olso, NOR)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-19	time		13.6		26.1		39.4		54.83	54.83	7 / 2							
reaction time	0.194	interval				12.5		13.3		15.4		# of strides	13.60	12.50	13.30	15.43	26.10	28.73	2.63
		velocity		7.35		8.00		7.52		6.48	7.30		7.35	8.00	7.52	6.48	7.66	6.96	

Jingbo, Yuki (JPN) (1995)
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)
Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-12	time		13.22		26.01		39.96		54.84	54.84	5 / 2							
reaction time		interval				12.79		13.95		14.88		# of strides	13.22	12.79	13.95	14.88	26.01	28.83	2.82
		velocity		7.56		7.82		7.17		6.72	7.29		7.56	7.82	7.17	6.72	7.69	6.94	

de Witte, Laura (NED) (1995)
FINAL - 2021 Memorial van Damme (Brussels, BEL)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-21	time	6.8	12.5	18.4	24.7	31.3	38.4	46.1	54.84	54.84	2 / 5							
reaction time	0.188	interval		5.70	5.90	6.30	6.60	7.10	7.70	8.74		# of strides	12.50	12.20	13.70	16.44	24.70	30.14	5.44
		velocity	7.35	8.77	8.47	7.94	7.58	7.04	6.49	5.72	7.29		8.00	8.20	7.30	6.08	8.10	6.64	

Lambert, Kylie (BEL) (2004)
B Race - 2023 Memorial van Damme (Brussels, BEL)
Seiko Timing (2023) - world championship race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Sep-23	time	6.91	12.78	19.02	25.46	32.21	39.30	46.77	54.84	54.84	1 / 8							
reaction time	0.178	interval		5.87	6.24	6.44	6.75	7.09	7.47	8.07		# of strides	12.78	12.68	13.84	15.54	25.46	29.38	3.92
		velocity	7.24	8.52	8.01	7.76	7.41	7.05	6.69	6.20	7.29		7.82	7.89	7.23	6.44	7.86	6.81	

Shimada, Yukina (JPN) (1998)
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	7.22	13.42	19.87	26.47	33.29	40.38	47.66	54.85	54.85	/ 1							
reaction time		interval		6.20	6.45	6.60	6.82	7.09	7.28	7.19		# of strides	13.42	13.05	13.91	14.47	26.47	28.38	1.91
		velocity	6.93	8.06	7.75	7.58	7.33	7.05	6.87	6.95	7.29		7.45	7.66	7.19	6.91	7.56	7.05	

Aoki, Rin (JPN) (1998)
FINAL - 2017 Japanese National Championships (Osaka, JPN)
Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time	7.11	13.36	19.65	26.11	32.75	39.82	47.16	54.85	54.85	3 / 5							
reaction time	0.180	interval		6.25	6.29	6.46	6.64	7.07	7.34	7.69		# of strides	13.36	12.75	13.71	15.03	26.11	28.74	2.63
		velocity	7.03	8.00	7.95	7.74	7.53	7.07	6.81	6.50	7.29	218.2	7.49	7.84	7.29	6.65	7.66	6.96	

Zhou Li (CHN) (2003)
FINAL - 2024 Chinese National Championships (Quzhou, CHN)
Shandong Athletics Sport Science (2024)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Sep-24	time		14.18		25.52		39.49	47.01	54.85	54.85	1 / 6							
reaction time	0.188	interval				11.34		13.97	7.52	7.84		# of strides	14.18	11.34	13.97	15.36	25.52	29.33	3.81
		velocity		7.05		8.82		7.16	6.65	6.38	7.29	205.5	7.05	8.82	7.16	6.51	7.84	6.82	

Pirvu, Monica (ROU) (1973)
FINAL - 1997 European Cup (Munich, GER)
Jung (2003) - http://www.fgs.uni-halle.de

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Jun-97	time		13.18		25.93		39.60		54.87	54.87	/ 8							
reaction time		interval				12.75		13.67		15.27		# of strides	13.18	12.75	13.67	15.27	25.93	28.94	3.01
		velocity		7.59		7.84		7.32		6.55	7.29		7.59	7.84	7.32	6.55	7.71	6.91	

Aoki, Rin (JPN) (1998)
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	7.04	12.98	19.24	25.78	32.64	39.79	47.14	54.87	54.87	/ 2							
reaction time		interval		5.94	6.26	6.54	6.86	7.15	7.35	7.73		# of strides	12.98	12.80	14.01	15.08	25.78	29.09	3.31
		velocity	7.10	8.42	7.99	7.65	7.29	6.99	6.80	6.47	7.29		7.70	7.81	7.14	6.63	7.76	6.88	

Aoki, Sayaka (JPN) (1986)
Heat 2 - 2016 Japanese National Championships (Nagoya, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-16	time	6.89	12.83	18.95	25.31	31.96	39.01	46.60	54.87	54.87	3 / 4							
reaction time	0.264	interval		5.94	6.12	6.36	6.65	7.05	7.59	8.27		# of strides	12.83	12.48	13.70	15.86	25.31	29.56	4.25
		velocity	7.26	8.42	8.17	7.86	7.52	7.09	6.59	6.05	7.29		7.79	8.01	7.30	6.31	7.90	6.77	

Aono, Akari (JPN) (2000)
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		13.55		26.70		40.31		54.87	54.87	8 / 2							
reaction time	0.209	interval				13.15		13.61		14.56		# of strides	13.55	13.15	13.61	14.56	26.70	28.17	1.47
		velocity		7.38		7.60		7.35		6.87	7.29	209.5	7.38	7.60	7.35	6.87	7.49	7.10	

Frobe, Linnéa (SWE) (1998)
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-22	time	7.05	12.99	19.15	25.56	32.29	39.21	46.66	54.87	54.87	8 / 6							
reaction time	0.216	interval		5.94	6.16	6.41	6.73	6.92	7.45	8.21		# of strides	12.99	12.57	13.65	15.66	25.56	29.31	3.75
		velocity	7.09	8.42	8.12	7.80	7.43	7.23	6.71	6.09	7.29		7.70	7.96	7.33	6.39	7.82	6.82	

Yuille, Aline (SUI) (2002)
FINAL - 2024 Athletissima (Lausanne, SUI)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	22-Aug-24	time	7.12	13.03	19.21	25.66	32.29	39.29	46.62	54.87	54.87	7 / 6							
reaction time	0.201	interval		5.91	6.18	6.45	6.63	7.00	7.33	8.25		# of strides	13.03	12.63	13.63	15.58	25.66	29.21	3.55
		velocity	7.02	8.46	8.09	7.75	7.54	7.14	6.82	6.06	7.29		7.67	7.92	7.34	6.42	7.79	6.85	

Shimada, Manayu (JPN) (1993)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)										*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*						
date 03-Aug-11	time		13.33		26.78		39.68		54.88	54.88	6 / 1							
reaction time	interval				13.45		12.90		15.20	PB	# of strides	13.33	13.45	12.90	15.20	26.78	28.10	1.32
	velocity		7.50		7.43		7.75		6.58	7.29		7.50	7.43	7.75	6.58	7.47	7.12	

Anokhina, Milena (RUS) (2004)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)										*European Athletics (2021) - european athletics U20 championships results book*						
date 15-Jul-21	time		13.48		26.11		40.28		54.88	54.88	1 / 5							
reaction time 0.204	interval				12.63		14.17		14.60		# of strides	13.48	12.63	14.17	14.60	26.11	28.77	2.66
	velocity		7.42		7.92		7.06		6.85	7.29		7.42	7.92	7.06	6.85	7.66	6.95	

Shintaku, Asami (JPN) (1994)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
date 09-May-21	time 7.15	13.49	20.00	26.63	33.37	40.18	47.21	54.89	54.89	3 / 5						
reaction time 0.143	interval	6.34	6.51	6.63	6.74	6.81	7.03	7.68		# of strides	13.49	13.14	13.55	14.71	26.63	28.26	1.63
	velocity 6.99	7.89	7.68	7.54	7.42	7.34	7.11	6.51	7.29		7.41	7.61	7.38	6.80	7.51	7.08	

Avilés, Carmen (ESP) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)										*European Athletics (2021) - european athletics U20 championships results book*						
date 15-Jul-21	time		13.68		26.62		40.40		54.89	54.89	2 / 6							
reaction time 0.151	interval				12.94		13.78		14.49		# of strides	13.68	12.94	13.78	14.49	26.62	28.27	1.65
	velocity		7.31		7.73		7.26		6.90	7.29		7.31	7.73	7.26	6.90	7.51	7.07	

Hatakeyama, Konomi (JPN) (2006)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)										*Takashima (2024) - national high school sports festival - biomechanics data*						
date 28-Jul-24	time		13.41		26.51		40.21		54.89	54.89	9 / 1							
reaction time 0.200	interval				13.10		13.70		14.68	PB	# of strides	13.41	13.10	13.70	14.68	26.51	28.38	1.87
	velocity		7.46		7.63		7.30		6.81	7.29		7.46	7.63	7.30	6.81	7.54	7.05	

Kuboyama, Haruna (JPN) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
date 03-May-21	time 6.87	12.73	18.99	25.69	32.58	39.67	47.02	54.90	54.90	4 / 1						
reaction time 0.224	interval	5.86	6.26	6.70	6.89	7.09	7.35	7.88	PB	# of strides	12.73	12.96	13.98	15.23	25.69	29.21	3.52
	velocity 7.28	8.53	7.99	7.46	7.26	7.05	6.80	6.35	7.29	213.0	7.86	7.72	7.15	6.57	7.79	6.85	

Kawada, Ayaka (JPN) (1999)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 29-Jul-16	time 7.11	13.04	19.24	25.69	32.59	39.75	47.17	54.91	54.91	4 / 4						
reaction time 0.189	interval	5.93	6.20	6.45	6.90	7.16	7.42	7.74	PB	# of strides	13.04	12.65	14.06	15.16	25.69	29.22	3.53
	velocity 7.03	8.43	8.06	7.75	7.25	6.98	6.74	6.46	7.28		7.67	7.91	7.11	6.60	7.79	6.84	

Kashiyama, Kaede (JPN) (1994)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 03-May-16	time 7.03	13.16	19.65	26.09	32.68	39.68	47.01	54.91	54.91	/ 3						
reaction time	interval	6.13	6.49	6.44	6.59	7.00	7.33	7.90		# of strides	13.16	12.93	13.59	15.23	26.09	28.82	2.73
	velocity 7.11	8.16	7.70	7.76	7.59	7.14	6.82	6.33	7.28		7.60	7.73	7.36	6.57	7.67	6.94	

Kashiyama, Kaede (JPN) (1994)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/10/05/post-1097/*						
date 24-Sep-17	time		13.22		26.00		39.55		54.91	54.91	7 / 3							
reaction time 0.243	interval				12.78		13.55		15.36		# of strides	13.22	12.78	13.55	15.36	26.00	28.91	2.91
	velocity		7.56		7.82		7.38		6.51	7.28	205.2	7.56	7.82	7.38	6.51	7.69	6.92	

Amundsen, Maren Bakke (NOR) (200

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 Bislett Games (Oslo, NOR)										*Omega Timing (2025) - diamond league race analysis*						
date 12-Jun-25	time 7.13	13.22	19.43	25.87	32.44	39.43	46.75	54.91	54.91	8 / 6						
reaction time 0.255	interval	6.09	6.21	6.44	6.57	6.99	7.32	8.16		# of strides	13.22	12.65	13.56	15.48	25.87	29.04	3.17
	velocity 7.01	8.21	8.05	7.76	7.61	7.15	6.83	6.13	7.28		7.56	7.91	7.37	6.46	7.73	6.89	

Kashiyama, Kaede (JPN) (1994)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
date 20-May-18	time 7.09	13.12	19.44	26.03	32.82	39.94	47.21	54.92	54.92	9 / 7						
reaction time 0.203	interval	6.03	6.32	6.59	6.79	7.12	7.27	7.71		# of strides	13.12	12.91	13.91	14.98	26.03	28.89	2.86
	velocity 7.05	8.29	7.91	7.59	7.36	7.02	6.88	6.49	7.28		7.62	7.75	7.19	6.68	7.68	6.92	

Sudo, Mio (JPN) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
date 25-Jun-21	time 7.18	13.40	19.69	26.31	33.13	40.10	47.30	54.92	54.92	5 / 1						
reaction time 0.182	interval	6.22	6.29	6.62	6.82	6.97	7.20	7.62		# of strides	13.40	12.91	13.79	14.82	26.31	28.61	2.30
	velocity 6.96	8.04	7.95	7.55	7.33	7.17	6.94	6.56	7.28	203.5	7.46	7.75	7.25	6.75	7.60	6.99	

Schoemaker, Liefde (BEL) (2002)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)										*European Athletics (2021) - european athletics U20 championships results book*						
date 15-Jul-21	time		13.64		27.06		41.10		54.92	54.92	7 / 7							
reaction time	interval				13.42		14.04		13.82		# of strides	13.64	13.42	14.04	13.82	27.06	27.86	0.80
	velocity		7.33		7.45		7.12		7.24	7.28		7.33	7.45	7.12	7.24	7.39	7.18	

Elliott, Rosie (NZL) (1997)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 6 - 2022 World Athletics Championships (Eugene, OR)										*Timing by Seiko (2022) - world athletics championships race analysis*						
date 17-Jul-22	time		13.54		26.15		39.75		54.92	54.92	4 / 8							
reaction time 0.147	interval				12.61		13.60		15.17		# of strides	13.54	12.61	13.60	15.17	26.15	28.77	2.62
	velocity		7.39		7.93		7.35		6.59	7.28		7.39	7.93	7.35	6.59	7.65	6.95	

Matsumoto, Nanako (JPN) (1996)

50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						

date	16-Oct-15	time	7.07	13.11	19.39	26.02	32.86	39.96	47.27	54.93	54.93	/ 3						
reaction time		interval		6.04	6.28	6.63	6.84	7.10	7.31	7.66		# of strides	13.11	12.91	13.94	14.97	26.02	28.91	2.89
		velocity	7.07	8.28	7.96	7.54	7.31	7.04	6.84	6.53	7.28		7.63	7.75	7.17	6.68	7.69	6.92	

Fukuda, Shoko (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)																	
date 17-Jun-16 time		13.65		26.55		40.13		54.93	54.93	7 / 1							
reaction time interval				12.90		13.58		14.80		# of strides	13.65	12.90	13.58	14.80	26.55	28.38	1.83
velocity		7.33		7.75		7.36		6.76	7.28		7.33	7.75	7.36	6.76	7.53	7.05	

(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 National Sports Festival (Kitakami, JPN)																	
date 09-Oct-16 time	6.95	13.05	19.37	26.01	32.95	40.05	47.34	54.93	54.93	4 / 2							
reaction time 0.200 interval		6.10	6.32	6.64	6.94	7.10	7.29	7.59		# of strides	13.05	12.96	14.04	14.88	26.01	28.92	2.91
velocity	7.19	8.20	7.91	7.53	7.20	7.04	6.86	6.59	7.28		7.66	7.72	7.12	6.72	7.69	6.92	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Kawada, Ayaka (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																	
date 21-Oct-16 time	7.11	13.09	19.42	26.04	32.85	39.89	47.24	54.93	54.93	4 / 1							
reaction time interval		5.98	6.33	6.62	6.81	7.04	7.35	7.69		# of strides	13.09	12.95	13.85	15.04	26.04	28.89	2.85
velocity	7.03	8.36	7.90	7.55	7.34	7.10	6.80	6.50	7.28		7.64	7.72	7.22	6.65	7.68	6.92	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Segura, Berta (ESP) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 European Athletics U20 Championships (Tallin, EST)																	
date 16-Jul-21 time		13.37		26.06		39.86		54.93	54.93	8 / 7							
reaction time 0.243 interval				12.69		13.80		15.07		# of strides	13.37	12.69	13.80	15.07	26.06	28.87	2.81
velocity		7.48		7.88		7.25		6.64	7.28		7.48	7.88	7.25	6.64	7.67	6.93	

European Athletics (2021) - european athletics U20 championships results book

Takashima, Natsumi (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																	
date 04-Aug-19 time	7.36	13.74	20.13	26.71	33.41	40.26	47.38	54.94	54.94	8 / 4							
reaction time interval		6.38	6.39	6.58	6.70	6.85	7.12	7.56		# of strides	13.74	12.97	13.55	14.68	26.71	28.23	1.52
velocity	6.79	7.84	7.82	7.60	7.46	7.30	7.02	6.61	7.28		7.28	7.71	7.38	6.81	7.49	7.08	

Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection

Saito, Akari (JPN) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)																	
date 28-Jul-24 time		13.78		26.88		40.44		54.95	54.95	5 / 2							
reaction time 0.241 interval				13.10		13.56		14.51		# of strides	13.78	13.10	13.56	14.51	26.88	28.07	1.19
velocity		7.26		7.63		7.37		6.89	7.28		7.26	7.63	7.37	6.89	7.44	7.13	

Takashima (2024) - national high school sports festival - biomechanics data

Nagura, Chiaki (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)																	
date 03-Aug-11 time		13.13		26.18		39.68		54.96	54.96	5 / 2							
reaction time interval				13.05		13.50		15.28	PB	# of strides	13.13	13.05	13.50	15.28	26.18	28.78	2.60
velocity		7.62		7.66		7.41		6.54	7.28		7.62	7.66	7.41	6.54	7.64	6.95	

Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data

Bruhin, Shoelle (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Athletissima (Lausanne, SUI)																	
date 22-Aug-24 time	7.02	12.97	19.22	25.79	32.51	39.56	46.93	54.97	54.97	1 / 7							
reaction time 0.168 interval		5.95	6.25	6.57	6.72	7.05	7.37	8.04		# of strides	12.97	12.82	13.77	15.41	25.79	29.18	3.39
velocity	7.12	8.40	8.00	7.61	7.44	7.09	6.78	6.22	7.28		7.71	7.80	7.26	6.49	7.75	6.85	

Omega Timing (2024) - diamond league race analysis

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National Championships (Osaka, JPN)																	
date 24-Jun-17 time	6.98	12.95	19.00	25.26	31.77	38.73	46.31	54.98	54.98	4 / 6							
reaction time 0.188 interval		5.97	6.05	6.26	6.51	6.96	7.58	8.67		# of strides	12.95	12.31	13.47	16.25	25.26	29.72	4.46
velocity	7.16	8.38	8.26	7.99	7.68	7.18	6.60	5.77	7.28	210.2	7.72	8.12	7.42	6.15	7.92	6.73	

Yamanaka (2017) - male and female 400m analysis in the 2017 season

Ertzgaard, Astri (NOR) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2021 European Athletics U20 Championships (Tallin, EST)																	
date 15-Jul-21 time		13.53		26.66		40.46		54.98	54.98	5 / 8							
reaction time interval				13.13		13.80		14.52		# of strides	13.53	13.13	13.80	14.52	26.66	28.32	1.66
velocity		7.39		7.62		7.25		6.89	7.28		7.39	7.62	7.25	6.89	7.50	7.06	

European Athletics (2021) - european athletics U20 championships results book

Gu Zihan (CHN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																	
date 16-Sep-24 time		14.55		26.18		39.92	47.11	54.98	54.98	3 / 7							
reaction time 0.192 interval				11.63		13.74	7.19	7.87		# of strides	14.55	11.63	13.74	15.06	26.18	28.80	2.62
velocity		6.87		8.60		7.28	6.95	6.35	7.28	203.0	6.87	8.60	7.28	6.64	7.64	6.94	

Shandong Athletics Sport Science (2024)

Khamis, Naima Agnes (QAT) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)																	
date 16-May-25 time	6.88	12.68	18.82	25.35	32.08	39.15	46.58	54.98	54.98	5 / 2							
reaction time 0.170 interval		5.80	6.14	6.53	6.73	7.07	7.43	8.40	PB	# of strides	12.68	12.67	13.80	15.83	25.35	29.63	4.28
velocity	7.27	8.62	8.14	7.66	7.43	7.07	6.73	5.95	7.28		7.89	7.89	7.25	6.32	7.89	6.75	

Omega Timing (2025) - diamond league race analysis

Shiiya, Kanako (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)																	
date 21-Oct-16 time	7.29	13.52	19.95	26.61	33.43	40.39	47.53	54.99	54.99	4 / 2							
reaction time interval		6.23	6.43	6.66	6.82	6.96	7.14	7.46		# of strides	13.52	13.09	13.78	14.60	26.61	28.38	1.77
velocity	6.86	8.03	7.78	7.51	7.33	7.18	7.00	6.70	7.27		7.40	7.64	7.26	6.85	7.52	7.05	

Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

Yoshioka, Rina (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)																	
date 02-Aug-18 time	7.11	13.30	19.84	26.35	32.93	39.83	47.09	54.99	54.99	4 / 2							
reaction time interval		6.19	6.54	6.51	6.58	6.90	7.26	7.90		# of strides	13.30	13.05	13.48	15.16	26.35	28.64	2.29

Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.03	8.08	7.65	7.68	7.60	7.25	6.89	6.33	7.27		7.52	7.66	7.42	6.60	7.59	6.98	

Iwata, Yuna (JPN) (1997)

FINAL - 2014 Japanese National High School Championships (Kofu, JPN) — *Yanagiya (2014) - research on athlete performance and technique- 2014 data book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jul-14	time	7.29	13.53	19.74	26.07	32.72	39.71	47.09	55.00	55.00	/ 5							
reaction time		interval		6.24	6.21	6.33	6.65	6.99	7.38	7.91	PB	# of strides	13.53	12.54	13.64	15.29	26.07	28.93	2.86
		velocity	6.86	8.01	8.05	7.90	7.52	7.15	6.78	6.32	7.27		7.39	7.97	7.33	6.54	7.67	6.91	

Yamada, Miki (JPN) (1999)

U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		13.02		25.53		39.30		55.00	55.00	6 / 2							
reaction time	0.210	interval				12.51		13.77		15.70		# of strides	13.02	12.51	13.77	15.70	25.53	29.47	3.94
		velocity		7.68		7.99		7.26		6.37	7.27	211.5	7.68	7.99	7.26	6.37	7.83	6.79	

Sudo, Mio (JPN) (2002)

FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN) — *Ryutaro (2018) - research on athlete performance and technique- 2018 data book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	7.42	13.86	20.31	26.89	33.67	40.56	47.63	55.00	55.00	4 / 1							
reaction time	0.189	interval		6.44	6.45	6.58	6.78	6.89	7.07	7.37		# of strides	13.86	13.03	13.67	14.44	26.89	28.11	1.22
		velocity	6.74	7.76	7.75	7.60	7.37	7.26	7.07	6.78	7.27		7.22	7.67	7.32	6.93	7.44	7.11	

Kobayashi, Mayu (JPN) (1996)

B FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN) — *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time	7.06	13.16	19.31	25.72	32.48	39.53	47.04	55.00	55.00	/ 1							
reaction time		interval		6.10	6.15	6.41	6.76	7.05	7.51	7.96		# of strides	13.16	12.56	13.81	15.47	25.72	29.28	3.56
		velocity	7.08	8.20	8.13	7.80	7.40	7.09	6.66	6.28	7.27		7.60	7.96	7.24	6.46	7.78	6.83	

Odagaki, Aki (JPN) (1993)

FINAL - 2016 Japanese National Championships (Nagoya, JPN) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-16	time	7.18	13.53	19.95	26.56	33.23	40.13	47.35	55.01	55.01	7 / 7							
reaction time	0.223	interval		6.35	6.42	6.61	6.67	6.90	7.22	7.66		# of strides	13.53	13.03	13.57	14.88	26.56	28.45	1.89
		velocity	6.96	7.87	7.79	7.56	7.50	7.25	6.93	6.53	7.27		7.39	7.67	7.37	6.72	7.53	7.03	

Ishizuka, Haruko (JPN) (1997)

FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Oct-16	time	7.02	13.00	19.15	25.71	32.60	39.73	47.19	55.01	55.01	6 / 3							
reaction time		interval		5.98	6.15	6.56	6.89	7.13	7.46	7.82		# of strides	13.00	12.71	14.02	15.28	25.71	29.30	3.59
		velocity	7.12	8.36	8.13	7.62	7.26	7.01	6.70	6.39	7.27		7.69	7.87	7.13	6.54	7.78	6.83	

Shiomi, Ayano (JPN) (1999)

U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		13.43		26.32		40.21		55.01	55.01	5 / 3							
reaction time	0.193	interval				12.89		13.89		14.80		# of strides	13.43	12.89	13.89	14.80	26.32	28.69	2.37
		velocity		7.45		7.76		7.20		6.76	7.27	222.5	7.45	7.76	7.20	6.76	7.60	6.97	

Inaoka, Mayu (JPN) (1996)

A FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN) — *Kobayashi (2019) - research on athlete performance and technique- 2019 data book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-19	time	7.02	12.88	18.92	25.31	32.06	39.24	46.84	55.01	55.01	/ 8							
reaction time		interval		5.86	6.04	6.39	6.75	7.18	7.60	8.17		# of strides	12.88	12.43	13.93	15.77	25.31	29.70	4.39
		velocity	7.12	8.53	8.28	7.82	7.41	6.96	6.58	6.12	7.27		7.76	8.05	7.18	6.34	7.90	6.73	

Shimada, Yukina (JPN) (1998)

FINAL - 2016 Japanese National Championships (Nagoya, JPN) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	25-Jun-16	time	7.09	13.12	19.35	25.86	32.62	39.69	47.20	55.02	55.02	8 / 8							
reaction time	0.214	interval		6.03	6.23	6.51	6.76	7.07	7.51	7.82		# of strides	13.12	12.74	13.83	15.33	25.86	29.16	3.30
		velocity	7.05	8.29	8.03	7.68	7.40	7.07	6.66	6.39	7.27		7.62	7.85	7.23	6.52	7.73	6.86	

Capota, Maria Denisa (ROU) (2006)

Semi-Final 2 - 2025 European Athletics U20 Championships (Tampere, FIN) — *European Athletics (2025) - 2025 european athletics U20 championships - results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Aug-25	time	7.16	12.99	19.01	25.27	31.95	39.09	46.75	55.02	55.02	8 / 6							
reaction time	0.158	interval		5.83	6.02	6.26	6.68	7.14	7.66	8.27		# of strides	12.99	12.28	13.82	15.93	25.27	29.75	4.48
		velocity	6.98	8.58	8.31	7.99	7.49	7.00	6.53	6.05	7.27	207.7	7.70	8.14	7.24	6.28	7.91	6.72	

Hatano, Minami (JPN) (1998)

Heat 2 - 2017 Japanese National Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/07/10/post-978/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Jun-17	time		13.05		25.33		39.17		55.04	55.04	4 / 5							
reaction time	0.146	interval				12.28		13.84		15.87		# of strides	13.05	12.28	13.84	15.87	25.33	29.71	4.38
		velocity		7.66		8.14		7.23		6.30	7.27	206.0	7.66	8.14	7.23	6.30	7.90	6.73	

Hasegawa, Misato (JPN) (1992)

FINAL - 2010 Japanese National High School Championships (Okinawa, JPN) — *Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-10	time	7.22	13.26	19.52	26.03	32.82	39.71	47.05	55.05	55.05	/ 1							
reaction time		interval		6.04	6.26	6.51	6.79	6.89	7.34	8.00		# of strides	13.26	12.77	13.68	15.34	26.03	29.02	2.99
		velocity	6.93	8.28	7.99	7.68	7.36	7.26	6.81	6.25	7.27		7.54	7.83	7.31	6.52	7.68	6.89	

Aoki, Sayaka (JPN) (1986)

FINAL - 2018 Japanese Corporate Championships (Osaka, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Sep-18	time	7.03	13.13	19.45	26.18	33.16	40.36	47.67	55.06	55.06	7 / 2							
reaction time	0.158	interval		6.10	6.32	6.73	6.98	7.20	7.31	7.39		# of strides	13.13	13.05	14.18	14.70	26.18	28.88	2.70
		velocity	7.11	8.20	7.91	7.43	7.16	6.94	6.84	6.77	7.26		7.62	7.66	7.05	6.80	7.64	6.93	

Almici, Alexandra (ITA) (2002)

FINAL - 2021 European Athletics U20 Championships (Tallin, EST) — *European Athletics (2021) - european athletics U20 championships results book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Jul-21	time		13.04		25.89		39.83		55.06	55.06	1 / 8							
reaction time	0.273	interval				12.85		13.94		15.23		# of strides	13.04	12.85	13.94	15.23	25.89	29.17	3.28
		velocity		7.67		7.78		7.17		6.57	7.26		7.67	7.78	7.17	6.57	7.72	6.86	

Senn, Giulia (SUI) (2001)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)																			*Omega Timing (2021) - diamond league race analysis*
date	26-Aug-21	time	7.2	13.4	20.1	26.7	33.5	40.6	47.6	55.06	55.06	8 / 6							
reaction time	0.154	interval		6.20	6.70	6.60	6.80	7.10	7.00	7.46		# of strides	13.40	13.30	13.90	14.46	26.70	28.36	1.66
		velocity	6.94	8.06	7.46	7.58	7.35	7.04	7.14	6.70	7.26		7.46	7.52	7.19	6.92	7.49	7.05	

de Blaaauw, Britt (NED) (2004)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2024 FBK Games (Hengelo, NED)																			*Omega Timing (2024) - continental tour gold race analysis*
date	07-Jul-24	time	6.90	12.60	18.50	24.56	31.10	38.20	46.08	55.06	55.06	3 / 7							
reaction time	0.177	interval		5.70	5.90	6.06	6.54	7.10	7.88	8.98		# of strides	12.60	11.96	13.64	16.86	24.56	30.50	5.94
		velocity	7.25	8.77	8.47	8.25	7.65	7.04	6.35	5.57	7.26		7.94	8.36	7.33	5.93	8.14	6.56	

Fujisawa, Sayaka (JPN) (1991)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2016 Japanese National Championships (Nagoya, JPN)																			*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date	24-Jun-16	time	7.11	13.05	19.19	25.58	32.18	39.22	46.83	55.07	55.07	6 / 4							
reaction time	0.182	interval		5.94	6.14	6.39	6.60	7.04	7.61	8.24		# of strides	13.05	12.53	13.64	15.85	25.58	29.49	3.91
		velocity	7.03	8.42	8.14	7.82	7.58	7.10	6.57	6.07	7.26		7.66	7.98	7.33	6.31	7.82	6.78	

Shintaku, Asami (JPN) (1994)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)																			*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date	03-May-17	time	7.02	13.06	19.27	25.77	32.36	39.27	46.81	55.07	55.07	/ 2							
reaction time		interval		6.04	6.21	6.50	6.59	6.91	7.54	8.26		# of strides	13.06	12.71	13.50	15.80	25.77	29.30	3.53
		velocity	7.12	8.28	8.05	7.69	7.59	7.24	6.63	6.05	7.26		7.66	7.87	7.41	6.33	7.76	6.83	

Iwata, Yuna (JPN) (1997)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)																			*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date	08-Oct-17	time		12.95		25.67		39.75		55.07	55.07	4 / 1							
reaction time	0.178	interval				12.72		14.08		15.32		# of strides	12.95	12.72	14.08	15.32	25.67	29.40	3.73
		velocity		7.72		7.86		7.10		6.53	7.26	213.0	7.72	7.86	7.10	6.53	7.79	6.80	

Nakano, Nano (JPN) (2001)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																			*Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*
date	04-Aug-19	time	7.36	13.72	20.13	26.70	33.47	40.46	47.55	55.07	55.07	4 / 5							
reaction time		interval		6.36	6.41	6.57	6.77	6.99	7.09	7.52	PB	# of strides	13.72	12.98	13.76	14.61	26.70	28.37	1.67
		velocity	6.79	7.86	7.80	7.61	7.39	7.15	7.05	6.65	7.26		7.29	7.70	7.27	6.84	7.49	7.05	

Ikezaki, Airi (JPN) (1998)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)																			*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date	29-Jul-15	time	7.15	13.04	19.22	25.73	32.59	39.78	47.17	55.08	55.08	/ 4							
reaction time		interval		5.89	6.18	6.51	6.86	7.19	7.39	7.91		# of strides	13.04	12.69	14.05	15.30	25.73	29.35	3.62
		velocity	6.99	8.49	8.09	7.68	7.29	6.95	6.77	6.32	7.26		7.67	7.88	7.12	6.54	7.77	6.81	

Taneru, Asuruhan Marino (JPN) (200			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)																			*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date	25-Jun-21	time	7.19	13.50	19.90	26.60	33.45	40.38	47.50	55.08	55.08	6 / 2							
reaction time	0.281	interval		6.31	6.40	6.70	6.85	6.93	7.12	7.58		# of strides	13.50	13.10	13.78	14.70	26.60	28.48	1.88
		velocity	6.95	7.92	7.81	7.46	7.30	7.22	7.02	6.60	7.26	204.5	7.41	7.63	7.26	6.80	7.52	7.02	

Kirkegaard, Anne Sofie (DEN) (1998)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 Bislett Games (Oslo, NOR)																			*Omega Timing (2025) - diamond league race analysis*
date	12-Jun-25	time	6.87	12.81	19.06	25.60	32.36	39.35	46.75	55.08	55.08	1 / 7							
reaction time	0.164	interval		5.94	6.25	6.54	6.76	6.99	7.40	8.33		# of strides	12.81	12.79	13.75	15.73	25.60	29.48	3.88
		velocity	7.28	8.42	8.00	7.65	7.40	7.15	6.76	6.00	7.26		7.81	7.82	7.27	6.36	7.81	6.78	

Simkins, Krista (USA) (1986)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2005 USATF National Junior Championships (Carson, CA)																			*USATF Women's Sprint Development (2005)*
date	25-Jun-05	time		13.45	19.45		32.38	39.26	46.69	55.09	55.09	3 / ~~9~~ 8							
reaction time		interval			6.00		12.93	6.88	7.43	8.40		# of strides	13.45			15.83			
		velocity		7.43	8.33		7.73	7.27	6.73	5.95	7.26		7.43			6.32			

Tanaka, Chisato (JPN) (1988)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																			*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*
date	24-Sep-06	time	7.3	13.5	19.7	26.1	32.7	39.8	47.3	55.09	55.09	7 / 5							
reaction time		interval		6.20	6.20	6.40	6.60	7.10	7.50	7.79		# of strides	13.50	12.60	13.70	15.29	26.10	28.99	2.89
		velocity	6.85	8.06	8.06	7.81	7.58	7.04	6.67	6.42	7.26		7.41	7.94	7.30	6.54	7.66	6.90	

Matsumoto, Nanako (JPN) (1996)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 National Sports Festival (Kitakami, JPN)																			*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date	09-Oct-16	time	7.20	13.24	19.50	26.13	32.88	39.89	47.18	55.09	55.09	7 / 3							
reaction time	0.210	interval		6.04	6.26	6.63	6.75	7.01	7.29	7.91		# of strides	13.24	12.89	13.76	15.20	26.13	28.96	2.83
		velocity	6.94	8.28	7.99	7.54	7.41	7.13	6.86	6.32	7.26		7.55	7.76	7.27	6.58	7.65	6.91	

Jele, Lydia (BOT) (1990)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2022 Commonwealth Games (Birmingham, GBR)																			*Longines Timing (2022) - commonwealth games race analysis*
date	05-Aug-22	time	6.7	12.4	18.3	24.6	31.3	38.6	46.3	55.09	55.09	2 / 8							
reaction time	0.185	interval		5.70	5.90	6.30	6.70	7.30	7.70	8.79		# of strides	12.40	12.20	14.00	16.49	24.60	30.49	5.89
		velocity	7.46	8.77	8.47	7.94	7.46	6.85	6.49	5.69	7.26	205.0	8.06	8.20	7.14	6.06	8.13	6.56	

Nakajima, Airi (JPN) (1997)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)																			*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date	16-Oct-15	time	7.10	13.01	19.44	26.18	33.05	40.13	47.45	55.10	55.10	/ 4							
reaction time		interval		5.91	6.43	6.74	6.87	7.08	7.32	7.65		# of strides	13.01	13.17	13.95	14.97	26.18	28.92	2.74
		velocity	7.04	8.46	7.78	7.42	7.28	7.06	6.83	6.54	7.26		7.69	7.59	7.17	6.68	7.64	6.92	

Nishida, Ayaka (JPN) (1993)			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wayakama, JPN)																			*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

date	04-Oct-15	time	7.09	13.27	19.85	26.64	33.60	40.53	47.63	55.10	55.10	8 / 4						
reaction time		interval		6.18	6.58	6.79	6.96	6.93	7.10	7.47		# of strides	13.27	13.37	13.89	14.57	26.64	28.46	1.82
		velocity	7.05	8.09	7.60	7.36	7.18	7.22	7.04	6.69	7.26		7.54	7.48	7.20	6.86	7.51	7.03	

Inaoka, Mayu (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 Japanese National Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/07/10/post-978/*
date 23-Jun-17	time		13.09		26.12		40.24		55.10	55.10	8 / 5							
reaction time 0.163	interval				13.03		14.12		14.86		# of strides	13.09	13.03	14.12	14.86	26.12	28.98	2.86
	velocity		7.64		7.67		7.08		6.73	7.26	219.5	7.64	7.67	7.08	6.73	7.66	6.90	

Hatano, Minami (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 10-Oct-16	time	7.08	13.04	19.19	25.67	32.48	39.61	47.06	55.10	55.10	6 / 3							
reaction time 0.204	interval		5.96	6.15	6.48	6.81	7.13	7.45	8.04		# of strides	13.04	12.63	13.94	15.49	25.67	29.43	3.76
	velocity	7.06	8.39	8.13	7.72	7.34	7.01	6.71	6.22	7.26		7.67	7.92	7.17	6.46	7.79	6.80	

Kobayashi, Mayu (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 27-Jun-19	time	7.07	13.11	19.39	25.86	32.52	39.60	47.03	55.10	55.10	4 / 5							
reaction time 0.143	interval		6.04	6.28	6.47	6.66	7.08	7.43	8.07		# of strides	13.11	12.75	13.74	15.50	25.86	29.24	3.38
	velocity	7.07	8.28	7.96	7.73	7.51	7.06	6.73	6.20	7.26		7.63	7.84	7.28	6.45	7.73	6.84	

Graves-Fulgham, Mandela (USA) (198

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 USATF National Junior Championship (Indianapolis, IN)																	*USATF Women's Sprint Development (2006)*
date 24-Jun-06	time		13.06	19.10	23.64	32.11	39.39	46.88	55.11	55.11	2 / ~~8~~ 7							
reaction time	interval			6.04	4.54	8.47	7.28	7.49	8.23		# of strides	13.06	10.58	15.75	15.72	23.64	31.47	7.83
	velocity		7.66	8.28	11.01	5.90	6.87	6.68	6.08	7.26		7.66	9.45	6.35	6.36	8.46	6.36	

Kimoto, Ayana (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																	*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*
date 30-Jul-14	time	7.45	13.59	19.89	26.17	32.79	39.85	47.15	55.11	55.11	/ 6							
reaction time	interval		6.14	6.30	6.28	6.62	7.06	7.30	7.96		# of strides	13.59	12.58	13.68	15.26	26.17	28.94	2.77
	velocity	6.71	8.14	7.94	7.96	7.55	7.08	6.85	6.28	7.26		7.36	7.95	7.31	6.55	7.64	6.91	

Achy, Shiori (JPN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																	*Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*
date 04-Aug-19	time	7.32	13.46	19.80	26.33	33.13	40.13	47.40	55.11	55.11	6 / 6							
reaction time	interval		6.14	6.34	6.53	6.80	7.00	7.27	7.71	PB	# of strides	13.46	12.87	13.80	14.98	26.33	28.78	2.45
	velocity	6.83	8.14	7.89	7.66	7.35	7.14	6.88	6.49	7.26		7.43	7.77	7.25	6.68	7.60	6.95	

Liang Nuo (CHN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 23-Jul-23	time		13.18		26.19		39.99	47.26	55.12	55.12	7 / 5							
reaction time 0.282	interval				13.01		13.80	7.27	7.86		# of strides	13.18	13.01	13.80	15.13	26.19	28.93	2.74
	velocity		7.59		7.69		7.25	6.88	6.36	7.26	204.7	7.59	7.69	7.25	6.61	7.64	6.91	

Schoemaker, Liefde (BEL) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational - 2025 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2025) - diamond league race analysis*
date 22-Aug-25	time	7.00	12.84	19.02	25.46	32.37	39.56	47.07	55.12	55.12	2 / 8							
reaction time 0.194	interval		5.84	6.18	6.44	6.91	7.19	7.51	8.05		# of strides	12.84	12.62	14.10	15.56	25.46	29.66	4.20
	velocity	7.14	8.56	8.09	7.76	7.24	6.95	6.66	6.21	7.26		7.79	7.92	7.09	6.43	7.86	6.74	

Kawachi, Sena (JPN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 25-Jun-21	time	7.06	13.22	19.50	26.17	33.01	40.02	47.33	55.13	55.13	7 / 3							
reaction time 0.175	interval		6.16	6.28	6.67	6.84	7.01	7.31	7.80		# of strides	13.22	12.95	13.85	15.11	26.17	28.96	2.79
	velocity	7.08	8.12	7.96	7.50	7.31	7.13	6.84	6.41	7.26	211.2	7.56	7.72	7.22	6.62	7.64	6.91	

Aoki, Sayaka (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wayakama, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 04-Oct-15	time	6.89	13.03	19.62	26.40	33.28	40.28	47.54	55.14	55.14	9 / 5							
reaction time	interval		6.14	6.59	6.78	6.88	7.00	7.26	7.60		# of strides	13.03	13.37	13.88	14.86	26.40	28.74	2.34
	velocity	7.26	8.14	7.59	7.37	7.27	7.14	6.89	6.58	7.25		7.67	7.48	7.20	6.73	7.58	6.96	

Onishi, Manae (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18	time	7.32	13.30	19.45	25.93	32.70	39.74	47.10	55.14	55.14	5 / 2							
reaction time 0.272	interval		5.98	6.15	6.48	6.77	7.04	7.36	8.04		# of strides	13.30	12.63	13.81	15.40	25.93	29.21	3.28
	velocity	6.83	8.36	8.13	7.72	7.39	7.10	6.79	6.22	7.25		7.52	7.92	7.24	6.49	7.71	6.85	

Yoshioka, Nana (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)																	*Kijima (2019) - research on athlete performance and technique- 2019 data book*
date 18-Oct-19	time	7.41	14.02	20.67	27.43	34.24	41.05	47.94	55.14	55.14	3 / 3							
reaction time 0.197	interval		6.61	6.65	6.76	6.81	6.81	6.89	7.20		# of strides	14.02	13.41	13.62	14.09	27.43	27.71	0.28
	velocity	6.75	7.56	7.52	7.40	7.34	7.34	7.26	6.94	7.25		7.13	7.46	7.34	7.10	7.29	7.22	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese National Championships (Niigata, JPN)																	*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*
date 02-Oct-20	time	7.01	12.98	19.29	25.98	32.99	40.17	47.44	55.14	55.14	2 / 7							
reaction time 0.162	interval		5.97	6.31	6.69	7.01	7.18	7.27	7.70		# of strides	12.98	13.00	14.19	14.97	25.98	29.16	3.18
	velocity	7.13	8.38	7.92	7.47	7.13	6.96	6.88	6.49	7.25		7.70	7.69	7.05	6.68	7.70	6.86	

Iida, Keiko (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 25-Jun-21	time	7.44	13.77	20.17	26.82	33.53	40.36	47.48	55.14	55.14	4 / 4							
reaction time 0.217	interval		6.33	6.40	6.65	6.71	6.83	7.12	7.66	PB	# of strides	13.77	13.05	13.54	14.78	26.82	28.32	1.50

		velocity	6.72	7.90	7.81	7.52	7.45	7.32	7.02	6.53	7.25	208.0	7.26	7.66	7.39	6.77	7.46	7.06

Shintaku, Asami (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)																	
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition																	
date 23-Sep-18 time	7.24	13.36	19.55	26.15	32.94	39.93	47.30	55.15	55.15	5 / 3							
reaction time 0.153 interval		6.12	6.19	6.60	6.79	6.99	7.37	7.85		# of strides	13.36	12.79	13.78	15.22	26.15	29.00	2.85
velocity	6.91	8.17	8.08	7.58	7.36	7.15	6.78	6.37	7.25		7.49	7.82	7.26	6.57	7.65	6.90	

Shibata, Chiharu (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)																	
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions																	
date 16-Oct-15 time	7.25	13.41	19.84	26.52	33.21	40.15	47.38	55.18	55.18	/ 5							
reaction time interval		6.16	6.43	6.68	6.69	6.94	7.23	7.80		# of strides	13.41	13.11	13.63	15.03	26.52	28.66	2.14
velocity	6.90	8.12	7.78	7.49	7.47	7.20	6.92	6.41	7.25		7.46	7.63	7.34	6.65	7.54	6.98	

Katayama, Shiori (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	
(2017) - tfdata-store.com/2017/10/12/post-1100/																	
date 08-Oct-17 time		13.19		26.01		40.16		55.18	55.18	2 / 4							
reaction time 0.211 interval				12.82		14.15		15.02		# of strides	13.19	12.82	14.15	15.02	26.01	29.17	3.16
velocity		7.58		7.80		7.07		6.66	7.25	195.7	7.58	7.80	7.07	6.66	7.69	6.86	

Aoki, Sayaka (JPN) (1986)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	
Yamanaka (2017) - male and female 400m analysis in the 2017 season																	
date 08-Oct-17 time	6.74	12.77	19.10	25.74	32.58	39.67	47.13	55.19	55.19	7 / 4							
reaction time 0.202 interval		6.03	6.33	6.64	6.84	7.09	7.46	8.06		# of strides	12.77	12.97	13.93	15.52	25.74	29.45	3.71
velocity	7.42	8.29	7.90	7.53	7.31	7.05	6.70	6.20	7.25	202.2	7.83	7.71	7.18	6.44	7.77	6.79	

Kashiyama, Kaede (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)																	
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition																	
date 23-Sep-18 time	7.08	13.05	19.15	25.66	32.45	39.56	47.01	55.19	55.19	6 / 4							
reaction time interval		5.97	6.10	6.51	6.79	7.11	7.45	8.18		# of strides	13.05	12.61	13.90	15.63	25.66	29.53	3.87
velocity	7.06	8.38	8.20	7.68	7.36	7.03	6.71	6.11	7.25		7.66	7.93	7.19	6.40	7.79	6.77	

Ishizuka, Haruko (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2016 IAAF World Junior Championships (Bydgoszcz, POL)																	
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016																	
date 19-Jul-16 time	6.96	12.94	19.15	25.63	32.37	39.61	47.16	55.20	55.20	3 / 4							
reaction time 0.166 interval		5.98	6.21	6.48	6.74	7.24	7.55	8.04		# of strides	12.94	12.69	13.98	15.59	25.63	29.57	3.94
velocity	7.18	8.36	8.05	7.72	7.42	6.91	6.62	6.22	7.25		7.73	7.88	7.15	6.41	7.80	6.76	

Nakao, Yuzuki (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)																	
Kishima (2022) - national high school championships biomechanics data collection																	
date 03-Aug-22 time		13.30		26.13		39.83		55.20	55.20	5 / 2							
reaction time 0.185 interval				12.83		13.70		15.37	PB	# of strides	13.30	12.83	13.70	15.37	26.13	29.07	2.94
velocity		7.52		7.79		7.30		6.51	7.25	203.0	7.52	7.79	7.30	6.51	7.65	6.88	

He Miao (CHN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Chinese National Championships (Quzhou, CHN)																	
Shandong Athletics Sport Science (2024)																	
date 16-Sep-24 time		14.70		26.29		40.16	47.43	55.21	55.21	7 / 8							
reaction time 0.224 interval				11.59		13.87	7.27	7.78		# of strides	14.70	11.59	13.87	15.05	26.29	28.92	2.63
velocity		6.80		8.63		7.21	6.88	6.43	7.25	201.5	6.80	8.63	7.21	6.64	7.61	6.92	

Torihara, Saki (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																	
Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data																	
date 29-Jul-09 time		13.28		26.33		40.33		55.22	55.22	2 / 2							
reaction time interval				13.05		14.00		14.89		# of strides	13.28	13.05	14.00	14.89	26.33	28.89	2.56
velocity		7.53		7.66		7.14		6.72	7.24		7.53	7.66	7.14	6.72	7.60	6.92	

Gautadottir, Marin Stray (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bislett Games (Oslo, NOR)																	
Omega Timing (2023) - diamond league race analysis																	
date 15-Jun-23 time	7.14	13.11	19.47	26.06	32.72	39.80	47.33	55.22	55.22	8 / 4							
reaction time 0.177 interval		5.97	6.36	6.59	6.66	7.08	7.53	7.89	PB	# of strides	13.11	12.95	13.74	15.42	26.06	29.16	3.10
velocity	7.00	8.38	7.86	7.59	7.51	7.06	6.64	6.34	7.24		7.63	7.72	7.28	6.49	7.67	6.86	

Hambidge, Viola (EST) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																	
European Athletics (2023) - 3rd european games, athletics - results book																	
date 20-Jun-23 time		12.80		25.29		39.71		55.22	55.22	4 / 4							
reaction time 0.180 interval				12.49		14.42		15.51	PB	# of strides	12.80	12.49	14.42	15.51	25.29	29.93	4.64
velocity		7.81		8.01		6.93		6.45	7.24		7.81	8.01	6.93	6.45	7.91	6.68	

Sato, Hinako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wayakama, JPN)																	
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions																	
date 04-Oct-15 time	7.17	13.78	20.62	27.33	33.94	40.75	47.81	55.23	55.23	6 / 6							
reaction time interval		6.61	6.84	6.71	6.61	6.81	7.06	7.42		# of strides	13.78	13.55	13.42	14.48	27.33	27.90	0.57
velocity	6.97	7.56	7.31	7.45	7.56	7.34	7.08	6.74	7.24		7.26	7.38	7.45	6.91	7.32	7.17	

Irie, Akiho (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)																	
Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection																	
date 02-Aug-18 time	7.16	13.31	19.69	26.24	33.02	40.08	47.45	55.23	55.23	7 / 3							
reaction time interval		6.15	6.38	6.55	6.78	7.06	7.37	7.78		# of strides	13.31	12.93	13.84	15.15	26.24	28.99	2.75
velocity	6.98	8.13	7.84	7.63	7.37	7.08	6.78	6.43	7.24		7.51	7.73	7.23	6.60	7.62	6.90	

Ashraf, Shahd (QAT) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)																	
Omega Timing (2025) - diamond league race analysis																	
date 16-May-25 time	6.92	13.07	19.45	26.17	32.92	39.98	47.28	55.23	55.23	7 / 3							
reaction time 0.207 interval		6.15	6.38	6.72	6.75	7.06	7.30	7.95		# of strides	13.07	13.10	13.81	15.25	26.17	29.06	2.89
velocity	7.23	8.13	7.84	7.44	7.41	7.08	6.85	6.29	7.24		7.65	7.63	7.24	6.56	7.64	6.88	

Onishi, Aonori (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)										*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*							
date 02-Aug-18 time	7.09	13.02	19.20	25.59	32.15	39.17	46.74	55.24	55.24	6 / 4							
reaction time interval		5.93	6.18	6.39	6.56	7.02	7.57	8.50		# of strides	13.02	12.57	13.58	16.07	25.59	29.65	4.06
velocity	7.05	8.43	8.09	7.82	7.62	7.12	6.61	5.88	7.24		7.68	7.96	7.36	6.22	7.82	6.75	

Knezevic, Sandra (SWE) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Bauhaus Galan (Stockholm, SWE)										*Omega Timing (2020) - diamond league race analysis*							
date 23-Aug-20 time	7.0	12.9	19.2	25.8	32.7	40.0	47.5	55.24	55.24	1 / 8							
reaction time 0.158 interval		5.90	6.30	6.60	6.90	7.30	7.50	7.74		# of strides	12.90	12.90	14.20	15.24	25.80	29.44	3.64
velocity	7.14	8.47	7.94	7.58	7.25	6.85	6.67	6.46	7.24		7.75	7.75	7.04	6.56	7.75	6.79	

Kuwabara, Ayako (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)										*Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data*							
date 29-Jul-17 time	7.13	13.18	19.52	26.23	33.12	40.20	47.44	55.25	55.25	6 / 3							
reaction time 0.170 interval		6.05	6.34	6.71	6.89	7.08	7.24	7.81		# of strides	13.18	13.05	13.97	15.05	26.23	29.02	2.79
velocity	7.01	8.26	7.89	7.45	7.26	7.06	6.91	6.40	7.24		7.59	7.66	7.16	6.64	7.62	6.89	

Shintaku, Asami (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 23-Jun-18 time	7.12	13.34	19.84	26.49	33.25	40.17	47.38	55.25	55.25	9 / 7							
reaction time 0.161 interval		6.22	6.50	6.65	6.76	6.92	7.21	7.87		# of strides	13.34	13.15	13.68	15.08	26.49	28.76	2.27
velocity	7.02	8.04	7.69	7.52	7.40	7.23	6.93	6.35	7.24		7.50	7.60	7.31	6.63	7.55	6.95	

Kudo, Mei (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U20 National Championships (Osaka, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 25-Jun-21 time	7.19	13.35	19.64	26.24	33.15	40.34	47.75	55.25	55.25	2 / 5							
reaction time 0.214 interval		6.16	6.29	6.60	6.91	7.19	7.41	7.50	PB	# of strides	13.35	12.89	14.10	14.91	26.24	29.01	2.77
velocity	6.95	8.12	7.95	7.58	7.24	6.95	6.75	6.67	7.24	204.0	7.49	7.76	7.09	6.71	7.62	6.89	

Ikejima, Shoko (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)										*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*							
date 03-Aug-11 time		13.09		26.17		40.63		55.26	55.26	4 / 3							
reaction time interval				13.08		14.46		14.63	PB	# of strides	13.09	13.08	14.46	14.63	26.17	29.09	2.92
velocity		7.64		7.65		6.92		6.84	7.24		7.64	7.65	6.92	6.84	7.64	6.88	

Shibata, Chiharu (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/05/13/post-441/*							
date 11-May-17 time		13.69		26.65		40.11		55.26	55.26	6 / 3							
reaction time interval				12.96		13.46		15.15		# of strides	13.69	12.96	13.46	15.15	26.65	28.61	1.96
velocity		7.30		7.72		7.43		6.60	7.24		7.30	7.72	7.43	6.60	7.50	6.99	

Yamauchi, Soyo (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)										*Kishima (2022) - national high school championships biomechanics data collection*							
date 03-Aug-22 time		13.28		26.16		40.01		55.26	55.26	9 / 3							
reaction time 0.224 interval				12.88		13.85		15.25		# of strides	13.28	12.88	13.85	15.25	26.16	29.10	2.94
velocity		7.53		7.76		7.22		6.56	7.24	201.0	7.53	7.76	7.22	6.56	7.65	6.87	

Yuhara, Mizuki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)										*Takashima (2023) - national high school sports festival - biomechanics data*							
date 02-Aug-23 time		13.85		27.21		40.69		55.26	55.26	3 / 4							
reaction time 0.213 interval				13.36		13.48		14.57		# of strides	13.85	13.36	13.48	14.57	27.21	28.05	0.84
velocity		7.22		7.49		7.42		6.86	7.24		7.22	7.49	7.42	6.86	7.35	7.13	

Shintaku, Asami (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 National Sports Festival (Fukui, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 07-Oct-18 time	7.27	13.55	20.20	27.07	33.98	40.91	47.94	55.28	55.28	8 / 5							
reaction time 0.144 interval		6.28	6.65	6.87	6.91	6.93	7.03	7.34		# of strides	13.55	13.52	13.84	14.37	27.07	28.21	1.14
velocity	6.88	7.96	7.52	7.28	7.24	7.22	7.11	6.81	7.24		7.38	7.40	7.23	6.96	7.39	7.09	

Sudo, Mio (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2018 National Sports Festival (Fukui, JPN)										*Joshi (2018) - research on athlete performance and technique- 2018 data book*							
date 08-Oct-18 time	7.25	13.56	20.04	26.67	33.51	40.47	47.59	55.28	55.28	3 / 3							
reaction time 0.167 interval		6.31	6.48	6.63	6.84	6.96	7.12	7.69		# of strides	13.56	13.11	13.80	14.81	26.67	28.61	1.94
velocity	6.90	7.92	7.72	7.54	7.31	7.18	7.02	6.50	7.24		7.37	7.63	7.25	6.75	7.50	6.99	

Kitamura, Chisato (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Japanese National High School Championships (Kumagaya, JPN)										*Abe (2008) - 61st high school championships: JAF scientific committee - biomechanics data*							
date 29-Jul-08 time	7.28	13.55	20.05	26.72	33.53	40.38	47.62	55.30	55.30	/ 1							
reaction time interval		6.27	6.50	6.67	6.81	6.85	7.24	7.68		# of strides	13.55	13.17	13.66	14.92	26.72	28.58	1.86
velocity	6.87	7.97	7.69	7.50	7.34	7.30	6.91	6.51	7.23		7.38	7.59	7.32	6.70	7.49	7.00	

Fukuda, Shoko (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 29-Jul-16 time	7.49	13.74	20.09	26.67	33.40	40.27	47.57	55.30	55.30	3 / 5							
reaction time 0.287 interval		6.25	6.35	6.58	6.73	6.87	7.30	7.73		# of strides	13.74	12.93	13.60	15.03	26.67	28.63	1.96
velocity	6.68	8.00	7.87	7.60	7.43	7.28	6.85	6.47	7.23		7.28	7.73	7.35	6.65	7.50	6.99	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)										*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
date 03-May-17 time	7.18	13.17	19.39	25.87	32.74	39.89	47.30	55.31	55.31	/ 4							
reaction time interval		5.99	6.22	6.48	6.87	7.15	7.41	8.01		# of strides	13.17	12.70	14.02	15.42	25.87	29.44	3.57
velocity	6.96	8.35	8.04	7.72	7.28	6.99	6.75	6.24	7.23		7.59	7.87	7.13	6.49	7.73	6.79	

Perman, Lova (SWE) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)										*European Athletics (2021) - european athletics U20 championships results book*							

date	15-Jul-21	time	13.66	26.78	40.36	55.31	55.31	8 / 7									
reaction time	0.273	interval		13.12	13.58	14.95		# of strides	13.66	13.12	13.58	14.95	26.78	28.53	1.75		
		velocity	7.32	7.62	7.36	6.69	7.23		7.32	7.62	7.36	6.69	7.47	7.01			

Fujii, Natsumi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																	*Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-09	time	13.23		27.02		40.95		55.32	55.32	5 / 3							
reaction time	interval			13.79		13.93		14.37		# of strides	13.23	13.79	13.93	14.37	27.02	28.30	1.28
	velocity	7.56		7.25		7.18		6.96	7.23		7.56	7.25	7.18	6.96	7.40	7.07	

Oshima, Airi (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18	time	7.31	13.35	19.67	26.31	33.12	40.12	47.39	55.33	55.33	2 / 3						
reaction time 0.178	interval		6.04	6.32	6.64	6.81	7.00	7.27	7.94		# of strides	13.35	12.96	13.81	15.21	26.31	29.02	2.71
	velocity	6.84	8.28	7.91	7.53	7.34	7.14	6.88	6.30	7.23		7.49	7.72	7.24	6.57	7.60	6.89	

van der Zwaard, Tilly (NED) (1938)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Tokyo, JPN)																	*Müller (1965) - die leichtathletik-wettkampfe der XVIII olympiischen sommerspielen Tokio 1964 - 400m lauf*
date 17-Oct-64	time			25.8				55.2	55.2	4 / 6							
reaction time	interval							29.4		# of strides					25.80	29.40	3.60
	velocity			7.75				6.80	7.25						7.75	6.80	

Mashita, Manami (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																	*Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-09	time		13.45		26.63		40.68		55.34	55.34	4 / 4						
reaction time	interval				13.18		14.05		14.66		# of strides	13.45	13.18	14.05	14.66	26.63	28.71	2.08
	velocity		7.43		7.59		7.12		6.82	7.23		7.43	7.59	7.12	6.82	7.51	6.97	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 03-May-16	time	7.16	13.27	19.55	26.02	32.75	39.94	47.39	55.34	55.34	/ 4						
reaction time	interval		6.11	6.28	6.47	6.73	7.19	7.45	7.95		# of strides	13.27	12.75	13.92	15.40	26.02	29.32	3.30
	velocity	6.98	8.18	7.96	7.73	7.43	6.95	6.71	6.29	7.23		7.54	7.84	7.18	6.49	7.69	6.82	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 03-May-17	time	6.90	12.85	19.17	25.85	32.86	40.04	47.43	55.34	55.34	/ 5						
reaction time	interval		5.95	6.32	6.68	7.01	7.18	7.39	7.91		# of strides	12.85	13.00	14.19	15.30	25.85	29.49	3.64
	velocity	7.25	8.40	7.91	7.49	7.13	6.96	6.77	6.32	7.23		7.78	7.69	7.05	6.54	7.74	6.78	

Amlie, Sigrid Kongssund (NOR) (200:

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bislett Games (Oslo, NOR)																	*Omega Timing (2023) - diamond league race analysis*
date 15-Jun-23	time	7.37	13.71	20.23	26.74	33.47	40.51	47.70	55.34	55.34	2 / 5						
reaction time 0.186	interval		6.34	6.52	6.51	6.73	7.04	7.19	7.64		# of strides	13.71	13.03	13.77	14.83	26.74	28.60	1.86
	velocity	6.78	7.89	7.67	7.68	7.43	7.10	6.95	6.54	7.23		7.29	7.67	7.26	6.74	7.48	6.99	

Salamin, Noémie (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Athletissima (Lausanne, SUI)																	*Omega Timing (2022) - diamond league race analysis*
date 26-Aug-22	time	7.1	13.1	19.3	25.9	32.8	39.9	47.3	55.35	55.35	8 / 7						
reaction time 0.206	interval		6.00	6.20	6.60	6.90	7.10	7.40	8.05		# of strides	13.10	12.80	14.00	15.45	25.90	29.45	3.55
	velocity	7.04	8.33	8.06	7.58	7.25	7.04	6.76	6.21	7.23		7.63	7.81	7.14	6.47	7.72	6.79	

Nagamachi, Aoi (JPN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)																	*Takashima (2024) - national high school sports festival - biomechanics data*
date 28-Jul-24	time		13.86		26.88		40.77		55.35	55.35	7 / 3						
reaction time 0.291	interval				13.02		13.89		14.58		# of strides	13.86	13.02	13.89	14.58	26.88	28.47	1.59
	velocity		7.22		7.68		7.20		6.86	7.23		7.22	7.68	7.20	6.86	7.44	7.02	

Shi Jingyun (CHN) (2009)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)																	*Omega Timing (2025) - diamond league race analysis*
date 03-May-25	time	7.05	12.89	19.14	25.74	32.58	39.83	47.40	55.35	55.35	9 / 7						
reaction time 0.186	interval		5.84	6.25	6.60	6.84	7.25	7.57	7.95	PB	# of strides	12.89	12.85	14.09	15.52	25.74	29.61	3.87
	velocity	7.09	8.56	8.00	7.58	7.31	6.90	6.61	6.29	7.23		7.76	7.78	7.10	6.44	7.77	6.75	

Naruse, Miki (JPN) (1982)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																	*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*
date 24-Sep-06	time	7.1	13.2	19.3	26.0	32.9	40.2	47.7	55.36	55.36	8 / 6						
reaction time	interval		6.10	6.10	6.70	6.90	7.30	7.50	7.66		# of strides	13.20	12.80	14.20	15.16	26.00	29.36	3.36
	velocity	7.04	8.20	8.20	7.46	7.25	6.85	6.67	6.53	7.23		7.58	7.81	7.04	6.60	7.69	6.81	

Takeishi, Konomi (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Ready Steady Tokyo (Tokyo, JPN)																	*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 09-May-21	time	7.01	13.12	19.47	26.07	32.97	40.15	47.58	55.36	55.36	5 / 6						
reaction time 0.139	interval		6.11	6.35	6.60	6.90	7.18	7.43	7.78		# of strides	13.12	12.95	14.08	15.21	26.07	29.29	3.22
	velocity	7.13	8.18	7.87	7.58	7.25	6.96	6.73	6.43	7.23		7.62	7.72	7.10	6.57	7.67	6.83	

Huang Shiyao (CHN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 23-Jul-23	time		13.70		27.01		40.77	47.86	55.36	55.36	8 / 6						
reaction time 0.226	interval				13.31		13.76	7.09	7.50		# of strides	13.70	13.31	13.76	14.59	27.01	28.35	1.34
	velocity		7.30		7.51		7.27	7.05	6.67	7.23	201.0	7.30	7.51	7.27	6.85	7.40	7.05	

Zbielska, Maja (POL) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 2 - 2025 European Athletics U20 Championships (Tampere, FIN)																	*European Athletics (2025) - 2025 european athletics U20 championships - results book*
date 08-Aug-25	time	7.24	13.24	19.59	26.19	33.00	40.09	47.44	55.36	55.36	2 / 8						
reaction time 0.194	interval		6.00	6.35	6.60	6.81	7.09	7.35	7.92		# of strides	13.24	12.95	13.90	15.27	26.19	29.17	2.98

		velocity	6.91	8.33	7.87	7.58	7.34	7.05	6.80	6.31	7.23	197.0	7.55	7.72	7.19	6.55	7.64	6.86

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 03-May-16 time	7.12	13.21	19.44	25.96	32.79	40.02	47.53	55.37	55.37	/ 5							
reaction time interval		6.09	6.23	6.52	6.83	7.23	7.51	7.84		# of strides	13.21	12.75	14.06	15.35	25.96	29.41	3.45
velocity	7.02	8.21	8.03	7.67	7.32	6.92	6.66	6.38	7.22		7.57	7.84	7.11	6.51	7.70	6.80	

Depuydt, Manon (BEL) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)											*Omega Timing (2021) - diamond league race analysis*						
date 03-Sep-21 time	6.9	12.6	18.7	25.0	31.9	39.2	47.0	55.37	55.37	3 / 6							
reaction time 0.145 interval		5.70	6.10	6.30	6.90	7.30	7.80	8.37		# of strides	12.60	12.40	14.20	16.17	25.00	30.37	5.37
velocity	7.25	8.77	8.20	7.94	7.25	6.85	6.41	5.97	7.22		7.94	8.06	7.04	6.18	8.00	6.59	

Itani, Hina (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)											*Takashima (2023) - national high school sports festival - biomechanics data*						
date 02-Aug-23 time		13.30		26.49		40.59		55.37	55.37	6 / 5							
reaction time 0.241 interval				13.19		14.10		14.78		# of strides	13.30	13.19	14.10	14.78	26.49	28.88	2.39
velocity		7.52		7.58		7.09		6.77	7.22		7.52	7.58	7.09	6.77	7.55	6.93	

Yang Qi (CHN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)											*Shandong Athletics Sport Science (2023)*						
date 23-Jul-23 time		13.33		26.86		40.91	48.04	55.37	55.37	1 / 7							
reaction time 0.231 interval				13.53		14.05	7.13	7.33		# of strides	13.33	13.53	14.05	14.46	26.86	28.51	1.65
velocity		7.50		7.39		7.12	7.01	6.82	7.22	199.0	7.50	7.39	7.12	6.92	7.45	7.02	

Marisio, Bakhita Jamal Saber (QAT) (2

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Jetour Doha Meeting (Doha, QAT)											*Omega Timing (2025) - diamond league race analysis*						
date 16-May-25 time	6.98	12.74	18.89	25.50	32.49	39.78	47.28	55.37	55.37	1 / 8							
reaction time interval		5.76	6.15	6.61	6.99	7.29	7.50	8.09	NJR	# of strides	12.74	12.76	14.28	15.59	25.50	29.87	4.37
velocity	7.16	8.68	8.13	7.56	7.15	6.86	6.67	6.18	7.22		7.85	7.84	7.00	6.41	7.84	6.70	

Savenius, Emmi (FIN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2025 European Athletics U20 Championships (Tampere, FIN)											*European Athletics (2025) - 2025 european athletics U20 championships - results book*						
date 08-Aug-25 time	7.22	13.38	19.65	26.16	32.85	39.85	47.33	55.37	55.37	2 / 7							
reaction time 0.178 interval		6.16	6.27	6.51	6.69	7.00	7.48	8.04		# of strides	13.38	12.78	13.69	15.52	26.16	29.21	3.05
velocity	6.93	8.12	7.97	7.68	7.47	7.14	6.68	6.22	7.22		7.47	7.82	7.30	6.44	7.65	6.85	

Risberg Thoor, Josephine (SWE) (19

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)											*Omega Timing (2022) - diamond league race analysis*						
date 30-Jun-22 time	7.27	13.38	19.56	25.96	32.80	39.76	47.19	55.39	55.39	1 / 7							
reaction time 0.213 interval		6.11	6.18	6.40	6.84	6.96	7.43	8.20		# of strides	13.38	12.58	13.80	15.63	25.96	29.43	3.47
velocity	6.88	8.18	8.09	7.81	7.31	7.18	6.73	6.10	7.22		7.47	7.95	7.25	6.40	7.70	6.80	

White, Brianna (USA) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 USATF Championships (Eugene, OR)											*USATF and Karmarush (2025) - USATF championships results and race analysis*						
date 01-Aug-25 time		12.67		25.52		39.50		55.39	55.39	2 / 8							
reaction time interval				12.85		13.98		15.89		# of strides	12.67	12.85	13.98	15.89	25.52	29.87	4.35
velocity		7.89		7.78		7.15		6.29	7.22		7.89	7.78	7.15	6.29	7.84	6.70	

Shintaku, Asami (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 National Sports Festival (Wayakama, JPN)											*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 04-Oct-15 time	7.28	13.64	20.27	27.07	33.80	40.60	47.70	55.40	55.40	4 / 7							
reaction time interval		6.36	6.63	6.80	6.73	6.80	7.10	7.70		# of strides	13.64	13.43	13.53	14.80	27.07	28.33	1.26
velocity	6.87	7.86	7.54	7.35	7.43	7.35	7.04	6.49	7.22		7.33	7.45	7.39	6.76	7.39	7.06	

Shingu, Miho (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)											*(2017) - tfdata-store.com/2017/10/05/post-1097/*						
date 24-Sep-17 time		13.34		26.45		40.42		55.40	55.40	4 / 4							
reaction time 0.161 interval				13.11		13.97		14.98		# of strides	13.34	13.11	13.97	14.98	26.45	28.95	2.50
velocity		7.50		7.63		7.16		6.68	7.22	199.7	7.50	7.63	7.16	6.68	7.56	6.91	

Hirosawa, Mae (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2020 Japanese National Championships (Niigata, JPN)											*Yamanaka (2020) - 400m race analysis of men and women during 2020 season*						
date 01-Oct-20 time	6.82	12.74	19.05	25.74	32.71	39.92	47.38	55.40	55.40	6 / 3							
reaction time 0.156 interval		5.92	6.31	6.69	6.97	7.21	7.46	8.02		# of strides	12.74	13.00	14.18	15.48	25.74	29.66	3.92
velocity	7.33	8.45	7.92	7.47	7.17	6.93	6.70	6.23	7.22		7.85	7.69	7.05	6.46	7.77	6.74	

Aoki, Rin (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)											*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 05-Oct-15 time	7.20	13.34	19.70	26.42	33.43	40.60	47.73	55.41	55.41	/ 3							
reaction time interval		6.14	6.36	6.72	7.01	7.17	7.13	7.68		# of strides	13.34	13.08	14.18	14.81	26.42	28.99	2.57
velocity	6.94	8.14	7.86	7.44	7.13	6.97	7.01	6.51	7.22		7.50	7.65	7.05	6.75	7.57	6.90	

Yamamoto, Mizuki (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)											*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*						
date 03-Aug-11 time		13.69		27.20		40.70		55.42	55.42	7 / 4							
reaction time interval				13.51		13.50		14.72	PB	# of strides	13.69	13.51	13.50	14.72	27.20	28.22	1.02
velocity		7.30		7.40		7.41		6.79	7.22		7.30	7.40	7.41	6.79	7.35	7.09	

Kikuchi, Ruina (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)											*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*						
date 30-Jul-13 time		13.48		26.57		40.27		55.42	55.42	3 / 6							
reaction time interval				13.09		13.70		15.15	PB	# of strides	13.48	13.09	13.70	15.15	26.57	28.85	2.28
velocity		7.42		7.64		7.30		6.60	7.22		7.42	7.64	7.30	6.60	7.53	6.93	

Iwata, Yuna (JPN) (1997)
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		13.09		26.02		40.23		55.42	55.42	4 / 1							
reaction time		interval				12.93		14.21		15.19		# of strides	13.09	12.93	14.21	15.19	26.02	29.40	3.38
		velocity		7.64		7.73		7.04		6.58	7.22	212.5	7.64	7.73	7.04	6.58	7.69	6.80	

Yoshioka, Rina (JPN) (2001)
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	7.09	13.41	19.91	26.56	33.26	40.22	47.55	55.42	55.42	6 / 2							
reaction time	0.177	interval		6.32	6.50	6.65	6.70	6.96	7.33	7.87		# of strides	13.41	13.15	13.66	15.20	26.56	28.86	2.30
		velocity	7.05	7.91	7.69	7.52	7.46	7.18	6.82	6.35	7.22		7.46	7.60	7.32	6.58	7.53	6.93	

Kimoto, Ayana (JPN) (1996)
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/05/13/post-441/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-May-17	time		13.59						55.43	55.43	8 / 4							
reaction time		interval								41.84		# of strides	13.59						
		velocity		7.36						7.17	7.22		7.36						

Seta, Haruna (JPN) (2006)
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)
Kishima (2022) - national high school championships biomechanics data collection

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Aug-22	time		13.57		26.40		40.28		55.43	55.43	2 / 4							
reaction time	0.211	interval				12.83		13.88		15.15	PB	# of strides	13.57	12.83	13.88	15.15	26.40	29.03	2.63
		velocity		7.37		7.79		7.20		6.60	7.22	198.2	7.37	7.79	7.20	6.60	7.58	6.89	

Lerf, Seraina (SUI) (2002)
B Race - 2023 Athletissima (Lausanne, SUI)
Omega Timing (2023) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-23	time	7.31	13.53	20.05	26.74	33.42	40.35	47.58	55.43	55.43	1 / 7							
reaction time	0.163	interval		6.22	6.52	6.69	6.68	6.93	7.23	7.85		# of strides	13.53	13.21	13.61	15.08	26.74	28.69	1.95
		velocity	6.84	8.04	7.67	7.47	7.49	7.22	6.92	6.37	7.22		7.39	7.57	7.35	6.63	7.48	6.97	

Mutsuki, Ririka (JPN)
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)
Kobayashi (2020) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	7.04	13.20	19.69	26.46	33.43	40.62	47.99	55.44	55.44	4 / 3							
reaction time	0.171	interval		6.16	6.49	6.77	6.97	7.19	7.37	7.45		# of strides	13.20	13.26	14.16	14.82	26.46	28.98	2.52
		velocity	7.10	8.12	7.70	7.39	7.17	6.95	6.78	6.71	7.22	210.1	7.58	7.54	7.06	6.75	7.56	6.90	

Helander, Klara (SWE) (1995)
FINAL - 2022 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2022) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-22	time	7.26	13.47	19.78	26.34	33.18	40.12	47.52	55.45	55.45	2 / 8							
reaction time	0.150	interval		6.21	6.31	6.56	6.84	6.94	7.40	7.93		# of strides	13.47	12.87	13.78	15.33	26.34	29.11	2.77
		velocity	6.89	8.05	7.92	7.62	7.31	7.20	6.76	6.31	7.21		7.42	7.77	7.26	6.52	7.59	6.87	

Yamada, Miki (JPN) (1999)
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		13.54		26.19		40.32		55.46	55.46	6 / 5							
reaction time	0.274	interval				12.65		14.13		15.14		# of strides	13.54	12.65	14.13	15.14	26.19	29.27	3.08
		velocity		7.39		7.91		7.08		6.61	7.21	204.2	7.39	7.91	7.08	6.61	7.64	6.83	

Aoki, Rin (JPN) (1998)
FINAL - 2018 National Sports Festival (Fukui, JPN)
Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	07-Oct-18	time	6.97	13.01	19.44	26.36	33.50	40.76	48.05	55.46	55.46	1 / 6							
reaction time	0.161	interval		6.04	6.43	6.92	7.14	7.26	7.29	7.41		# of strides	13.01	13.35	14.40	14.70	26.36	29.10	2.74
		velocity	7.17	8.28	7.78	7.23	7.00	6.89	6.86	6.75	7.21		7.69	7.49	6.94	6.80	7.59	6.87	

Shiranaga, Yumiko (JPN) (1994)
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)
Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-12	time		13.34		26.30		40.12		55.47	55.47	7 / 3							
reaction time		interval				12.96		13.82		15.35		# of strides	13.34	12.96	13.82	15.35	26.30	29.17	2.87
		velocity		7.50		7.72		7.24		6.51	7.21		7.50	7.72	7.24	6.51	7.60	6.86	

Kubokura, Satomi (JPN) (1982)
FINAL - 2015 National Sports Festival (Wayakama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	04-Oct-15	time	7.00	13.28	19.99	26.81	33.71	40.67	47.85	55.47	55.47	4 / 7							
reaction time		interval		6.28	6.71	6.82	6.90	6.96	7.18	7.62		# of strides	13.28	13.53	13.86	14.80	26.81	28.66	1.85
		velocity	7.14	7.96	7.45	7.33	7.25	7.18	6.96	6.56	7.21		7.53	7.39	7.22	6.76	7.46	6.98	

Katayama, Shiori (JPN) (1999)
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)
Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-17	time	7.10	13.06	19.47	26.17	33.15	40.44	47.81	55.47	55.47	4 / 4							
reaction time	0.347	interval		5.96	6.41	6.70	6.98	7.29	7.37	7.66		# of strides	13.06	13.11	14.27	15.03	26.17	29.30	3.13
		velocity	7.04	8.39	7.80	7.46	7.16	6.86	6.78	6.53	7.21		7.66	7.63	7.01	6.65	7.64	6.83	

Fukuzato, Akiho (JPN) (1994)
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)
Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-12	time		13.53		26.86		40.55		55.49	55.49	8 / 4							
reaction time		interval				13.33		13.69		14.94		# of strides	13.53	13.33	13.69	14.94	26.86	28.63	1.77
		velocity		7.39		7.50		7.30		6.69	7.21		7.39	7.50	7.30	6.69	7.45	6.99	

Wernli, Lena (SUI) (2001)
B Race - 2021 Athletissima (Lausanne, SUI)
Omega Timing (2021) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-Aug-21	time	7.1	13.0	19.6	26.2	32.9	40.1	47.5	55.49	55.49	2 / 7							
reaction time	0.151	interval		5.90	6.60	6.60	6.70	7.20	7.40	7.99		# of strides	13.00	13.20	13.90	15.39	26.20	29.29	3.09
		velocity	7.04	8.47	7.58	7.58	7.46	6.94	6.76	6.26	7.21		7.69	7.58	7.19	6.50	7.63	6.83	

Gustafsson, Ebba (SWE) (2002)
National FINAL - 2025 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2025) - diamond league race analysis

date	15-Jun-25	time	7.18	13.17	19.53	26.07	32.71	39.84	47.21	55.49	55.49	1 / 7						
reaction time	0.190	interval		5.99	6.36	6.54	6.64	7.13	7.37	8.28		# of strides	13.17	12.90	13.77	15.65	26.07	29.42	3.35
		velocity	6.96	8.35	7.86	7.65	7.53	7.01	6.78	6.04	7.21		7.59	7.75	7.26	6.39	7.67	6.80	

Kawasaki, Natsumi (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)																	*Kijima (2019) - research on athlete performance and technique- 2019 data book*
date 18-Oct-19	time	7.27	13.64	20.15	26.89	33.72	40.71	47.97	55.50	55.50	5 / 4							
reaction time 0.215	interval		6.37	6.51	6.74	6.83	6.99	7.26	7.53		# of strides	13.64	13.25	13.82	14.79	26.89	28.61	1.72
	velocity	6.88	7.85	7.68	7.42	7.32	7.15	6.89	6.64	7.21	205.0	7.33	7.55	7.24	6.76	7.44	6.99	

Kikuchi Himeka (JPN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)																	*Takashima (2024) - national high school sports festival - biomechanics data*
date 28-Jul-24	time		13.70		27.24		41.02		55.50	55.50	6 / 4							
reaction time 0.227	interval				13.54		13.78		14.48		# of strides	13.70	13.54	13.78	14.48	27.24	28.26	1.02
	velocity		7.30		7.39		7.26		6.91	7.21		7.30	7.39	7.26	6.91	7.34	7.08	

Asas, Mitzan (ISR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time		13.31		27.15		41.09		55.51	55.51	2 / 4							
reaction time 0.181	interval				13.84		13.94		14.42	PB	# of strides	13.31	13.84	13.94	14.42	27.15	28.36	1.21
	velocity		7.51		7.23		7.17		6.93	7.21		7.51	7.23	7.17	6.93	7.37	7.05	

Ueyama, Misaki (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 Japanese National High School Championships (Okinawa, JPN)																	*Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-10	time	7.20	13.30	19.57	25.98	32.69	39.84	47.33	55.52	55.52	/ 2							
reaction time	interval		6.10	6.27	6.41	6.71	7.15	7.49	8.19		# of strides	13.30	12.68	13.86	15.68	25.98	29.54	3.56
	velocity	6.94	8.20	7.97	7.80	7.45	6.99	6.68	6.11	7.20		7.52	7.89	7.22	6.38	7.70	6.77	

Odagaki, Aki (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)																	*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*
date 03-Aug-11	time		13.38		26.98		41.28		55.52	55.52	3 / 5							
reaction time	interval				13.60		14.30		14.24		# of strides	13.38	13.60	14.30	14.24	26.98	28.54	1.56
	velocity		7.47		7.35		6.99		7.02	7.20		7.47	7.35	6.99	7.02	7.41	7.01	

Nishida, Ayaka (JPN) (1993)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)																	*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*
date 03-Aug-11	time		13.28		26.65		40.22		55.52	55.52	2 / 6							
reaction time	interval				13.37		13.57		15.30		# of strides	13.28	13.37	13.57	15.30	26.65	28.87	2.22
	velocity		7.53		7.48		7.37		6.54	7.20		7.53	7.48	7.37	6.54	7.50	6.93	

Shibata, Mie (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Oct-16	time	7.14	13.25	19.60	26.25	33.14	40.31	47.83	55.52	55.52	8 / 4							
reaction time	interval		6.11	6.35	6.65	6.89	7.17	7.52	7.69		# of strides	13.25	13.00	14.06	15.21	26.25	29.27	3.02
	velocity	7.00	8.18	7.87	7.52	7.26	6.97	6.65	6.50	7.20		7.55	7.69	7.11	6.57	7.62	6.83	

Uesugi, Haruna (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/05/13/post-441/*
date 11-May-17	time		13.03		25.55		39.66		55.52	55.52	4 / 5							
reaction time	interval				12.52		14.11		15.86		# of strides	13.03	12.52	14.11	15.86	25.55	29.97	4.42
	velocity		7.67		7.99		7.09		6.31	7.20		7.67	7.99	7.09	6.31	7.83	6.67	

Muto, Nana (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																	*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*
date 24-Sep-06	time	6.9	12.9	19.1	25.6	32.4	39.8	47.5	55.53	55.53	3 / 7							
reaction time	interval		6.00	6.20	6.50	6.80	7.40	7.70	8.03		# of strides	12.90	12.70	14.20	15.73	25.60	29.93	4.33
	velocity	7.25	8.33	8.06	7.69	7.35	6.76	6.49	6.23	7.20		7.75	7.87	7.04	6.36	7.81	6.68	

Ertzgaard, Kaitesi (NOR) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2025 Bislett Games (Oslo, NOR)																	*Omega Timing (2025) - diamond league race analysis*
date 12-Jun-25	time	6.97	12.83	19.11	25.59	32.35	39.57	47.24	55.53	55.53	2 / 8							
reaction time 0.165	interval		5.86	6.28	6.48	6.76	7.22	7.67	8.29		# of strides	12.83	12.76	13.98	15.96	25.59	29.94	4.35
	velocity	7.17	8.53	7.96	7.72	7.40	6.93	6.52	6.03	7.20		7.79	7.84	7.15	6.27	7.82	6.68	

Schmidt, Gertrud (GER) (1942)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Tokyo, JPN)																	*Müller (1965) - die leichtathletik-wettkampfe der XVIII olympiischen sommerspielen Tokio 1964 - 400m lauf*
date 17-Oct-64	time				25.8				55.4	55.4	7 / 7							
reaction time	interval								29.6		# of strides					25.80	29.60	3.80
	velocity				7.75				6.76	7.22						7.75	6.76	

Sato, Hinako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/01/post-786/*
date 26-May-17	time		13.50		26.55		40.73		55.54	55.54	2 / 3							
reaction time	interval				13.05		14.18		14.81		# of strides	13.50	13.05	14.18	14.81	26.55	28.99	2.44
	velocity		7.41		7.66		7.05		6.75	7.20	214.7	7.41	7.66	7.05	6.75	7.53	6.90	

Hirosawa, Mae (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/01/post-786/*
date 26-May-17	time		13.75		26.88		41.05		55.54	55.54	3 / 3							
reaction time	interval				13.13		14.17		14.49	PB	# of strides	13.75	13.13	14.17	14.49	26.88	28.66	1.78
	velocity		7.27		7.62		7.06		6.90	7.20	199.5	7.27	7.62	7.06	6.90	7.44	6.98	

Niederberger, Julia (SUI) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B Race - 2021 Athletissima (Lausanne, SUI)																	*Omega Timing (2021) - diamond league race analysis*
date 26-Aug-21	time	7.3	13.4	20.1	27.1	34.0	41.2	48.2	55.54	55.54	1 / 8							
reaction time 0.199	interval		6.10	6.70	7.00	6.90	7.20	7.00	7.34		# of strides	13.40	13.70	14.10	14.34	27.10	28.44	1.34

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	6.85	8.20	7.46	7.14	7.25	6.94	7.14	6.81	7.20		7.46	7.30	7.09	6.97	7.38	7.03	

Mori, Kanon (JPN) (2003)
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)
Shibayama (2021) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-21	time	7.13	13.40	19.99	26.74	33.84	41.00	48.20	55.54	55.54	6 / 3							
reaction time	0.184	interval		6.27	6.59	6.75	7.10	7.16	7.20	7.34		# of strides	13.40	13.34	14.26	14.54	26.74	28.80	2.06
		velocity	7.01	7.97	7.59	7.41	7.04	6.98	6.94	6.81	7.20		7.46	7.50	7.01	6.88	7.48	6.94	

Saito, Ami (JPN) (1999)
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	10-Oct-16	time	6.97	13.03	19.34	26.10	33.01	40.17	47.57	55.55	55.55	9 / 4							
reaction time	0.198	interval		6.06	6.31	6.76	6.91	7.16	7.40	7.98		# of strides	13.03	13.07	14.07	15.38	26.10	29.45	3.35
		velocity	7.17	8.25	7.92	7.40	7.24	6.98	6.76	6.27	7.20		7.67	7.65	7.11	6.50	7.66	6.79	

Koyama, Kana (JPN) (1998)
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/02/post-835/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		13.57		26.61		40.75		55.55	55.55	7 / 1							
reaction time		interval				13.04		14.14		14.80		# of strides	13.57	13.04	14.14	14.80	26.61	28.94	2.33
		velocity		7.37		7.67		7.07		6.76	7.20	197.0	7.37	7.67	7.07	6.76	7.52	6.91	

Risberg Thoor, Josephine (SWE) (19
FINAL - 2024 Bauhaus Galan (Stockholm, SWE)
Omega Timing (2024) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	02-Jun-24	time	7.23	13.32	19.43	25.82	32.53	39.49	47.00	55.55	55.55	1 / 8							
reaction time	0.214	interval		6.09	6.11	6.39	6.71	6.96	7.51	8.55		# of strides	13.32	12.50	13.67	16.06	25.82	29.73	3.91
		velocity	6.92	8.21	8.18	7.82	7.45	7.18	6.66	5.85	7.20		7.51	8.00	7.32	6.23	7.75	6.73	

Matsumoto, Chika (JPN) (1996)
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time				26.70		40.56		55.57	55.57	8 / 2							
reaction time	0.309	interval						13.86		15.01		# of strides			13.86	15.01	26.70	28.87	2.17
		velocity				7.49		7.22		6.66	7.20				7.22	6.66	7.49	6.93	

Takashima, Natsumi (JPN) (2000)
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		13.60		26.48		40.75		55.57	55.57	3 / 6							
reaction time	0.226	interval				12.88		14.27		14.82		# of strides	13.60	12.88	14.27	14.82	26.48	29.09	2.61
		velocity		7.35		7.76		7.01		6.75	7.20	213.7	7.35	7.76	7.01	6.75	7.55	6.88	

Kobachi, Hinata (JPN) (2003)
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)
Shibayama (2021) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-21	time	7.04	13.26	19.72	26.40	33.27	40.38	47.68	55.57	55.57	4 / 4							
reaction time	0.173	interval		6.22	6.46	6.68	6.87	7.11	7.30	7.89		# of strides	13.26	13.14	13.98	15.19	26.40	29.17	2.77
		velocity	7.10	8.04	7.74	7.49	7.28	7.03	6.85	6.34	7.20		7.54	7.61	7.15	6.58	7.58	6.86	

Koyama, Kana (JPN) (1998)
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	16-Oct-15	time	7.27	13.52	20.00	26.74	33.56	40.54	47.76	55.59	55.59	/ 3							
reaction time		interval		6.25	6.48	6.74	6.82	6.98	7.22	7.83		# of strides	13.52	13.22	13.80	15.05	26.74	28.85	2.11
		velocity	6.88	8.00	7.72	7.42	7.33	7.16	6.93	6.39	7.20		7.40	7.56	7.25	6.64	7.48	6.93	

Hosono, Maika (JPN) (1997)
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)
(2017) - tfdata-store.com/2017/06/01/post-786/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		13.89		26.92		40.93		55.59	55.59	5 / 5							
reaction time		interval				13.03		14.01		14.66	PB	# of strides	13.89	13.03	14.01	14.66	26.92	28.67	1.75
		velocity		7.20		7.67		7.14		6.82	7.20	204.5	7.20	7.67	7.14	6.82	7.43	6.98	

Shintaku, Asami (JPN) (1994)
FINAL - 2017 Japanese National Championships (Osaka, JPN)
Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-17	time	7.25	13.56	20.07	26.70	33.41	40.35	47.66	55.59	55.59	9 / 7							
reaction time	0.146	interval		6.31	6.51	6.63	6.71	6.94	7.31	7.93		# of strides	13.56	13.14	13.65	15.24	26.70	28.89	2.19
		velocity	6.90	7.92	7.68	7.54	7.45	7.20	6.84	6.31	7.20	221.0	7.37	7.61	7.33	6.56	7.49	6.92	

Kuwabara, Ayako (JPN) (2000)
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	7.13	13.06	19.14	25.57	32.42	39.62	47.19	55.60	55.60	4 / 4							
reaction time	0.199	interval		5.93	6.08	6.43	6.85	7.20	7.57	8.41		# of strides	13.06	12.51	14.05	15.98	25.57	30.03	4.46
		velocity	7.01	8.43	8.22	7.78	7.30	6.94	6.61	5.95	7.19		7.66	7.99	7.12	6.26	7.82	6.66	

Nakamichi, Ayane (JPN) (1999)
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)
(2017) - tfdata-store.com/2017/10/12/post-1100/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		13.37		26.40		40.63		55.60	55.60	8 / 7							
reaction time	0.208	interval				13.03		14.23		14.97		# of strides	13.37	13.03	14.23	14.97	26.40	29.20	2.80
		velocity		7.48		7.67		7.03		6.68	7.19	203.0	7.48	7.67	7.03	6.68	7.58	6.85	

Ertzgaard, Kaitesi (NOR) (2000)
National FINAL - 2019 Bislett Games (Olso, NOR)
Omega Timing (2019) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-19	time		13.2		25.7		39.7		55.60	55.60	6 / 3							
reaction time	0.178	interval				12.5		14.0		15.9	PB	# of strides	13.20	12.50	14.00	15.90	25.70	29.90	4.20
		velocity		7.58		8.00		7.14		6.29	7.19		7.58	8.00	7.14	6.29	7.78	6.69	

Achy, Shiori (JPN) (2003)
U20 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN)
Kijima (2019) - research on athlete performance and technique- 2019 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	18-Oct-19	time	7.28	13.53	19.90	26.61	33.51	40.59	47.92	55.60	55.60	6 / 5							
reaction time	0.185	interval		6.25	6.37	6.71	6.90	7.08	7.33	7.68		# of strides	13.53	13.08	13.98	15.01	26.61	28.99	2.38
		velocity	6.87	8.00	7.85	7.45	7.25	7.06	6.82	6.51	7.19	208.2	7.39	7.65	7.15	6.66	7.52	6.90	

Wang Jiuxiang (CHN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Chinese National Championships (Quzhou, CHN)																	*Shandong Athletics Sport Science (2023)*
date 23-Jul-23	time	13.29		26.16		40.31	47.73	55.60	55.60	3 / 8							
reaction time 0.253	interval			12.87		14.15	7.42	7.87		# of strides	13.29	12.87	14.15	15.29	26.16	29.44	3.28
	velocity	7.52		7.77		7.07	6.74	6.35	7.19	214.7	7.52	7.77	7.07	6.54	7.65	6.79	

Nagura, Ayaka (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)																	*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*
date 03-Aug-11	time	13.65		26.93		40.70		55.63	55.63	8 / 7							
reaction time	interval			13.28		13.77		14.93		# of strides	13.65	13.28	13.77	14.93	26.93	28.70	1.77
	velocity	7.33		7.53		7.26		6.70	7.19		7.33	7.53	7.26	6.70	7.43	6.97	

Matsumoto, Chika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 08-Oct-17	time	7.23	13.51	20.05	26.81	33.66	40.73	48.01	55.63	55.63	8 / 5						
reaction time 0.214	interval		6.28	6.54	6.76	6.85	7.07	7.28	7.62		# of strides	13.51	13.30	13.92	14.90	26.81	28.82	2.01
	velocity	6.92	7.96	7.65	7.40	7.30	7.07	6.87	6.56	7.19	202.2	7.40	7.52	7.18	6.71	7.46	6.94	

Fujinuma, Akane (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese Corporate Championships (Osaka, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 23-Sep-18	time	7.23	13.32	19.59	26.29	33.24	40.41	47.78	55.63	55.63	8 / 5						
reaction time 0.132	interval		6.09	6.27	6.70	6.95	7.17	7.37	7.85	PB	# of strides	13.32	12.97	14.12	15.22	26.29	29.34	3.05
	velocity	6.92	8.21	7.97	7.46	7.19	6.97	6.78	6.37	7.19		7.51	7.71	7.08	6.57	7.61	6.82	

Matsumoto, Chika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 National Sports Festival (Fukui, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 07-Oct-18	time	7.14	13.54	20.29	27.21	34.19	41.22	48.30	55.63	55.63	7 / 7						
reaction time 0.166	interval		6.40	6.75	6.92	6.98	7.03	7.08	7.33		# of strides	13.54	13.67	14.01	14.41	27.21	28.42	1.21
	velocity	7.00	7.81	7.41	7.23	7.16	7.11	7.06	6.82	7.19		7.39	7.32	7.14	6.94	7.35	7.04	

Lebret, Évelyne (FRA) (1939)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1964 Olympic Games (Tokyo, JPN)																	*Müller (1965) - die leichtathletik-wettkampfe der XVIII olympiischen sommerspielen Tokio 1964 - 400m lauf*
date 17-Oct-64	time			25.3				55.5	55.5	8 / 8							
reaction time	interval							30.2		# of strides					25.30	30.20	4.90
	velocity			7.91				6.62	7.21						7.91	6.62	

Hosyuyama, Shiori (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/05/13/post-441/*
date 11-May-17	time	13.05		25.78		39.78		55.64	55.64	2 / 6							
reaction time	interval			12.73		14.00		15.86		# of strides	13.05	12.73	14.00	15.86	25.78	29.86	4.08
	velocity	7.66		7.86		7.14		6.31	7.19		7.66	7.86	7.14	6.31	7.76	6.70	

Nakamichi, Ayane (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time	13.22		26.18		40.40		55.64	55.64	4 / 3							
reaction time 0.238	interval			12.96		14.22		15.24		# of strides	13.22	12.96	14.22	15.24	26.18	29.46	3.28
	velocity	7.56		7.72		7.03		6.56	7.19	205.5	7.56	7.72	7.03	6.56	7.64	6.79	

Miyachi, Ririka (JPN) (2005)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)																	*Kishima (2022) - national high school championships biomechanics data collection*
date 03-Aug-22	time	13.57		26.75		40.80		55.64	55.64	7 / 5							
reaction time 0.201	interval			13.18		14.05		14.84	PB	# of strides	13.57	13.18	14.05	14.84	26.75	28.89	2.14
	velocity	7.37		7.59		7.12		6.74	7.19	198.7	7.37	7.59	7.12	6.74	7.48	6.92	

Shimada, Yukina (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 29-Jul-16	time	7.09	13.17	19.37	25.79	32.57	39.77	47.52	55.65	55.65	2 / 6						
reaction time 0.204	interval		6.08	6.20	6.42	6.78	7.20	7.75	8.13		# of strides	13.17	12.62	13.98	15.88	25.79	29.86	4.07
	velocity	7.05	8.22	8.06	7.79	7.37	6.94	6.45	6.15	7.19		7.59	7.92	7.15	6.30	7.75	6.70	

Martin, Sophie (SUI) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Athletissima (Lausanne, SUI)																	*Omega Timing (2024) - diamond league race analysis*
date 22-Aug-24	time	6.90	12.78	18.97	25.45	32.23	39.50	47.23	55.66	55.66	2 / 8						
reaction time 0.181	interval		5.88	6.19	6.48	6.78	7.27	7.73	8.43		# of strides	12.78	12.67	14.05	16.16	25.45	30.21	4.76
	velocity	7.25	8.50	8.08	7.72	7.37	6.88	6.47	5.93	7.19		7.82	7.89	7.12	6.19	7.86	6.62	

Matsumoto, Chika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Championships (Yamaguchi, JPN)																	*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*
date 23-Jun-18	time	7.15	13.19	19.68	26.37	33.18	40.20	47.52	55.67	55.67	2 / 8						
reaction time 0.149	interval		6.04	6.49	6.69	6.81	7.02	7.32	8.15		# of strides	13.19	13.18	13.83	15.47	26.37	29.30	2.93
	velocity	6.99	8.28	7.70	7.47	7.34	7.12	6.83	6.13	7.19		7.58	7.59	7.23	6.46	7.58	6.83	

Matsumoto, Fuya (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 29-Jul-15	time	6.98	13.15	19.59	26.19	33.06	40.28	47.71	55.68	55.68	/ 5						
reaction time	interval		6.17	6.44	6.60	6.87	7.22	7.43	7.97		# of strides	13.15	13.04	14.09	15.40	26.19	29.49	3.30
	velocity	7.16	8.10	7.76	7.58	7.28	6.93	6.73	6.27	7.18		7.60	7.67	7.10	6.49	7.64	6.78	

Hosono, Maika (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17	time	13.70		26.60		40.53		55.68	55.68	7 / 2							
reaction time	interval			12.90		13.93		15.15	PB	# of strides	13.70	12.90	13.93	15.15	26.60	29.08	2.48
	velocity	7.30		7.75		7.18		6.60	7.18	205.0	7.30	7.75	7.18	6.60	7.52	6.88	

Matsuoka, Moe (JPN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)																	*Kobayashi (2020) - national high school and U20 national championhsips*

date	23-Oct-20	time	7.30	13.66	20.12	26.72	33.53	40.58	47.95	55.68	55.68	3 / 4						
reaction time	0.205	interval		6.36	6.46	6.60	6.81	7.05	7.37	7.73		# of strides	13.66	13.06	13.86	15.10	26.72	28.96	2.24
		velocity	6.85	7.86	7.74	7.58	7.34	7.09	6.78	6.47	7.18	211.6	7.32	7.66	7.22	6.62	7.49	6.91	

Bisová, Nikola (CZE) (2002)

Semi-Final 1 - 2021 European Athletics U20 Championships (Tallin, EST)

European Athletics (2021) - european athletics U20 championships results book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 15-Jul-21	time		13.75		26.96		40.85		55.68	55.68	2 / 8							
reaction time 0.223	interval				13.21		13.89		14.83		# of strides	13.75	13.21	13.89	14.83	26.96	28.72	1.76
	velocity		7.27		7.57		7.20		6.74	7.18		7.27	7.57	7.20	6.74	7.42	6.96	

Jensen, Christine Bjelland (NOR) (19

National FINAL - 2019 Bislett Games (Olso, NOR)

Omega Timing (2019) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 13-Jun-19	time		13.3		26.1		40.3		55.70	55.70	4 / 4							
reaction time 0.161	interval				12.8		14.2		15.4		# of strides	13.30	12.80	14.20	15.40	26.10	29.60	3.50
	velocity		7.52		7.81		7.04		6.49	7.18		7.52	7.81	7.04	6.49	7.66	6.76	

Hatano, Minami (JPN) (1998)

Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)

(2017) - tfdata-store.com/2017/06/01/post-786/

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 26-May-17	time		13.62		26.82		40.88		55.71	55.71	8 / 6							
reaction time	interval				13.20		14.06		14.83		# of strides	13.62	13.20	14.06	14.83	26.82	28.89	2.07
	velocity		7.34		7.58		7.11		6.74	7.18	218.0	7.34	7.58	7.11	6.74	7.46	6.92	

Shi Jingpei (CHN) (2009)

FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)

Omega Timing (2025) - diamond league race analysis

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 03-May-25	time	6.87	12.71	18.91	25.38	32.27	39.59	47.32	55.71	55.71	3 / 8							
reaction time 0.139	interval		5.84	6.20	6.47	6.89	7.32	7.73	8.39		# of strides	12.71	12.67	14.21	16.12	25.38	30.33	4.95
	velocity	7.28	8.56	8.06	7.73	7.26	6.83	6.47	5.96	7.18		7.87	7.89	7.04	6.20	7.88	6.59	

Brock, Laila (USA) (1978)

FINAL - 1996 USATF National Junior Championships (Delaware, OH)

USATF Women's Sprint Development (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 29-Jun-96	time				25.61		39.48	47.24	55.72	55.72	8 / 7							
reaction time	interval						13.87	7.76	8.48		# of strides			13.87	16.24	25.61	30.11	4.50
	velocity				7.81		7.21	6.44	5.90	7.18				7.21	6.16	7.81	6.64	

Kawakami, Ichigo (JPN) (1999)

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)

Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 29-Jul-17	time	7.00	13.00	19.27	25.85	32.81	40.14	47.66	55.72	55.72	8 / 5							
reaction time 0.209	interval		6.00	6.27	6.58	6.96	7.33	7.52	8.06		# of strides	13.00	12.85	14.29	15.58	25.85	29.87	4.02
	velocity	7.14	8.33	7.97	7.60	7.18	6.82	6.65	6.20	7.18		7.69	7.78	7.00	6.42	7.74	6.70	

Shiomi, Ayano (JPN) (1999)

FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)

Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 29-Jul-17	time	7.28	13.43	19.80	26.59	33.61	40.74	48.06	55.73	55.73	9 / 6							
reaction time 0.252	interval		6.15	6.37	6.79	7.02	7.13	7.32	7.67		# of strides	13.43	13.16	14.15	14.99	26.59	29.14	2.55
	velocity	6.87	8.13	7.85	7.36	7.12	7.01	6.83	6.52	7.18		7.45	7.60	7.07	6.67	7.52	6.86	

Takashima, Natsumi (JPN) (2000)

U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 08-Oct-17	time		13.38		26.41		40.50		55.73	55.73	8 / 4							
reaction time 0.226	interval				13.03		14.09		15.23		# of strides	13.38	13.03	14.09	15.23	26.41	29.32	2.91
	velocity		7.47		7.67		7.10		6.57	7.18	217.7	7.47	7.67	7.10	6.57	7.57	6.82	

Tsugawa, Rui (JPN) (2001)

FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)

Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 04-Aug-19	time	7.47	13.90	20.42	26.97	33.65	40.63	47.91	55.73	55.73	2 / 7							
reaction time	interval		6.43	6.52	6.55	6.68	6.98	7.28	7.82		# of strides	13.90	13.07	13.66	15.10	26.97	28.76	1.79
	velocity	6.69	7.78	7.67	7.63	7.49	7.16	6.87	6.39	7.18		7.19	7.65	7.32	6.62	7.42	6.95	

Dezuka, Chie (JPN)

FINAL - 2013 Japanese National High School Championships (Oita, JPN)

Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 30-Jul-13	time		13.57		26.50		40.03		55.74	55.74	8 / 7							
reaction time	interval				12.93		13.53		15.71		# of strides	13.57	12.93	13.53	15.71	26.50	29.24	2.74
	velocity		7.37		7.73		7.39		6.37	7.18		7.37	7.73	7.39	6.37	7.55	6.84	

Uesugi, Haruna (JPN) (1998)

FINAL - 2015 Japanese National High School Championships (Wakayama, CHN)

Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 29-Jul-15	time	7.12	13.27	19.50	26.12	33.09	40.38	47.88	55.74	55.74	/ 6							
reaction time	interval		6.15	6.23	6.62	6.97	7.29	7.50	7.86		# of strides	13.27	12.85	14.26	15.36	26.12	29.62	3.50
	velocity	7.02	8.13	8.03	7.55	7.17	6.86	6.67	6.36	7.18		7.54	7.78	7.01	6.51	7.66	6.75	

Katayama, Shiori (JPN) (1999)

U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)

(2017) - tfdata-store.com/2017/10/12/post-1100/

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 08-Oct-17	time		13.36		26.63		40.88		55.74	55.74	4 / 4							
reaction time 0.182	interval				13.27		14.25		14.86		# of strides	13.36	13.27	14.25	14.86	26.63	29.11	2.48
	velocity		7.49		7.54		7.02		6.73	7.18	194.2	7.49	7.54	7.02	6.73	7.51	6.87	

Nakano, Nano (JPN) (2001)

FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)

Ryutaro (2018) - research on athlete performance and technique- 2018 data book

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 19-Oct-18	time	7.27	13.63	20.14	26.87	33.67	40.72	48.04	55.74	55.74	7 / 3							
reaction time 0.157	interval		6.36	6.51	6.73	6.80	7.05	7.32	7.70		# of strides	13.63	13.24	13.85	15.02	26.87	28.87	2.00
	velocity	6.88	7.86	7.68	7.43	7.35	7.09	6.83	6.49	7.18		7.34	7.55	7.22	6.66	7.44	6.93	

Shihi, Natsumi (JPN) (1991)

FINAL - 2009 Japanese National High School Championships (Nara, JPN)

Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date 29-Jul-09	time		13.58		27.37		41.62		55.75	55.75	6 / 5							
reaction time	interval				13.79		14.25		14.13		# of strides	13.58	13.79	14.25	14.13	27.37	28.38	1.01

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.36		7.25		7.02		7.08	7.17		7.36	7.25	7.02	7.08	7.31	7.05	

Murakami, Hikaru (JPN) (2002)
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)
Ryutaro (2018) - research on athlete performance and technique- 2018 data book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	7.18	13.56	19.99	26.62	33.42	40.53	47.90	55.75	55.75	3 / 4							
reaction time	0.244	interval		6.38	6.43	6.63	6.80	7.11	7.37	7.85		# of strides	13.56	13.06	13.91	15.22	26.62	29.13	2.51
		velocity	6.96	7.84	7.78	7.54	7.35	7.03	6.78	6.37	7.17		7.37	7.66	7.19	6.57	7.51	6.87	

Asselineau, Chloe (FRA) (2002)
Regional FINAL - 2025 Meeting de Paris (Paris, FRA)
Omega Timing (2025) - diamond league race analysis

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-25	time	6.66	12.48	18.66	25.24	32.22	39.51	47.28	55.75	55.75	2 / 8							
reaction time	0.191	interval		5.82	6.18	6.58	6.98	7.29	7.77	8.47		# of strides	12.48	12.76	14.27	16.24	25.24	30.51	5.27
		velocity	7.51	8.59	8.09	7.60	7.16	6.86	6.44	5.90	7.17		8.01	7.84	7.01	6.16	7.92	6.56	

Iida, Keiko (JPN) (2002)
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)
Kobayashi (2020) - national high school and U20 national championhsips

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	23-Oct-20	time	7.46	13.90	20.45	27.15	34.00	41.05	48.30	55.75	55.75	8 / 5							
reaction time	0.196	interval		6.44	6.55	6.70	6.85	7.05	7.25	7.45		# of strides	13.90	13.25	13.90	14.70	27.15	28.60	1.45
		velocity	6.70	7.76	7.63	7.46	7.30	7.09	6.90	6.71	7.17	210.7	7.19	7.55	7.19	6.80	7.37	6.99	

Yoshimi, Misaki (JPN) (1994)
Race B - 2016 Shizuoka International Meeting (Fukuroi, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-16	time	7.14	13.25	19.65	26.26	33.12	40.26	47.72	55.77	55.77	/ 1							
reaction time		interval		6.11	6.40	6.61	6.86	7.14	7.46	8.05		# of strides	13.25	13.01	14.00	15.51	26.26	29.51	3.25
		velocity	7.00	8.18	7.81	7.56	7.29	7.00	6.70	6.21	7.17		7.55	7.69	7.14	6.45	7.62	6.78	

Kawakami, Ichigo (JPN) (1999)
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Oct-16	time	7.01	13.13	19.42	26.11	33.22	40.42	47.86	55.77	55.77	2 / 2							
reaction time		interval		6.12	6.29	6.69	7.11	7.20	7.44	7.91		# of strides	13.13	12.98	14.31	15.35	26.11	29.66	3.55
		velocity	7.13	8.17	7.95	7.47	7.03	6.94	6.72	6.32	7.17		7.62	7.70	6.99	6.51	7.66	6.74	

Sato, Shizuka (JPN) (1994)
FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Oct-16	time	7.41	13.54	19.95	26.52	33.42	40.52	47.91	55.78	55.78	2 / 4							
reaction time	0.208	interval		6.13	6.41	6.57	6.90	7.10	7.39	7.87		# of strides	13.54	12.98	14.00	15.26	26.52	29.26	2.74
		velocity	6.75	8.16	7.80	7.61	7.25	7.04	6.77	6.35	7.17		7.39	7.70	7.14	6.55	7.54	6.84	

Kondo, Kana (JPN) (1994)
FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Oct-16	time	7.08	13.37	19.79	26.48	33.37	40.49	47.87	55.78	55.78	8 / 4							
reaction time	0.251	interval		6.29	6.42	6.69	6.89	7.12	7.38	7.91		# of strides	13.37	13.11	14.01	15.29	26.48	29.30	2.82
		velocity	7.06	7.95	7.79	7.47	7.26	7.02	6.78	6.32	7.17		7.48	7.63	7.14	6.54	7.55	6.83	

Matsumoto, Fuya (JPN) (1997)
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)
Kohei (2015) - 400m race analysis of male & female at major 2015 competitions

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	05-Oct-15	time	7.19	13.48	20.07	26.88	33.76	40.86	48.14	55.79	55.79	/ 4							
reaction time		interval		6.29	6.59	6.81	6.88	7.10	7.28	7.65		# of strides	13.48	13.40	13.98	14.93	26.88	28.91	2.03
		velocity	6.95	7.95	7.59	7.34	7.27	7.04	6.87	6.54	7.17		7.42	7.46	7.15	6.70	7.44	6.92	

Ishizuka, Haruko (JPN) (1997)
FINAL - 2016 National Sports Festival (Kitakami, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	09-Oct-16	time	7.01	13.10	19.40	26.04	33.03	40.31	47.86	55.79	55.79	3 / 6							
reaction time	0.243	interval		6.09	6.30	6.64	6.99	7.28	7.55	7.93		# of strides	13.10	12.94	14.27	15.48	26.04	29.75	3.71
		velocity	7.13	8.21	7.94	7.53	7.15	6.87	6.62	6.31	7.17		7.63	7.73	7.01	6.46	7.68	6.72	

Tsumagari, Ako (JPN) (1995)
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)
(2017) - tfdata-store.com/2017/05/13/post-441/

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	11-May-17	time		14.15						55.79	55.79	9 / 7							
reaction time		interval								41.64		# of strides	14.15						
		velocity		7.07						7.20	7.17		7.07						

Valiyeva, Lamiya (AZE) (2002)
A FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)
European Athletics (2023) - 3rd european games, athletics - results book

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	20-Jun-23	time		12.97		25.71		40.01		55.79	55.79	7 / 5							
reaction time	0.216	interval				12.74		14.30		15.78		# of strides	12.97	12.74	14.30	15.78	25.71	30.08	4.37
		velocity		7.71		7.85		6.99		6.34	7.17		7.71	7.85	6.99	6.34	7.78	6.65	

Odagaki, Aki (JPN) (1993)
Race B - 2016 Shizuoka International Meeting (Fukuroi, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-May-16	time	7.41	13.88	20.55	27.25	33.90	40.76	48.07	55.80	55.80	/ 2							
reaction time		interval		6.47	6.67	6.70	6.65	6.86	7.31	7.73		# of strides	13.88	13.37	13.51	15.04	27.25	28.55	1.30
		velocity	6.75	7.73	7.50	7.46	7.52	7.29	6.84	6.47	7.17		7.20	7.48	7.40	6.65	7.34	7.01	

Chiba, Asami (JPN) (1985)
Heat 2 - 2016 Japanese National Championships (Nagoya, JPN)
Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	24-Jun-16	time	6.96	12.96	19.11	25.53	32.31	39.48	47.18	55.80	55.80	4 / 7							
reaction time	0.228	interval		6.00	6.15	6.42	6.78	7.17	7.70	8.62		# of strides	12.96	12.57	13.95	16.32	25.53	30.27	4.74
		velocity	7.18	8.33	8.13	7.79	7.37	6.97	6.49	5.80	7.17		7.72	7.96	7.17	6.13	7.83	6.61	

Aoki, Rin (JPN) (1998)
FINAL - 2017 National Sports Festival (Matsuyama, JPN)
Yamanaka (2017) - male and female 400m analysis in the 2017 season

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time	7.12	13.04	19.30	26.00	33.05	40.38	47.91	55.80	55.80	2 / 6							
reaction time	0.159	interval		5.92	6.26	6.70	7.05	7.33	7.53	7.89		# of strides	13.04	12.96	14.38	15.42	26.00	29.80	3.80
		velocity	7.02	8.45	7.99	7.46	7.09	6.82	6.64	6.34	7.17	218.0	7.67	7.72	6.95	6.49	7.69	6.71	

Taniguchi, Rina (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Japanese National High School Championships (Naruto, JPN)											*Kishima (2022) - national high school championships biomechanics data collection*						
date 03-Aug-22 time		13.58		26.76		40.41		55.80	55.80	3 / 6							
reaction time 0.232 interval				13.18		13.65		15.39		# of strides	13.58	13.18	13.65	15.39	26.76	29.04	2.28
velocity		7.36		7.59		7.33		6.50	7.17	207.7	7.36	7.59	7.33	6.50	7.47	6.89	

Eda, Ryo (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National High School Championships (Wakayama, JPN)											*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 29-Jul-15 time	6.91	13.05	19.37	25.99	32.97	40.24	47.81	55.82	55.82	/ 7							
reaction time interval		6.14	6.32	6.62	6.98	7.27	7.57	8.01		# of strides	13.05	12.94	14.25	15.58	25.99	29.83	3.84
velocity	7.24	8.14	7.91	7.55	7.16	6.88	6.61	6.24	7.17		7.66	7.73	7.02	6.42	7.70	6.70	

Nitta, Nozomi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2020 Japanese High School National Championships (Hiroshima, JPN)											*Kobayashi (2020) - national high school and U20 national championhsips*						
date 23-Oct-20 time	7.32	13.64	20.09	26.65	33.43	40.55	47.98	55.82	55.82	7 / 6							
reaction time 0.190 interval		6.32	6.45	6.56	6.78	7.12	7.43	7.84		# of strides	13.64	13.01	13.90	15.27	26.65	29.17	2.52
velocity	6.83	7.91	7.75	7.62	7.37	7.02	6.73	6.38	7.17	204.3	7.33	7.69	7.19	6.55	7.50	6.86	

Nakano, Nano (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)											*Kobayashi (2020) - national high school and U20 national championhsips*						
date 23-Oct-20 time	7.34	13.66	20.14	26.81	33.72	40.90	48.21	55.83	55.83	6 / 1							
reaction time 0.197 interval		6.32	6.48	6.67	6.91	7.18	7.31	7.62		# of strides	13.66	13.15	14.09	14.93	26.81	29.02	2.21
velocity	6.81	7.91	7.72	7.50	7.24	6.96	6.84	6.56	7.16	213.3	7.32	7.60	7.10	6.70	7.46	6.89	

Aoki, Rin (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)											*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date 08-Oct-17 time		13.04		25.85		39.97		55.84	55.84	3 / 3							
reaction time 0.153 interval				12.81		14.12		15.87		# of strides	13.04	12.81	14.12	15.87	25.85	29.99	4.14
velocity		7.67		7.81		7.08		6.30	7.16	218.0	7.67	7.81	7.08	6.30	7.74	6.67	

Nakajima, Airi (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)											*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 05-Oct-15 time	7.11	13.32	19.72	26.49	33.37	40.55	47.99	55.85	55.85	/ 5							
reaction time interval		6.21	6.40	6.77	6.88	7.18	7.44	7.86		# of strides	13.32	13.17	14.06	15.30	26.49	29.36	2.87
velocity	7.03	8.05	7.81	7.39	7.27	6.96	6.72	6.36	7.16		7.51	7.59	7.11	6.54	7.55	6.81	

Ikasaki, Ai (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)											*(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*						
date 17-Jun-16 time		13.38		26.05		40.03		55.85	55.85	6 / 2							
reaction time interval				12.67		13.98		15.82		# of strides	13.38	12.67	13.98	15.82	26.05	29.80	3.75
velocity		7.47		7.89		7.15		6.32	7.16		7.47	7.89	7.15	6.32	7.68	6.71	

Matsuo, Kina (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 21-Oct-16 time	7.35	13.56	19.94	26.71	33.71	40.90	48.13	55.86	55.86	3 / 3							
reaction time interval		6.21	6.38	6.77	7.00	7.19	7.23	7.73		# of strides	13.56	13.15	14.19	14.96	26.71	29.15	2.44
velocity	6.80	8.05	7.84	7.39	7.14	6.95	6.92	6.47	7.16		7.37	7.60	7.05	6.68	7.49	6.86	

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shizuoka International Meeting (Fukuroi, JPN)											*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*						
date 03-May-18 time	7.15	13.20	19.49	25.89	32.58	39.59	47.19	55.86	55.86	6 / 7							
reaction time 0.229 interval		6.05	6.29	6.40	6.69	7.01	7.60	8.67		# of strides	13.20	12.69	13.70	16.27	25.89	29.97	4.08
velocity	6.99	8.26	7.95	7.81	7.47	7.13	6.58	5.77	7.16	211.7	7.58	7.88	7.30	6.15	7.72	6.67	

Shibata, Mie (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)											*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*						
date 16-Oct-15 time	7.09	13.05	19.44	26.20	33.15	40.47	48.06	55.88	55.88	/ 4							
reaction time interval		5.96	6.39	6.76	6.95	7.32	7.59	7.82		# of strides	13.05	13.15	14.27	15.41	26.20	29.68	3.48
velocity	7.05	8.39	7.82	7.40	7.19	6.83	6.59	6.39	7.16		7.66	7.60	7.01	6.49	7.63	6.74	

Shibata, Mie (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)											*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date 29-Jul-16 time	7.04	12.95	19.17	25.81	32.81	40.16	47.86	55.88	55.88	6 / 7							
reaction time 0.181 interval		5.91	6.22	6.64	7.00	7.35	7.70	8.02		# of strides	12.95	12.86	14.35	15.72	25.81	30.07	4.26
velocity	7.10	8.46	8.04	7.53	7.14	6.80	6.49	6.23	7.16		7.72	7.78	6.97	6.36	7.75	6.65	

Salamin, Noémie (SUI) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Athletissima (Lausanne, SUI)											*Omega Timing (2022) - diamond league race analysis*						
date 26-Aug-22 time	6.8	12.8	19.1	25.7	32.6	39.8	47.5	55.88	55.88	1 / 8							
reaction time 0.159 interval		6.00	6.30	6.60	6.90	7.20	7.70	8.38	PB	# of strides	12.80	12.90	14.10	16.08	25.70	30.18	4.48
velocity	7.35	8.33	7.94	7.58	7.25	6.94	6.49	5.97	7.16		7.81	7.75	7.09	6.22	7.78	6.63	

Koyama, Nagisa (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)											*Takashima (2023) - national high school sports festival - biomechanics data*						
date 02-Aug-23 time		13.23		26.59		40.91		55.88	55.88	9 / 6							
reaction time 0.232 interval				13.36		14.32		14.97		# of strides	13.23	13.36	14.32	14.97	26.59	29.29	2.70
velocity		7.56		7.49		6.98		6.68	7.16		7.56	7.49	6.98	6.68	7.52	6.83	

Sugiura, Haruka (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)											*Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data*						
date 29-Jul-12 time		13.33		25.99		40.01		55.90	55.90	2 / 5							
reaction time interval				12.66		14.02		15.89		# of strides	13.33	12.66	14.02	15.89	25.99	29.91	3.92
velocity		7.50		7.90		7.13		6.29	7.16		7.50	7.90	7.13	6.29	7.70	6.69	

Taniguchi, Rina (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)											*Shibayama (2021) - national high school and U20 national championhsips*						

date	28-Jul-21	time	7.16	13.48	20.09	26.83	33.87	40.96	48.19	55.90	55.90	7 / 5						
reaction time	0.184	interval		6.32	6.61	6.74	7.04	7.09	7.23	7.71		# of strides	13.48	13.35	14.13	14.94	26.83	29.07	2.24
		velocity	6.98	7.91	7.56	7.42	7.10	7.05	6.92	6.49	7.16		7.42	7.49	7.08	6.69	7.45	6.88	

Mizuguchi, Sayo (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Japanese National High School Championships (Kumagaya, JPN)										*Abe (2008) - 61st high school championships: JAF scientific committee - biomechanics data*							
date 29-Jul-08	time	7.02	13.10	19.42	25.94	32.96	40.12	47.73	55.91	55.91	/ 2							
reaction time	interval		6.08	6.32	6.52	7.02	7.16	7.61	8.18		# of strides	13.10	12.84	14.18	15.79	25.94	29.97	4.03
	velocity	7.12	8.22	7.91	7.67	7.12	6.98	6.57	6.11	7.15		7.63	7.79	7.05	6.33	7.71	6.67	

Shiiya, Kanako (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 16-Oct-15	time	7.31	13.43	19.89	26.67	33.62	40.82	48.21	55.91	55.91	/ 6							
reaction time	interval		6.12	6.46	6.78	6.95	7.20	7.39	7.70		# of strides	13.43	13.24	14.15	15.09	26.67	29.24	2.57
	velocity	6.84	8.17	7.74	7.37	7.19	6.94	6.77	6.49	7.15		7.45	7.55	7.07	6.63	7.50	6.84	

Yada, Shizuka (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)										*(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*							
date 17-Jun-16	time		13.63		26.65		40.60		55.91	55.91	5 / 3							
reaction time	interval				13.02		13.95		15.31		# of strides	13.63	13.02	13.95	15.31	26.65	29.26	2.61
	velocity		7.34		7.68		7.17		6.53	7.15		7.34	7.68	7.17	6.53	7.50	6.84	

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2018 Japanese National Championships (Yamaguchi, JPN)										*Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*							
date 22-Jun-18	time	7.26	13.37	19.70	26.39	33.30	40.63	48.11	55.92	55.92	4 / 5							
reaction time 0.190	interval		6.11	6.33	6.69	6.91	7.33	7.48	7.81		# of strides	13.37	13.02	14.24	15.29	26.39	29.53	3.14
	velocity	6.89	8.18	7.90	7.47	7.24	6.82	6.68	6.40	7.15	214.7	7.48	7.68	7.02	6.54	7.58	6.77	

Saito, Erika (JPN) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2010 Japanese National High School Championships (Okinawa, JPN)										*Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data*							
date 29-Jul-10	time	7.10	13.32	19.82	26.47	33.29	40.39	47.89	55.93	55.93	/ 3							
reaction time	interval		6.22	6.50	6.65	6.82	7.10	7.50	8.04		# of strides	13.32	13.15	13.92	15.54	26.47	29.46	2.99
	velocity	7.04	8.04	7.69	7.52	7.33	7.04	6.67	6.22	7.15		7.51	7.60	7.18	6.44	7.56	6.79	

Hatano, Minami (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)										*(2017) - tfdata-store.com/2017/06/02/post-835/*							
date 26-May-17	time		13.51		26.57		40.76		55.93	55.93	6 / 3							
reaction time	interval				13.06		14.19		15.17		# of strides	13.51	13.06	14.19	15.17	26.57	29.36	2.79
	velocity		7.40		7.66		7.05		6.59	7.15	207.5	7.40	7.66	7.05	6.59	7.53	6.81	

Totani, Nukumi (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 16-Oct-15	time	7.23	13.23	19.47	26.06	32.95	40.25	47.87	55.94	55.94	/ 5							
reaction time	interval		6.00	6.24	6.59	6.89	7.30	7.62	8.07		# of strides	13.23	12.83	14.19	15.69	26.06	29.88	3.82
	velocity	6.92	8.33	8.01	7.59	7.26	6.85	6.56	6.20	7.15		7.56	7.79	7.05	6.37	7.67	6.69	

Yoshida, Kasumi (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)										*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*							
date 19-Oct-18	time	7.08	13.09	19.44	26.10	33.06	40.35	47.87	55.94	55.94	6 / 5							
reaction time 0.437	interval		6.01	6.35	6.66	6.96	7.29	7.52	8.07		# of strides	13.09	13.01	14.25	15.59	26.10	29.84	3.74
	velocity	7.06	8.32	7.87	7.51	7.18	6.86	6.65	6.20	7.15		7.64	7.69	7.02	6.41	7.66	6.70	

Yuicai, Isokai (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)										*Takashima (2023) - national high school sports festival - biomechanics data*							
date 02-Aug-23	time		13.30		26.84		41.14		55.94	55.94	8 / 7							
reaction time 0.262	interval				13.54		14.30		14.80		# of strides	13.30	13.54	14.30	14.80	26.84	29.10	2.26
	velocity		7.52		7.39		6.99		6.76	7.15		7.52	7.39	6.99	6.76	7.45	6.87	

Takashima, Natsumi (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)										*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*							
date 02-Aug-18	time	7.29	13.54	19.90	26.54	33.49	40.75	48.18	55.95	55.95	9 / 5							
reaction time	interval		6.25	6.36	6.64	6.95	7.26	7.43	7.77		# of strides	13.54	13.00	14.21	15.20	26.54	29.41	2.87
	velocity	6.86	8.00	7.86	7.53	7.19	6.89	6.73	6.44	7.15		7.39	7.69	7.04	6.58	7.54	6.80	

Isobe, Mami (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 21-Oct-16	time	7.38	13.66	20.12	26.79	33.71	40.86	48.21	55.96	55.96	5 / 4							
reaction time	interval		6.28	6.46	6.67	6.92	7.15	7.35	7.75		# of strides	13.66	13.13	14.07	15.10	26.79	29.17	2.38
	velocity	6.78	7.96	7.74	7.50	7.23	6.99	6.80	6.45	7.15		7.32	7.62	7.11	6.62	7.47	6.86	

Kashiyama, Kaede (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN)										*Yamanaka (2017) - male and female 400m analysis in the 2017 season*							
date 08-Oct-17	time	7.11	13.06	19.35	26.10	33.08	40.31	47.86	55.96	55.96	3 / 7							
reaction time 0.277	interval		5.95	6.29	6.75	6.98	7.23	7.55	8.10		# of strides	13.06	13.04	14.21	15.65	26.10	29.86	3.76
	velocity	7.03	8.40	7.95	7.41	7.16	6.92	6.62	6.17	7.15	209.0	7.66	7.67	7.04	6.39	7.66	6.70	

Yoshida, Sayumi (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National High School Championships (Wakayama, CHN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 29-Jul-15	time	7.34	13.44	19.72	26.35	33.26	40.39	47.94	55.97	55.97	/ 8							
reaction time	interval		6.10	6.28	6.63	6.91	7.13	7.55	8.03		# of strides	13.44	12.91	14.04	15.58	26.35	29.62	3.27
	velocity	6.81	8.20	7.96	7.54	7.24	7.01	6.62	6.23	7.15		7.44	7.75	7.12	6.42	7.59	6.75	

Tanaka, Chisato (JPN) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Race C - 2016 Shizuoka International Meeting (Fukuroi, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 03-May-16	time	7.13	13.29	19.65	26.19	33.01	40.11	47.67	55.97	55.97	/ 1							
reaction time	interval		6.16	6.36	6.54	6.82	7.10	7.56	8.30		# of strides	13.29	12.90	13.92	15.86	26.19	29.78	3.59

	velocity	7.01	8.12	7.86	7.65	7.33	7.04	6.61	6.02	7.15		7.52	7.75	7.18	6.31	7.64	6.72	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/01/post-786/*
date 26-May-17 time		13.79		26.88		41.06		55.97	55.97	9 / 7							
reaction time	interval			13.09		14.18		14.91		# of strides	13.79	13.09	14.18	14.91	26.88	29.09	2.21
	velocity		7.25		7.64		7.05		6.71	7.15	208.5	7.25	7.64	7.05	6.71	7.44	6.88	

Hirota, Yuki (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 National Sports Festival (Matsuyama, JPN)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 08-Oct-17 time	7.62	13.97	20.42	27.12	33.96	41.00	48.30	55.98	55.98	9 / 8							
reaction time 0.230	interval		6.35	6.45	6.70	6.84	7.04	7.30	7.68	# of strides	13.97	13.15	13.88	14.98	27.12	28.86	1.74
	velocity	6.56	7.87	7.75	7.46	7.31	7.10	6.85	6.51	7.15	197.7	7.16	7.60	7.20	6.68	7.37	6.93	

Sudo, Mio (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)																	*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*
date 02-Aug-18 time	7.21	13.40	19.87	26.49	33.39	40.65	48.18	55.98	55.98	5 / 6							
reaction time	interval		6.19	6.47	6.62	6.90	7.26	7.53	7.80	# of strides	13.40	13.09	14.16	15.33	26.49	29.49	3.00
	velocity	6.93	8.08	7.73	7.55	7.25	6.89	6.64	6.41	7.15		7.46	7.64	7.06	6.52	7.55	6.78	

Williams, Shamayamian (JPN) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National High School Championsips (Sapporo, JPN)																	*Takashima (2023) - national high school sports festival - biomechanics data*
date 02-Aug-23 time		13.46		26.88		40.92		55.99	55.99	2 / 8							
reaction time 0.272	interval			13.42		14.04		15.07		# of strides	13.46	13.42	14.04	15.07	26.88	29.11	2.23
	velocity		7.43		7.45		7.12		6.64	7.14		7.43	7.45	7.12	6.64	7.44	6.87	

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 National Sports Festival (Kitakami, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 09-Oct-16 time	7.40	13.94	20.52	27.26	34.16	41.24	48.46	56.00	56.00	9 / 7							
reaction time 0.209	interval		6.54	6.58	6.74	6.90	7.08	7.22	7.54	# of strides	13.94	13.32	13.98	14.76	27.26	28.74	1.48
	velocity	6.76	7.65	7.60	7.42	7.25	7.06	6.93	6.63	7.14		7.17	7.51	7.15	6.78	7.34	6.96	

Uesugi, Haruna (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 10-Oct-16 time	6.98	12.93	19.24	26.00	33.13	40.48	48.04	56.00	56.00	5 / 5							
reaction time 0.202	interval		5.95	6.31	6.76	7.13	7.35	7.56	7.96	# of strides	12.93	13.07	14.48	15.52	26.00	30.00	4.00
	velocity	7.16	8.40	7.92	7.40	7.01	6.80	6.61	6.28	7.14		7.73	7.65	6.91	6.44	7.69	6.67	

Fujisawa, Sayaka (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 National Sports Festival (Kitakami, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 09-Oct-16 time	6.96	12.91	19.12	25.73	32.65	39.89	47.60	56.01	56.01	6 / 8							
reaction time 0.230	interval		5.95	6.21	6.61	6.92	7.24	7.71	8.41	# of strides	12.91	12.82	14.16	16.12	25.73	30.28	4.55
	velocity	7.18	8.40	8.05	7.56	7.23	6.91	6.49	5.95	7.14		7.75	7.80	7.06	6.20	7.77	6.61	

Inaoka, Mayu (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2019 Japanese National Championships (Fukuoka, JPN)																	*Yamanaka (2019) - race analysis of men and women 400m competition*
date 27-Jun-19 time	6.95	12.85	19.04	25.68	32.66	39.98	47.65	56.01	56.01	6 / 7							
reaction time 0.211	interval		5.90	6.19	6.64	6.98	7.32	7.67	8.36	# of strides	12.85	12.83	14.30	16.03	25.68	30.33	4.65
	velocity	7.19	8.47	8.08	7.53	7.16	6.83	6.52	5.98	7.14		7.78	7.79	6.99	6.24	7.79	6.59	

Salem Taqi, Dana (QAT)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)																	*Omega Timing (2025) - diamond league race analysis*
date 16-May-25 time	6.94	12.98	19.46	26.45	33.62	40.98	48.33	56.01	56.01	8 / 4							
reaction time 0.209	interval		6.04	6.48	6.99	7.17	7.36	7.35	7.68	**PB**	# of strides	12.98	13.47	14.53	15.03	26.45	29.56	3.11
	velocity	7.20	8.28	7.72	7.15	6.97	6.79	6.80	6.51	7.14		7.70	7.42	6.88	6.65	7.56	6.77	

Miki, Shiori (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2008 Japanese National High School Championships (Kumagaya, JPN)																	*Abe (2008) - 61st high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-08 time	7.27	13.49	20.02	26.76	33.77	40.89	48.31	56.03	56.03	/ 3							
reaction time	interval		6.22	6.53	6.74	7.01	7.12	7.42	7.72	# of strides	13.49	13.27	14.13	15.14	26.76	29.27	2.51
	velocity	6.88	8.04	7.66	7.42	7.13	7.02	6.74	6.48	7.14		7.41	7.54	7.08	6.61	7.47	6.83	

Shibata, Chiharu (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 05-Oct-15 time	7.24	13.49	19.94	26.61	33.54	40.58	48.01	56.04	56.04	/ 6							
reaction time	interval		6.25	6.45	6.67	6.93	7.04	7.43	8.03	# of strides	13.49	13.12	13.97	15.46	26.61	29.43	2.82
	velocity	6.91	8.00	7.75	7.50	7.22	7.10	6.73	6.23	7.14		7.41	7.62	7.16	6.47	7.52	6.80	

Shiomi, Ayano (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Oct-16 time	7.32	13.50	19.89	26.58	33.55	40.80	48.30	56.04	56.04	2 / 5							
reaction time	interval		6.18	6.39	6.69	6.97	7.25	7.50	7.74	# of strides	13.50	13.08	14.22	15.24	26.58	29.46	2.88
	velocity	6.83	8.09	7.82	7.47	7.17	6.90	6.67	6.46	7.14		7.41	7.65	7.03	6.56	7.52	6.79	

Kashiyama, Kaede (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17 time		13.49		26.62		40.65		56.04	56.04	6 / 3							
reaction time 0.189	interval			13.13		14.03		15.39		# of strides	13.49	13.13	14.03	15.39	26.62	29.42	2.80
	velocity		7.41		7.62		7.13		6.50	7.14	208.5	7.41	7.62	7.13	6.50	7.51	6.80	

Okamoto, Yuna (CHN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2013 Japanese National High School Championships (Oita, JPN)																	*Matsuo (2013) - 66th high school championships: JAF scientific committee - biomechanics data*
date 30-Jul-13 time		13.60		26.80		40.83		56.06	56.06	2 / 8							
reaction time	interval			13.20		14.03		15.23		# of strides	13.60	13.20	14.03	15.23	26.80	29.26	2.46
	velocity		7.35		7.58		7.13		6.57	7.14		7.35	7.58	7.13	6.57	7.46	6.84	

Naruse, Miki (JPN) (1982)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 21-Oct-16 time	7.33	13.74	20.29	27.05	34.07	41.21	48.55	56.06	56.06	5 / 6							
reaction time interval		6.41	6.55	6.76	7.02	7.14	7.34	7.51		# of strides	13.74	13.31	14.16	14.85	27.05	29.01	1.96
velocity	6.82	7.80	7.63	7.40	7.12	7.00	6.81	6.66	7.14		7.28	7.51	7.06	6.73	7.39	6.89	

Hatano, Minami (JPN) (1998)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 16-Oct-15 time	7.39	13.80	20.35	27.14	34.16	41.34	48.61	56.07	56.07	/ 6							
reaction time interval		6.41	6.55	6.79	7.02	7.18	7.27	7.46		# of strides	13.80	13.34	14.20	14.73	27.14	28.93	1.79
velocity	6.77	7.80	7.63	7.36	7.12	6.96	6.88	6.70	7.13		7.25	7.50	7.04	6.79	7.37	6.91	

Uesugi, Haruna (JPN) (1998)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 Japanese National Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/07/10/post-978/*							
date 23-Jun-17 time		13.01		25.52		39.85		56.07	56.07	2 / 6							
reaction time 0.175 interval				12.51		14.33		16.22		# of strides	13.01	12.51	14.33	16.22	25.52	30.55	5.03
velocity		7.69		7.99		6.98		6.17	7.13	208.7	7.69	7.99	6.98	6.17	7.84	6.55	

Oshima, Airi (JPN) (2000)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)										*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*							
date 02-Aug-18 time	7.55	13.91	20.55	27.37	34.35	41.45	48.64	56.08	56.08	2 / 7							
reaction time interval		6.36	6.64	6.82	6.98	7.10	7.19	7.44		# of strides	13.91	13.46	14.08	14.63	27.37	28.71	1.34
velocity	6.62	7.86	7.53	7.33	7.16	7.04	6.95	6.72	7.13		7.19	7.43	7.10	6.84	7.31	6.97	

Yoshinaka, Hinako (JPN) (2002)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)										*Kobayashi (2020) - national high school and U20 national championhsips*							
date 23-Oct-20 time	7.27	13.44	19.79	26.45	33.31	40.36	47.81	56.08	56.08	3 / 2							
reaction time 0.182 interval		6.17	6.35	6.66	6.86	7.05	7.45	8.27		# of strides	13.44	13.01	13.91	15.72	26.45	29.63	3.18
velocity	6.88	8.10	7.87	7.51	7.29	7.09	6.71	6.05	7.13	226.6	7.44	7.69	7.19	6.36	7.56	6.75	

Matsumoto, Nanako (JPN) (1996)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)										*Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data*							
date 29-Jul-12 time		14.16		27.31		41.05		56.10	56.10	4 / 6							
reaction time interval				13.15		13.74		15.05		# of strides	14.16	13.15	13.74	15.05	27.31	28.79	1.48
velocity		7.06		7.60		7.28		6.64	7.13		7.06	7.60	7.28	6.64	7.32	6.95	

Okuda, Masumi (JPN) (1996)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)										*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*							
date 30-Jul-14 time	7.39	13.56	19.65	26.03	32.78	39.95	47.63	56.10	56.10	/ 7							
reaction time interval		6.17	6.09	6.38	6.75	7.17	7.68	8.47		# of strides	13.56	12.47	13.92	16.15	26.03	30.07	4.04
velocity	6.77	8.10	8.21	7.84	7.41	6.97	6.51	5.90	7.13		7.37	8.02	7.18	6.19	7.68	6.65	

Oshima, Airi (JPN) (2000)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)										*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*							
date 03-May-21 time	7.27	13.33	19.75	26.49	33.36	40.39	47.80	56.10	56.10	5 / 3							
reaction time 0.185 interval		6.06	6.42	6.74	6.87	7.03	7.41	8.30		# of strides	13.33	13.16	13.90	15.71	26.49	29.61	3.12
velocity	6.88	8.25	7.79	7.42	7.28	7.11	6.75	6.02	7.13		7.50	7.60	7.19	6.37	7.55	6.75	

Yajima, Aki (JPN) (2007)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)										*Takashima (2024) - national high school sports festival - biomechanics data*							
date 28-Jul-24 time		13.93		27.03		40.54		56.10	56.10	4 / 5							
reaction time 0.200 interval				13.10		13.51		15.56		# of strides	13.93	13.10	13.51	15.56	27.03	29.07	2.04
velocity		7.18		7.63		7.40		6.43	7.13		7.18	7.63	7.40	6.43	7.40	6.88	

Takeishi, Konomi (JPN) (1991)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)										*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*							
date 03-May-16 time	6.87	12.79	19.00	25.68	32.81	40.21	47.89	56.11	56.11	/ 6							
reaction time interval		5.92	6.21	6.68	7.13	7.40	7.68	8.22		# of strides	12.79	12.89	14.53	15.90	25.68	30.43	4.75
velocity	7.28	8.45	8.05	7.49	7.01	6.76	6.51	6.08	7.13		7.82	7.76	6.88	6.29	7.79	6.57	

Sato, Hinako (JPN) (1996)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)										*(2017) - tfdata-store.com/2017/06/02/post-835/*							
date 26-May-17 time		13.62		26.82		40.88		56.11	56.11	5 / 4							
reaction time interval				13.20		14.06		15.23		# of strides	13.62	13.20	14.06	15.23	26.82	29.29	2.47
velocity		7.34		7.58		7.11		6.57	7.13	214.0	7.34	7.58	7.11	6.57	7.46	6.83	

Shiomi, Ayano (JPN) (1999)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN)										*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*							
date 16-Oct-15 time	7.50	13.96	20.55	27.35	34.36	41.48	48.68	56.13	56.13	/ 7							
reaction time interval		6.46	6.59	6.80	7.01	7.12	7.20	7.45		# of strides	13.96	13.39	14.13	14.65	27.35	28.78	1.43
velocity	6.67	7.74	7.59	7.35	7.13	7.02	6.94	6.71	7.13		7.16	7.47	7.08	6.83	7.31	6.95	

Matsumoto, Chika (JPN) (1996)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)										*(2017) - tfdata-store.com/2017/06/02/post-835/*							
date 26-May-17 time		13.77		27.32		41.68		56.13	56.13	6 / 2							
reaction time interval				13.55		14.36		14.45		# of strides	13.77	13.55	14.36	14.45	27.32	28.81	1.49
velocity		7.26		7.38		6.96		6.92	7.13	205.7	7.26	7.38	6.96	6.92	7.32	6.94	

Aono, Akari (JPN) (2000)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2017 National Sports Festival (Matsuyama, JPN)										*(2017) - tfdata-store.com/2017/10/12/post-1100/*							
date 08-Oct-17 time		13.59		26.74		40.80		56.13	56.13	4 / 8							
reaction time interval				13.15		14.06		15.33		# of strides	13.59	13.15	14.06	15.33	26.74	29.39	2.65
velocity		7.36		7.60		7.11		6.52	7.13	211.0	7.36	7.60	7.11	6.52	7.48	6.81	

Nishida, Mina (JPN) (1998)	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Kansai Regional University Championships (Osaka, JPN)										*(2017) - tfdata-store.com/2017/05/13/post-441/*							

date	11-May-17	time		13.29		25.76		39.86		56.14	56.14	3 / 8						
reaction time		interval				12.47		14.10		16.28		# of strides	13.29	12.47	14.10	16.28	25.76	30.38	4.62
		velocity		7.52		8.02		7.09		6.14	7.13		7.52	8.02	7.09	6.14	7.76	6.58	

Nakajima, Sayaka (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time		12.88		25.95		40.29		56.14	56.14	3 / 5							
reaction time 0.155	interval				13.07		14.34		15.85		# of strides	12.88	13.07	14.34	15.85	25.95	30.19	4.24
	velocity		7.76		7.65		6.97		6.31	7.13	220.0	7.76	7.65	6.97	6.31	7.71	6.62	

Arai, Arashima (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date	time	7.40	13.60	20.07	26.95	33.87	40.96	48.29	56.16	56.16	/ 7							
reaction time	interval		6.20	6.47	6.88	6.92	7.09	7.33	7.87		# of strides	13.60	13.35	14.01	15.20	26.95	29.21	2.26
	velocity	6.76	8.06	7.73	7.27	7.23	7.05	6.82	6.35	7.12		7.35	7.49	7.14	6.58	7.42	6.85	

Shibata, Chiharu (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time		13.36		26.57		40.66		56.16	56.16	6 / 4							
reaction time 0.235	interval				13.21		14.09		15.50		# of strides	13.36	13.21	14.09	15.50	26.57	29.59	3.02
	velocity		7.49		7.57		7.10		6.45	7.12	209.7	7.49	7.57	7.10	6.45	7.53	6.76	

Yoshinaka, Hinako (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18	time	7.46	13.69	20.04	26.57	33.31	40.50	48.09	56.16	56.16	5 / 5							
reaction time 0.201	interval		6.23	6.35	6.53	6.74	7.19	7.59	8.07		# of strides	13.69	12.88	13.93	15.66	26.57	29.59	3.02
	velocity	6.70	8.03	7.87	7.66	7.42	6.95	6.59	6.20	7.12		7.30	7.76	7.18	6.39	7.53	6.76	

Onoue, Rika (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Oct-16	time	7.32	13.64	20.15	26.88	33.77	40.83	48.21	56.17	56.17	8 / 5							
reaction time	interval		6.32	6.51	6.73	6.89	7.06	7.38	7.96		# of strides	13.64	13.24	13.95	15.34	26.88	29.29	2.41
	velocity	6.83	7.91	7.68	7.43	7.26	7.08	6.78	6.28	7.12		7.33	7.55	7.17	6.52	7.44	6.83	

Kawazu, Mayu (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)																	*Kota (2016) - 69th high school championships: JAF scientific committee - biomechanics data collection*
date 29-Jul-16	time		12.80		25.49		40.42		56.19	56.19	8 / 8							
reaction time 0.238	interval				11.46		12.31		13.81		# of strides	12.80	12.69	14.93	15.77	25.49	30.70	5.21
	velocity		8.24		8.73		8.12		7.24	7.12		7.81	7.88	6.70	6.34	7.85	6.51	

Kawazu, Mayu (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National High School Championships (Okayama, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 29-Jul-16	time	6.94	12.78	18.84	25.52	32.80	40.43	48.20	56.19	56.19	8 / 8							
reaction time 0.238	interval		5.84	6.06	6.68	7.28	7.63	7.77	7.99		# of strides	12.78	12.74	14.91	15.76	25.52	30.67	5.15
	velocity	7.20	8.56	8.25	7.49	6.87	6.55	6.44	6.26	7.12		7.82	7.85	6.71	6.35	7.84	6.52	

Shiiya, Kanako (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National Championships (Osaka, JPN)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 24-Jun-17	time	7.19	13.39	19.74	26.33	33.15	40.37	48.02	56.20	56.20	2 / 8							
reaction time 0.229	interval		6.20	6.35	6.59	6.82	7.22	7.65	8.18		# of strides	13.39	12.94	14.04	15.83	26.33	29.87	3.54
	velocity	6.95	8.06	7.87	7.59	7.33	6.93	6.54	6.11	7.12	203.2	7.47	7.73	7.12	6.32	7.60	6.70	

Kaneko, Hitomi (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Japanese U20 National Championships (Hiroshima, JPN)																	*Kobayashi (2020) - national high school and U20 national championhsips*
date 23-Oct-20	time	7.48	13.94	20.54	27.29	34.13	41.11	48.36	56.20	56.20	4 / 3							
reaction time 0.198	interval		6.46	6.60	6.75	6.84	6.98	7.25	7.84		# of strides	13.94	13.35	13.82	15.09	27.29	28.91	1.62
	velocity	6.68	7.74	7.58	7.41	7.31	7.16	6.90	6.38	7.12	211.9	7.17	7.49	7.24	6.63	7.33	6.92	

Huroresu, Arie (JPN) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)																	*Shibayama (2021) - national high school and U20 national championhsips*
date 28-Jul-21	time	7.36	13.84	20.52	27.36	34.41	41.52	48.70	56.20	56.20	2 / 6							
reaction time 0.164	interval		6.48	6.68	6.84	7.05	7.11	7.18	7.50		# of strides	13.84	13.52	14.16	14.68	27.36	28.84	1.48
	velocity	6.79	7.72	7.49	7.31	7.09	7.03	6.96	6.67	7.12		7.23	7.40	7.06	6.81	7.31	6.93	

Morinaga, Saki (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2009 Japanese National High School Championships (Nara, JPN)																	*Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-09	time		13.42		26.95		41.23		56.21	56.21	7 / 6							
reaction time	interval				13.53		14.28		14.98		# of strides	13.42	13.53	14.28	14.98	26.95	29.26	2.31
	velocity		7.45		7.39		7.00		6.68	7.12		7.45	7.39	7.00	6.68	7.42	6.84	

Krab Scheibelein, Anna (DEN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bislett Games (Oslo, NOR)																	*Omega Timing (2023) - diamond league race analysis*
date 15-Jun-23	time	7.21	13.40	19.83	26.38	33.21	40.39	47.98	56.21	56.21	7 / 6							
reaction time 0.173	interval		6.19	6.43	6.55	6.83	7.18	7.59	8.23	PB	# of strides	13.40	12.98	14.01	15.82	26.38	29.83	3.45
	velocity	6.93	8.08	7.78	7.63	7.32	6.96	6.59	6.08	7.12		7.46	7.70	7.14	6.32	7.58	6.70	

Ikezaki, Airi (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2016 National Sports Festival (Kitakami, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 10-Oct-16	time	7.27	13.30	19.54	26.26	33.14	40.47	48.06	56.22	56.22	2 / 6							
reaction time 0.236	interval		6.03	6.24	6.72	6.88	7.33	7.59	8.16		# of strides	13.30	12.96	14.21	15.75	26.26	29.96	3.70
	velocity	6.88	8.29	8.01	7.44	7.27	6.82	6.59	6.13	7.11		7.52	7.72	7.04	6.35	7.62	6.68	

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17	time		13.59		26.49		40.64		56.22	56.22	9 / 3							
reaction time	interval				12.90		14.15		15.58		# of strides	13.59	12.90	14.15	15.58	26.49	29.73	3.24

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.36		7.75		7.07		6.42	7.11	210.0	7.36	7.75	7.07	6.42	7.55	6.73	

Tærun, Frida Røe (NOR) (2001)

National FINAL - 2019 Bislett Games (Olso, NOR) — *Omega Timing (2019) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	13-Jun-19	time		13.2		26.0		40.6		56.23	56.23	3 / 5							
reaction time	0.182	interval				12.8		14.6		15.6		# of strides	13.20	12.80	14.60	15.63	26.00	30.23	4.23
		velocity		7.58		7.81		6.85		6.40	7.11		7.58	7.81	6.85	6.40	7.69	6.62	

Hayashi, Maho (JPN)

FINAL - 2009 Japanese National High School Championships (Nara, JPN) — *Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data collection*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	29-Jul-09	time		13.08		26.48		40.87		56.24	56.24	1 / 7							
reaction time		interval				13.40		14.39		15.37		# of strides	13.08	13.40	14.39	15.37	26.48	29.76	3.28
		velocity		7.65		7.46		6.95		6.51	7.11		7.65	7.46	6.95	6.51	7.55	6.72	

Itani, Haruna (JPN) (2005)

FINAL - 2022 Japanese National High School Championships (Naruto, JPN) — *Kishima (2022) - national high school championships biomechanics data collection*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Aug-22	time		13.47		26.65		40.87		56.25	56.25	8 / 7							
reaction time	0.195	interval				13.18		14.22		15.38	PB	# of strides	13.47	13.18	14.22	15.38	26.65	29.60	2.95
		velocity		7.42		7.59		7.03		6.50	7.11		7.42	7.59	7.03	6.50	7.50	6.76	

Martin, Sophie (SUI) (2000)

B Race - 2023 Athletissima (Lausanne, SUI) — *Omega Timing (2023) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	30-Jun-23	time	7.04	12.92	19.09	25.61	32.46	39.80	47.66	56.25	56.25	2 / 8							
reaction time	0.164	interval		5.88	6.17	6.52	6.85	7.34	7.86	8.59		# of strides	12.92	12.69	14.19	16.45	25.61	30.64	5.03
		velocity	7.10	8.50	8.10	7.67	7.30	6.81	6.36	5.82	7.11		7.74	7.88	7.05	6.08	7.81	6.53	

Ota, Yuki (JPN) (1998)

FINAL - 2016 China Perfecture High School Championships (Okayama, JPN) — *(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	17-Jun-16	time		13.61		26.87		40.65		56.26	56.26	8 / 4							
reaction time		interval				13.26		13.78		15.61		# of strides	13.61	13.26	13.78	15.61	26.87	29.39	2.52
		velocity		7.35		7.54		7.26		6.41	7.11		7.35	7.54	7.26	6.41	7.44	6.81	

Hanssens, Ilana (BEL) (2002)

FINAL - 2021 Memorial van Damme (Brussels, BEL) — *Omega Timing (2021) - diamond league race analysis*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Sep-21	time	7.1	12.9	19.1	25.7	32.6	39.9	47.7	56.27	56.27	1 / 7							
reaction time	0.169	interval		5.80	6.20	6.60	6.90	7.30	7.80	8.57		# of strides	12.90	12.80	14.20	16.37	25.70	30.57	4.87
		velocity	7.04	8.62	8.06	7.58	7.25	6.85	6.41	5.83	7.11		7.75	7.81	7.04	6.11	7.78	6.54	

Takashima, Natsumi (JPN) (2000)

FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN) — *Ryutaro (2018) - research on athlete performance and technique- 2018 data book*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	19-Oct-18	time	7.40	13.58	20.07	26.87	33.98	41.22	48.58	56.28	56.28	8 / 6							
reaction time	0.239	interval		6.18	6.49	6.80	7.11	7.24	7.36	7.70		# of strides	13.58	13.29	14.35	15.06	26.87	29.41	2.54
		velocity	6.76	8.09	7.70	7.35	7.03	6.91	6.79	6.49	7.11		7.36	7.52	6.97	6.64	7.44	6.80	

Hirano, Riho (JPN) (2005)

FINAL - 2022 Japanese National High School Championships (Naruto, JPN) — *Kishima (2022) - national high school championships biomechanics data collection*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	03-Aug-22	time		13.97		27.27		41.49		56.29	56.29	4 / 8							
reaction time	0.224	interval				13.30		14.22		14.80		# of strides	13.97	13.30	14.22	14.80	27.27	29.02	1.75
		velocity		7.16		7.52		7.03		6.76	7.11		7.16	7.52	7.03	6.76	7.33	6.89	

Matsumoto, Nanako (JPN) (1996)

Heat 2 - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		13.21		26.07		40.15		56.32	56.32	5 / 4							
reaction time	0.234	interval				12.86		14.08		16.17		# of strides	13.21	12.86	14.08	16.17	26.07	30.25	4.18
		velocity		7.57		7.78		7.10		6.18	7.10	205.2	7.57	7.78	7.10	6.18	7.67	6.61	

Iwata, Mebuki (JPN) (1999)

FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	21-Oct-16	time	7.11	13.31	19.85	26.73	33.81	40.92	48.32	56.34	56.34	6 / 6							
reaction time		interval		6.20	6.54	6.88	7.08	7.11	7.40	8.02		# of strides	13.31	13.42	14.19	15.42	26.73	29.61	2.88
		velocity	7.03	8.06	7.65	7.27	7.06	7.03	6.76	6.23	7.10		7.51	7.45	7.05	6.49	7.48	6.75	

Iwata, Yuna (JPN) (1997)

Heat 2 - 2020 Japanese National Championships (Niigata, JPN) — *Yamanaka (2020) - 400m race analysis of men and women during 2020 season*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	01-Oct-20	time	7.00	13.15	19.44	25.99	33.00	40.38	48.06	56.34	56.34	6 / 4							
reaction time	0.152	interval		6.15	6.29	6.55	7.01	7.38	7.68	8.28		# of strides	13.15	12.84	14.39	15.96	25.99	30.35	4.36
		velocity	7.14	8.13	7.95	7.63	7.13	6.78	6.51	6.04	7.10		7.60	7.79	6.95	6.27	7.70	6.59	

Hirosawa, Mae (JPN) (1997)

Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN) — *(2017) - tfdata-store.com/2017/06/02/post-835/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	26-May-17	time		13.47		26.78		41.33		56.35	56.35	4 / 4							
reaction time		interval				13.31		14.55		15.02		# of strides	13.47	13.31	14.55	15.02	26.78	29.57	2.79
		velocity		7.42		7.51		6.87		6.66	7.10	199.5	7.42	7.51	6.87	6.66	7.47	6.76	

Kawakami, Ichigo (JPN) (1999)

U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	08-Oct-17	time		13.22		26.34		40.54		56.35	56.35	7 / 6							
reaction time	0.232	interval				13.12		14.20		15.81		# of strides	13.22	13.12	14.20	15.81	26.34	30.01	3.67
		velocity		7.56		7.62		7.04		6.33	7.10	212.2	7.56	7.62	7.04	6.33	7.59	6.66	

Shinden, Nozomi (JPN) (2003)

FINAL - 2021 Japanese High School National Championships (Fukui, JPN) — *Shibayama (2021) - national high school and U20 national championhsips*

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
date	28-Jul-21	time	7.45	13.90	20.44	27.04	33.96	41.08	48.42	56.35	56.35	8 / 7							
reaction time	0.236	interval		6.45	6.54	6.60	6.92	7.12	7.34	7.93		# of strides	13.90	13.14	14.04	15.27	27.04	29.31	2.27
		velocity	6.71	7.75	7.65	7.58	7.23	7.02	6.81	6.31	7.10		7.19	7.61	7.12	6.55	7.40	6.82	

Mayadjim, Esther (CHA) (2008)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25 time		13.42		26.48		40.63		56.35	56.35	1 / 9							
reaction time 0.268 interval				13.06		14.15		15.72		# of strides	13.42	13.06	14.15	15.72	26.48	29.87	3.39
velocity		7.45		7.66		7.07		6.36	7.10		7.45	7.66	7.07	6.36	7.55	6.70	

Gola, Marlena (POL) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																	*Omega Timing (2022) - diamond league race analysis*
date 06-Aug-22 time	7.03	13.15	19.57	26.32	33.24	40.55	48.21	56.36	56.36	9 / 7							
reaction time 0.174 interval		6.12	6.42	6.75	6.92	7.31	7.66	8.15		# of strides	13.15	13.17	14.23	15.81	26.32	30.04	3.72
velocity	7.11	8.17	7.79	7.41	7.23	6.84	6.53	6.13	7.10		7.60	7.59	7.03	6.33	7.60	6.66	

Kato, Shiho (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Oct-16 time	7.07	13.19	19.64	26.51	33.68	40.98	48.46	56.37	56.37	7 / 7							
reaction time interval		6.12	6.45	6.87	7.17	7.30	7.48	7.91		# of strides	13.19	13.32	14.47	15.39	26.51	29.86	3.35
velocity	7.07	8.17	7.75	7.28	6.97	6.85	6.68	6.32	7.10		7.58	7.51	6.91	6.50	7.54	6.70	

Arendt, Fanny (LUX) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23 time		13.75		26.32		40.65		56.39	56.39	9 / 5							
reaction time 0.292 interval				12.57		14.33		15.74	PB	# of strides	13.75	12.57	14.33	15.74	26.32	30.07	3.75
velocity		7.27		7.96		6.98		6.35	7.09		7.27	7.96	6.98	6.35	7.60	6.65	

Okabe, Yuika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2015 Japanese National Junior Championships (Nagoya, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 16-Oct-15 time	7.13	13.12	19.40	26.06	33.01	40.34	48.09	56.40	56.40	/ 8							
reaction time interval		5.99	6.28	6.66	6.95	7.33	7.75	8.31		# of strides	13.12	12.94	14.28	16.06	26.06	30.34	4.28
velocity	7.01	8.35	7.96	7.51	7.19	6.82	6.45	6.02	7.09		7.62	7.73	7.00	6.23	7.67	6.59	

Sugiura, Haruka (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17 time		13.13		26.10		40.75		56.41	56.41	3 / 5							
reaction time interval				12.97		14.65		15.66		# of strides	13.13	12.97	14.65	15.66	26.10	30.31	4.21
velocity		7.62		7.71		6.83		6.39	7.09	212.0	7.62	7.71	6.83	6.39	7.66	6.60	

Nakajima, Sayaka (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)																	*Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-17 time	7.03	12.75	18.94	25.62	32.65	40.14	47.98	56.41	56.41	2 / 7							
reaction time 0.170 interval		5.72	6.19	6.68	7.03	7.49	7.84	8.43		# of strides	12.75	12.87	14.52	16.27	25.62	30.79	5.17
velocity	7.11	8.74	8.08	7.49	7.11	6.68	6.38	5.93	7.09		7.84	7.77	6.89	6.15	7.81	6.50	

Tsuboura, Ryoko (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)																	*Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-12 time		13.38		26.53		40.71		56.42	56.42	3 / 7							
reaction time interval				13.15		14.18		15.71		# of strides	13.38	13.15	14.18	15.71	26.53	29.89	3.36
velocity		7.47		7.60		7.05		6.37	7.09		7.47	7.60	7.05	6.37	7.54	6.69	

Shibata, Mie (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 05-Oct-15 time	7.07	13.10	19.47	26.28	33.40	40.74	48.37	56.46	56.46	/ 7							
reaction time interval		6.03	6.37	6.81	7.12	7.34	7.63	8.09		# of strides	13.10	13.18	14.46	15.72	26.28	30.18	3.90
velocity	7.07	8.29	7.85	7.34	7.02	6.81	6.55	6.18	7.08		7.63	7.59	6.92	6.36	7.61	6.63	

Kimura, Tomomi (JPN) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2006 Seiko Super Grand Prix (Yokohama, JPN)																	*Hisashi (2007) - Super Grand Prix 2006 - sprinting speed changes in the 400m*
date 24-Sep-06 time	7.1	13.4	19.7	26.4	33.4	40.7	48.2	56.48	56.48	9 / 8							
reaction time interval		6.30	6.30	6.70	7.00	7.30	7.50	8.28	PB	# of strides	13.40	13.00	14.30	15.78	26.40	30.08	3.68
velocity	7.04	7.94	7.94	7.46	7.14	6.85	6.67	6.04	7.08		7.46	7.69	6.99	6.34	7.58	6.65	

Nakajima, Airi (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Race B - 2016 Shizuoka International Meeting (Fukuroi, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 03-May-16 time	6.91	12.76	18.94	25.46	32.30	39.78	47.78	56.49	56.49	/ 3							
reaction time interval		5.85	6.18	6.52	6.84	7.48	8.00	8.71		# of strides	12.76	12.70	14.32	16.71	25.46	31.03	5.57
velocity	7.24	8.55	8.09	7.67	7.31	6.68	6.25	5.74	7.08		7.84	7.87	6.98	5.98	7.86	6.45	

Matsumoto, Chika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 FINAL - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/01/post-786/*
date 26-May-17 time		13.84		27.38		41.75		56.49	56.49	6 / 8							
reaction time interval				13.54		14.37		14.74		# of strides	13.84	13.54	14.37	14.74	27.38	29.11	1.73
velocity		7.23		7.39		6.96		6.78	7.08	103.7	7.23	7.39	6.96	6.78	7.30	6.87	

Egami, Kazuha (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2025) - shimane high school championships 2025 - biomechanics data analysis*
date 30-May-25 time		13.72		27.00		41.51		56.49	56.49	7 / 1							
reaction time interval				13.28		14.51		14.98		# of strides	13.72	13.28	14.51	14.98	27.00	29.49	2.49
velocity		7.29		7.53		6.89		6.68	7.08		7.29	7.53	6.89	6.68	7.41	6.78	

Yakushiji, Mana (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17 time		13.16		26.31		40.91		56.50	56.50	8 / 5							
reaction time interval				13.15		14.60		15.59		# of strides	13.16	13.15	14.60	15.59	26.31	30.19	3.88
velocity		7.60		7.60		6.85		6.41	7.08	209.5	7.60	7.60	6.85	6.41	7.60	6.62	

Shintaku, Asami (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

date	03-May-16	time	7.14	13.16	19.39	25.93	32.70	40.01	47.86	56.51	56.51	/ 7						
reaction time		interval		6.02	6.23	6.54	6.77	7.31	7.85	8.65		# of strides	13.16	12.77	14.08	16.50	25.93	30.58	4.65
		velocity	7.00	8.31	8.03	7.65	7.39	6.84	6.37	5.78	7.08		7.60	7.83	7.10	6.06	7.71	6.54	

Haugen, Nora (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2023 Bislett Games (Oslo, NOR)																	*Omega Timing (2023) - diamond league race analysis*
date 15-Jun-23 time	7.52	13.90	20.65	27.51	34.41	41.43	48.67	56.54	56.54	1 / 7							
reaction time 0.178 interval		6.38	6.75	6.86	6.90	7.02	7.24	7.87		# of strides	13.90	13.61	13.92	15.11	27.51	29.03	1.52
velocity	6.65	7.84	7.41	7.29	7.25	7.12	6.91	6.35	7.07		7.19	7.35	7.18	6.62	7.27	6.89	

Takisawa, Aya (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2012 Japanese National High School Championships (Niigata, JPN)																	*Yasunori (2012) - 65th high school championships: JAF scientific committee - biomechanics data*
date 29-Jul-12 time		13.50		26.99		41.13		56.56	56.56	9 / 8							
reaction time interval				13.49		14.14		15.43		# of strides	13.50	13.49	14.14	15.43	26.99	29.57	2.58
velocity		7.41		7.41		7.07		6.48	7.07		7.41	7.41	7.07	6.48	7.41	6.76	

Tveit, June Sæbøe (NOR) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)																	*Omega Timing (2019) - diamond league race analysis*
date 13-Jun-19 time		13.5		26.9		41.1		56.56	56.56	2 / 6							
reaction time 0.182 interval				13.4		14.2		15.5	=PB	# of strides	13.50	13.40	14.20	15.46	26.90	29.66	2.76
velocity		7.41		7.46		7.04		6.47	7.07		7.41	7.46	7.04	6.47	7.43	6.74	

Thamer Salem, Farida (QAT)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)																	*Omega Timing (2025) - diamond league race analysis*
date 16-May-25 time	7.03	13.13	19.70	26.48	33.42	40.61	48.32	56.56	56.56	3 / 5							
reaction time 0.228 interval		6.10	6.57	6.78	6.94	7.19	7.71	8.24		# of strides	13.13	13.35	14.13	15.95	26.48	30.08	3.60
velocity	7.11	8.20	7.61	7.37	7.20	6.95	6.49	6.07	7.07		7.62	7.49	7.08	6.27	7.55	6.65	

Kashiyama, Kaede (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shizuoka International Meeting (Fukuroi, JPN)																	*Yamanaka (2017) - male and female 400m analysis in the 2017 season*
date 03-May-17 time	7.05	13.02	19.27	25.77	32.71	40.05	47.92	56.57	56.57	/ 6							
reaction time interval		5.97	6.25	6.50	6.94	7.34	7.87	8.65		# of strides	13.02	12.75	14.28	16.52	25.77	30.80	5.03
velocity	7.09	8.38	8.00	7.69	7.20	6.81	6.35	5.78	7.07		7.68	7.84	7.00	6.05	7.76	6.49	

Irie, Akiho (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Japanese National High School Championships (Okinawa, JPN)																	*Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection*
date 04-Aug-19 time	7.34	13.57	20.07	26.75	33.60	40.89	48.51	56.58	56.58	1 / 8							
reaction time interval		6.23	6.50	6.68	6.85	7.29	7.62	8.07		# of strides	13.57	13.18	14.14	15.69	26.75	29.83	3.08
velocity	6.81	8.03	7.69	7.49	7.30	6.86	6.56	6.20	7.07		7.37	7.59	7.07	6.37	7.48	6.70	

Otsuki, Naoko (JPN) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/10/05/post-1097/*
date 24-Sep-17 time		13.37		26.46		40.63		56.59	56.59	8 / 5							
reaction time 0.318 interval				13.09		14.17		15.96		# of strides	13.37	13.09	14.17	15.96	26.46	30.13	3.67
velocity		7.48		7.64		7.06		6.27	7.07	206.0	7.48	7.64	7.06	6.27	7.56	6.64	

Gono, Shiina (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18 time	7.28	13.60	20.10	26.88	33.87	41.14	48.60	56.59	56.59	1 / 7							
reaction time 0.198 interval		6.32	6.50	6.78	6.99	7.27	7.46	7.99		# of strides	13.60	13.28	14.26	15.45	26.88	29.71	2.83
velocity	6.87	7.91	7.69	7.37	7.15	6.88	6.70	6.26	7.07		7.35	7.53	7.01	6.47	7.44	6.73	

Okumura, Yuri (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Japanese National Junior (U20) Championships (Nagano, JPN)																	*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*
date 19-Oct-18 time	7.20	13.08	19.39	26.18	33.24	40.66	48.35	56.59	56.59	7 / 8							
reaction time 0.185 interval		5.88	6.31	6.79	7.06	7.42	7.69	8.24		# of strides	13.08	13.10	14.48	15.93	26.18	30.41	4.23
velocity	6.94	8.50	7.92	7.36	7.08	6.74	6.50	6.07	7.07		7.65	7.63	6.91	6.28	7.64	6.58	

Fujii, Ayano (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17 time		13.22		26.24		40.78		56.60	56.60	3 / 6							
reaction time interval				13.02		14.54		15.82		# of strides	13.22	13.02	14.54	15.82	26.24	30.36	4.12
velocity		7.56		7.68		6.88		6.32	7.07	207.5	7.56	7.68	6.88	6.32	7.62	6.59	

Williams, Shamayamian (JPN) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)																	*Takashima (2024) - national high school sports festival - biomechanics data*
date 28-Jul-24 time		13.53		27.06		41.02		56.60	56.60	3 / 6							
reaction time 0.244 interval				13.53		13.96		15.58		# of strides	13.53	13.53	13.96	15.58	27.06	29.54	2.48
velocity		7.39		7.39		7.16		6.42	7.07		7.39	7.39	7.16	6.42	7.39	6.77	

Sokolowska, Julia (POL) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL)																	*Omega Timing (2022) - diamond league race analysis*
date 06-Aug-22 time	7.25	13.58	20.12	26.87	33.90	41.09	48.56	56.61	56.61	2 / 8							
reaction time 0.172 interval		6.33	6.54	6.75	7.03	7.19	7.47	8.05		# of strides	13.58	13.29	14.22	15.52	26.87	29.74	2.87
velocity	6.90	7.90	7.65	7.41	7.11	6.95	6.69	6.21	7.07		7.36	7.52	7.03	6.44	7.44	6.72	

Takagi, Rina (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)																	*(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*
date 17-Jun-16 time		13.70		27.05		40.98		56.62	56.62	4 / 5							
reaction time interval				13.35		13.93		15.64		# of strides	13.70	13.35	13.93	15.64	27.05	29.57	2.52
velocity		7.30		7.49		7.18		6.39	7.06		7.30	7.49	7.18	6.39	7.39	6.76	

Estes, Carla (USA) (1979)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 1996 USATF National Junior Championships (Delaware, OH)																	*USATF Women's Sprint Development (1996)*
date 29-Jun-96 time		12.48		24.84		38.95	46.95	56.63	56.63	1 / 8							
reaction time interval				12.36		14.11	8.00	9.68		# of strides	12.48	12.36	14.11	17.68	24.84	31.79	6.95

		velocity		8.01		8.09		7.09	6.25	5.17	7.06		8.01	8.09	7.09	5.66	8.05	6.29	

Minami, Chihiro (JPN) (2000)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2017 Japanese National High School Championships (Yamagata, JPN)													*Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data*						
date	29-Jul-17	time	7.24	13.17	19.40	25.98	32.91	40.36	48.20	56.63	56.63	3 / 8							
reaction time	0.229	interval		5.93	6.23	6.58	6.93	7.45	7.84	8.43		# of strides	13.17	12.81	14.38	16.27	25.98	30.65	4.67
		velocity	6.91	8.43	8.03	7.60	7.22	6.71	6.38	5.93	7.06		7.59	7.81	6.95	6.15	7.70	6.53	

Daichi, Saori (JPN) (2000)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)													*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date	08-Oct-17	time		13.62		26.72		40.83		56.63	56.63	3 / 5							
reaction time	0.254	interval				13.10		14.11		15.80		# of strides	13.62	13.10	14.11	15.80	26.72	29.91	3.19
		velocity		7.34		7.63		7.09		6.33	7.06	205.0	7.34	7.63	7.09	6.33	7.49	6.69	

Matsumoto, Fuya (JPN) (1997)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)													*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*						
date	21-Oct-16	time	7.33	13.54	20.00	26.82	33.96	41.33	48.82	56.64	56.64	1 / 7							
reaction time		interval		6.21	6.46	6.82	7.14	7.37	7.49	7.82		# of strides	13.54	13.28	14.51	15.31	26.82	29.82	3.00
		velocity	6.82	8.05	7.74	7.33	7.00	6.78	6.68	6.39	7.06		7.39	7.53	6.89	6.53	7.46	6.71	

Kato, Shiho (JPN) (2000)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)													*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date	08-Oct-17	time		13.27		26.37		40.71		56.64	56.64	9 / 6							
reaction time	0.204	interval				13.10		14.34		15.93		# of strides	13.27	13.10	14.34	15.93	26.37	30.27	3.90
		velocity		7.54		7.63		6.97		6.28	7.06	212.0	7.54	7.63	6.97	6.28	7.58	6.61	

Funabiki, Ruka (JPN) (2002)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)													*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*						
date	19-Oct-18	time	7.34	13.65	20.26	27.07	34.02	41.23	48.78	56.64	56.64	1 / 6							
reaction time	0.202	interval		6.31	6.61	6.81	6.95	7.21	7.55	7.86		# of strides	13.65	13.42	14.16	15.41	27.07	29.57	2.50
		velocity	6.81	7.92	7.56	7.34	7.19	6.93	6.62	6.36	7.06		7.33	7.45	7.06	6.49	7.39	6.76	

Oikawa, Maaya (JPN) (2001)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)													*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*						
date	19-Oct-18	time	7.49	13.95	20.57	27.41	34.34	41.55	48.92	56.65	56.65	8 / 7							
reaction time		interval		6.46	6.62	6.84	6.93	7.21	7.37	7.73		# of strides	13.95	13.46	14.14	15.10	27.41	29.24	1.83
		velocity	6.68	7.74	7.55	7.31	7.22	6.93	6.78	6.47	7.06		7.17	7.43	7.07	6.62	7.30	6.84	

Igoshi, Akari (JPN) (2000)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)													*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date	08-Oct-17	time		13.15		26.24		40.55		56.66	56.66	5 / 7							
reaction time	0.193	interval				13.09		14.31		16.11		# of strides	13.15	13.09	14.31	16.11	26.24	30.42	4.18
		velocity		7.60		7.64		6.99		6.21	7.06	206.2	7.60	7.64	6.99	6.21	7.62	6.57	

Saito, Mayu (JPN) (1995)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Heat 1 - 2017 National Sports Festival (Matsuyama, JPN)													*(2017) - tfdata-store.com/2017/10/12/post-1100/*						
date	08-Oct-17	time		13.26		26.56		40.79		56.67	56.67	7 / 5							
reaction time	0.180	interval				13.30		14.23		15.88	**PB**	# of strides	13.26	13.30	14.23	15.88	26.56	30.11	3.55
		velocity		7.54		7.52		7.03		6.30	7.06	212.7	7.54	7.52	7.03	6.30	7.53	6.64	

Mito, Yuriko (JPN) (1995)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)													*(2017) - tfdata-store.com/2017/06/02/post-835/*						
date	26-May-17	time		13.80		27.11		41.31		56.69	56.69	8 / 6							
reaction time		interval				13.31		14.20		15.38		# of strides	13.80	13.31	14.20	15.38	27.11	29.58	2.47
		velocity		7.25		7.51		7.04		6.50	7.06	201.2	7.25	7.51	7.04	6.50	7.38	6.76	

Kawakubo, Moeka (JPN) (2002)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2018 Japanese National Youth (U18) Championships (Nagano, JPN)													*Ryutaro (2018) - research on athlete performance and technique- 2018 data book*						
date	19-Oct-18	time	7.34	13.94	20.70	27.51	34.35	41.57	49.03	56.69	56.69	2 / 8							
reaction time	0.200	interval		6.60	6.76	6.81	6.84	7.22	7.46	7.66		# of strides	13.94	13.57	14.06	15.12	27.51	29.18	1.67
		velocity	6.81	7.58	7.40	7.34	7.31	6.93	6.70	6.53	7.06		7.17	7.37	7.11	6.61	7.27	6.85	

Masano, Siho (JPN) (2004)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2021 Japanese High School National Championships (Fukui, JPN)													*Shibayama (2021) - national high school and U20 national championhsips*						
date	28-Jul-21	time	7.43	13.90	20.64	27.55	34.69	41.86	49.09	56.69	56.69	1 / 8							
reaction time	0.206	interval		6.47	6.74	6.91	7.14	7.17	7.23	7.60		# of strides	13.90	13.65	14.31	14.83	27.55	29.14	1.59
		velocity	6.73	7.73	7.42	7.24	7.00	6.97	6.92	6.58	7.06		7.19	7.33	6.99	6.74	7.26	6.86	

Fukushima, Miyuki (JPN) (1997)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)													*(2017) - tfdata-store.com/2017/06/02/post-835/*						
date	26-May-17	time		13.39		26.68		41.21		56.71	56.71	2 / 7							
reaction time		interval				13.29		14.53		15.50	**PB**	# of strides	13.39	13.29	14.53	15.50	26.68	30.03	3.35
		velocity		7.47		7.52		6.88		6.45	7.05	210.0	7.47	7.52	6.88	6.45	7.50	6.66	

Ali, Sara Shams (QAT) (2005)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT)													*Omega Timing (2025) - diamond league race analysis*						
date	16-May-25	time	6.78	12.63	18.95	25.64	32.46	39.67	47.50	56.71	56.71	4 / 6							
reaction time	0.194	interval		5.85	6.32	6.69	6.82	7.21	7.83	9.21	**PB**	# of strides	12.63	13.01	14.03	17.04	25.64	31.07	5.43
		velocity	7.37	8.55	7.91	7.47	7.33	6.93	6.39	5.43	7.05		7.92	7.69	7.13	5.87	7.80	6.44	

Tsugawa, Rui (JPN) (2001)			**50m**	**100m**	**150m**	**200m**	**250m**	**300m**	**350m**	**400m**	**Official Time**	**Lane / Place**	**0-100m**	**100-200m**	**200-300m**	**300-400m**	**0-200m**	**200m-400m**	**Differential**
FINAL - 2018 Japanese National High School Championships (Nagoya, JPN)													*Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection*						
date	02-Aug-18	time	7.35	13.60	20.19	27.02	33.93	41.17	48.64	56.75	56.75	3 / 8							
reaction time		interval		6.25	6.59	6.83	6.91	7.24	7.47	8.11		# of strides	13.60	13.42	14.15	15.58	27.02	29.73	2.71
		velocity	6.80	8.00	7.59	7.32	7.24	6.91	6.69	6.17	7.05		7.35	7.45	7.07	6.42	7.40	6.73	

Buchwald Johansen, Zarah (DEN) (19 | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

National FINAL - 2025 Bauhaus Galan (Stockholm, SWE) — *Omega Timing (2025) - diamond league race analysis*

date	15-Jun-25	time	7.92	13.44	19.99	26.73	33.52	40.74	47.93	56.75	56.75	7 / 8							
reaction time	0.180	interval		5.52	6.55	6.74	6.79	7.22	7.19	8.82		# of strides	13.44	13.29	14.01	16.01	26.73	30.02	3.29
		velocity	6.31	9.06	7.63	7.42	7.36	6.93	6.95	5.67	7.05		7.44	7.52	7.14	6.25	7.48	6.66	

Kato, Shiho (JPN) (2000) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

U19 FINAL - 2016 National Sports Festival (Kitakami, JPN) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

date	10-Oct-16	time	7.13	13.11	19.47	26.30	33.40	40.70	48.40	56.76	56.76	3 / 7							
reaction time	0.194	interval		5.98	6.36	6.83	7.10	7.30	7.70	8.36		# of strides	13.11	13.19	14.40	16.06	26.30	30.46	4.16
		velocity	7.01	8.36	7.86	7.32	7.04	6.85	6.49	5.98	7.05		7.63	7.58	6.94	6.23	7.60	6.57	

Contrebuț, Tatiana (MDA) (2000) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

B FINAL - 2023 European Team Championships, Second Division (Chorzów, POL) — *European Athletics (2023) - 3rd european games, athletics - results book*

date	20-Jun-23	time		13.77		26.58		41.20		56.76	56.76	6 / 6							
reaction time	0.235	interval				12.81		14.62		15.56	PB	# of strides	13.77	12.81	14.62	15.56	26.58	30.18	3.60
		velocity		7.26		7.81		6.84		6.43	7.05		7.26	7.81	6.84	6.43	7.52	6.63	

Minami, Enari (JPN) (1999) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2015 Japanese National Youth Championships (Nagoya, JPN) — *Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*

date	16-Oct-15	time	7.15	13.23	19.60	26.41	33.45	40.92	48.64	56.78	56.78	/ 8							
reaction time		interval		6.08	6.37	6.81	7.04	7.47	7.72	8.14		# of strides	13.23	13.18	14.51	15.86	26.41	30.37	3.96
		velocity	6.99	8.22	7.85	7.34	7.10	6.69	6.48	6.14	7.04		7.56	7.59	6.89	6.31	7.57	6.59	

Uesugi, Haruna (JPN) (1998) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/04/07/post-249/*

date	06-Apr-17	time		13.15		25.86		40.24		56.78	56.78	7 / 1							
reaction time		interval				12.71		14.38		16.54		# of strides	13.15	12.71	14.38	16.54	25.86	30.92	5.06
		velocity		7.60		7.87		6.95		6.05	7.04	212.5	7.60	7.87	6.95	6.05	7.73	6.47	

Shintaku, Asami (JPN) (1994) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2017 All Japan Corporate Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/10/05/post-1097/*

date	24-Sep-17	time		13.65		26.95		41.04		56.81	56.81	9 / 6							
reaction time	0.152	interval				13.30		14.09		15.77		# of strides	13.65	13.30	14.09	15.77	26.95	29.86	2.91
		velocity		7.33		7.52		7.10		6.34	7.04	227.7	7.33	7.52	7.10	6.34	7.42	6.70	

Li Jinzhu (CHN) (2007) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN) — *Omega Timing (2025) - diamond league race analysis*

date	03-May-25	time	7.13	13.09	19.46	26.18	33.21	40.61	48.40	56.86	56.86	1 / 9							
reaction time		interval		5.96	6.37	6.72	7.03	7.40	7.79	8.46		# of strides	13.09	13.09	14.43	16.25	26.18	30.68	4.50
		velocity	7.01	8.39	7.85	7.44	7.11	6.76	6.42	5.91	7.03		7.64	7.64	6.93	6.15	7.64	6.52	

Shibata, Mie (JPN) (1998) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

U19 FINAL - 2016 National Sports Festival (Kitakami, JPN) — *Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*

date	10-Oct-16	time	7.13	13.27	19.65	26.49	33.60	40.97	48.72	56.95	56.95	8 / 8							
reaction time	0.189	interval		6.14	6.38	6.84	7.11	7.37	7.75	8.23		# of strides	13.27	13.22	14.48	15.98	26.49	30.46	3.97
		velocity	7.01	8.14	7.84	7.31	7.03	6.78	6.45	6.08	7.02		7.54	7.56	6.91	6.26	7.55	6.57	

Aoyama, Seika (JPN) (1996) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2018 Seiko Golden Grand Prix (Osaka, JPN) — *Yamanaka (2018) - Race analysis of men and women 400m at 2018 competition*

date	20-May-18	time	7.12	13.06	19.34	25.94	32.91	40.39	48.31	56.95	56.95	8 / 8							
reaction time	0.200	interval		5.94	6.28	6.60	6.97	7.48	7.92	8.64		# of strides	13.06	12.88	14.45	16.56	25.94	31.01	5.07
		velocity	7.02	8.42	7.96	7.58	7.17	6.68	6.31	5.79	7.02		7.66	7.76	6.92	6.04	7.71	6.45	

Amlie, Sigrid Kongssund (NOR) (200 | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

National FINAL - 2019 Bislett Games (Olso, NOR) — *Omega Timing (2019) - diamond league race analysis*

date	13-Jun-19	time		13.5		26.4		41.0		56.98	56.98	1 / 7							
reaction time	0.174	interval				12.9		14.6		16.0	PB	# of strides	13.50	12.90	14.60	15.98	26.40	30.58	4.18
		velocity		7.41		7.75		6.85		6.26	7.02		7.41	7.75	6.85	6.26	7.58	6.54	

Ikezaki, Airi (JPN) (1998) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

Heat 2 - 2017 National Sports Festival (Matsuyama, JPN) — *(2017) - tfdata-store.com/2017/10/12/post-1100/*

date	08-Oct-17	time		13.72		27.01		41.41		57.06	57.06	7 / 5							
reaction time	0.287	interval				13.29		14.40		15.65		# of strides	13.72	13.29	14.40	15.65	27.01	30.05	3.04
		velocity		7.29		7.52		6.94		6.39	7.01		7.29	7.52	6.94	6.39	7.40	6.66	

Aman, Bdr (QAT) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

Invitational FINAL - 2025 Jetour Doha Meeting (Doha, QAT) — *Omega Timing (2025) - diamond league race analysis*

date	16-May-25	time	6.92	12.90	19.28	26.04	33.07	40.52	48.29	57.09	57.09	2 / 7							
reaction time	0.184	interval		5.98	6.38	6.76	7.03	7.45	7.77	8.80		# of strides	12.90	13.14	14.48	16.57	26.04	31.05	5.01
		velocity	7.23	8.36	7.84	7.40	7.11	6.71	6.44	5.68	7.01		7.75	7.61	6.91	6.04	7.68	6.44	

Takeishi, Konomi (JPN) (1991) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2021 Shizuoka International Athletics Meeting (Fukuroi, JPN) — *Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*

date	03-May-21	time	7.12	13.35	20.00	27.00	34.18	41.58	49.16	57.13	57.13	6 / 6							
reaction time	0.171	interval		6.23	6.65	7.00	7.18	7.40	7.58	7.97		# of strides	13.35	13.65	14.58	15.55	27.00	30.13	3.13
		velocity	7.02	8.03	7.52	7.14	6.96	6.76	6.60	6.27	7.00		7.49	7.33	6.86	6.43	7.41	6.64	

Shimaoka, Masami (JPN) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2017 Osaka University Athletics Championships (Osaka, JPN) — *(2017) - tfdata-store.com/2017/04/07/post-249/*

date	06-Apr-17	time		13.40		26.43		40.91		57.17	57.17	4 / 2							
reaction time		interval				13.03		14.48		16.26		# of strides	13.40	13.03	14.48	16.26	26.43	30.74	4.31
		velocity		7.46		7.67		6.91		6.15	7.00	206.5	7.46	7.67	6.91	6.15	7.57	6.51	

Hagiwara, Sayaka (JPN) (1989) | 50m | 100m | 150m | 200m | 250m | 300m | 350m | 400m | Official Time | Lane / Place | 0-100m | 100-200m | 200-300m | 300-400m | 0-200m | 200m-400m | Differential

FINAL - 2009 Japanese National High School Championships (Nara, JPN) — *Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data collection*

date	29-Jul-09	time	13.53	27.60	42.13	57.18	57.18	8 / 8									
reaction time		interval		14.07	14.53	15.05		# of strides	13.53	14.07	14.53	15.05	27.60	29.58	1.98		
		velocity	7.39	7.11	6.88	6.64	7.00		7.39	7.11	6.88	6.64	7.25	6.76			

Nakajima, Aiharu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Atheltics Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/04/07/post-249/*
date 06-Apr-17	time	12.90		25.41		39.97		57.20	57.20	5 / 3							
reaction time	interval			12.51		14.56		17.23		# of strides	12.90	12.51	14.56	17.23	25.41	31.79	6.38
	velocity	7.75		7.99		6.87		5.80	6.99	210.7	7.75	7.99	6.87	5.80	7.87	6.29	

Nyhus, Mille Eide (NOR) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Bislett Games (Olso, NOR)																	*Omega Timing (2019) - diamond league race analysis*
date 13-Jun-19	time	13.2		26.5		41.2		57.22	57.22	8 / 8							
reaction time 0.208	interval			13.3		14.7		16.0	PB	# of strides	13.20	13.30	14.70	16.02	26.50	30.72	4.22
	velocity	7.58		7.52		6.80		6.24	6.99		7.58	7.52	6.80	6.24	7.55	6.51	

Fujii, Ayano (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 FINAL - 2015 National Sports Festival (Wakayama, JPN)																	*Kohei (2015) - 400m race analysis of male & female at major 2015 competitions*
date 05-Oct-15	time	7.33	13.57	20.00	26.81	33.88	41.23	48.91	57.24	57.24	/ 8						
reaction time	interval		6.24	6.43	6.81	7.07	7.35	7.68	8.33		# of strides	13.57	13.24	14.42	16.01	26.81	30.43	3.62
	velocity	6.82	8.01	7.78	7.34	7.07	6.80	6.51	6.00	6.99		7.37	7.55	6.93	6.25	7.46	6.57	

Kyoya, Yuka (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2014 Japanese National High School Championships (Kofu, JPN)																	*Yanagiya (2014) - research on athlete performance and technique- 2014 data book*
date 30-Jul-14	time	7.50	13.81	20.12	26.60	33.49	40.86	48.87	57.28	57.28	/ 8						
reaction time	interval		6.31	6.31	6.48	6.89	7.37	8.01	8.41	PB	# of strides	13.81	12.79	14.26	16.42	26.60	30.68	4.08
	velocity	6.67	7.92	7.92	7.72	7.26	6.78	6.24	5.95	6.98		7.24	7.82	7.01	6.09	7.52	6.52	

Yamada, Hana (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/10/05/post-1097/*
date 24-Sep-17	time					41.85		57.29	57.29	2 / 7							
reaction time 0.194	interval							15.44		# of strides				15.44			
	velocity					7.17		6.48	6.98					6.48			

Sasaki, Haon (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2025) - shimane high school championships 2025 - biomechanics data analysis*
date 30-May-25	time	14.10		27.70		42.06		57.29	57.29	8 / 2							
reaction time	interval			13.60		14.36		15.23		# of strides	14.10	13.60	14.36	15.23	27.70	29.59	1.89
	velocity	7.09		7.35		6.96		6.57	6.98		7.09	7.35	6.96	6.57	7.22	6.76	

Izu, Eri (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 China Perfecture High School Championships (Okayama, JPN)																	*(2016.06.20) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en*
date 17-Jun-16	time	13.85		27.32		41.62		57.33	57.33	3 / 6							
reaction time	interval			13.47		14.30		15.71		# of strides	13.85	13.47	14.30	15.71	27.32	30.01	2.69
	velocity	7.22		7.42		6.99		6.37	6.98		7.22	7.42	6.99	6.37	7.32	6.66	

Nakajima, Airi (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Junior Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 21-Oct-16	time	7.27	13.30	19.54	26.10	33.08	40.48	48.56	57.33	57.33	7 / 8						
reaction time	interval		6.03	6.24	6.56	6.98	7.40	8.08	8.77		# of strides	13.30	12.80	14.38	16.85	26.10	31.23	5.13
	velocity	6.88	8.29	8.01	7.62	7.16	6.76	6.19	5.70	6.98		7.52	7.81	6.95	5.93	7.66	6.40	

Kuroiwa, Sesami (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time	13.35		26.83		41.62		57.47	57.47	2 / 7							
reaction time	interval			13.48		14.79		15.85		# of strides	13.35	13.48	14.79	15.85	26.83	30.64	3.81
	velocity	7.49		7.42		6.76		6.31	6.96	210.5	7.49	7.42	6.76	6.31	7.45	6.53	

Chiloyan, Gayane (ARM) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time	12.60		25.26		40.20		57.47	57.47	9 / 6							
reaction time 0.179	interval			12.66		14.94		17.27		# of strides	12.60	12.66	14.94	17.27	25.26	32.21	6.95
	velocity	7.94		7.90		6.69		5.79	6.96		7.94	7.90	6.69	5.79	7.92	6.21	

Tsumoto, Erika (JPN) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)																	*Takashima (2024) - national high school sports festival - biomechanics data*
date 28-Jul-24	time	13.56		27.31		41.54		57.50	57.50	2 / 7							
reaction time 0.199	interval			13.75		14.23		15.96		# of strides	13.56	13.75	14.23	15.96	27.31	30.19	2.88
	velocity	7.37		7.27		7.03		6.27	6.96		7.37	7.27	7.03	6.27	7.32	6.62	

Sulastri (INA) (1992)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 East Java National Championships (Surabaya, INA)																	*Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional athletik jawa timur terbuka*
date 15-Apr-16	time	7.04	13.58	19.50	26.08	33.89	41.48	47.98	57.51	57.51	/ 1						
reaction time	interval		6.54	5.92	6.58	7.81	7.59	6.50	9.53		# of strides	13.58	12.50	15.40	16.03	26.08	31.43	5.35
	velocity	7.10	7.65	8.45	7.60	6.40	6.59	7.69	5.25	6.96		7.36	8.00	6.49	6.24	7.67	6.36	

Okuni, Chinatsu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*
date 24-May-24	time	14.42		28.20		42.91		57.54	57.54	7 / 1							
reaction time	interval			13.78		14.71		14.63		# of strides	14.42	13.78	14.71	14.63	28.20	29.34	1.14
	velocity	6.93		7.26		6.80		6.84	6.95		6.93	7.26	6.80	6.84	7.09	6.82	

Shintaku, Asami (JPN) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2011 Japanese National High School Championships (Okinawa, JPN)																	*Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data*
date 03-Aug-11	time	13.58		27.10		40.77		57.56	57.56	9 / 8							
reaction time	interval			13.52		13.67		16.79		# of strides	13.58	13.52	13.67	16.79	27.10	30.46	3.36

		velocity	7.36		7.40		7.32		5.96	6.95		7.36	7.40	7.32	5.96	7.38	6.57	

Beqiri, Iljana (ALB) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time	13.87		27.26		41.81		57.60	57.60	7 / 1							
reaction time 0.172	interval			13.39		14.55		15.79		# of strides	13.87	13.39	14.55	15.79	27.26	30.34	3.08
	velocity	7.21		7.47		6.87		6.33	6.94		7.21	7.47	6.87	6.33	7.34	6.59	

Ikezaki, Airi (JPN) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17	time	13.36		26.58		41.48		57.67	57.67	2 / 7							
reaction time	interval			13.22		14.90		16.19		# of strides	13.36	13.22	14.90	16.19	26.58	31.09	4.51
	velocity	7.49		7.56		6.71		6.18	6.94	221.2	7.49	7.56	6.71	6.18	7.52	6.43	

McCorory, Francena (USA) (1988)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Quarter-Final 1 - 2008 USA Olympic Trials (Eugene, OR)																	*USATF Women's Sprint Development with HPC (2008)*
date 29-Jun-08	time	13.01	19.04	25.61	32.45	40.02		57.73	57.73	4 / 6							
reaction time	interval		6.03	6.57	6.84	7.57		17.71		# of strides	13.01	12.60	14.41	17.71	25.61	32.12	6.51
	velocity	7.69	8.29	7.61	7.31	6.61		5.65	6.93		7.69	7.94	6.94	5.65	7.81	6.23	

Itani, Kanna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 1 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17	time	13.79		27.28		41.85		57.75	57.75	5 / 8							
reaction time	interval			13.49		14.57		15.90		# of strides	13.79	13.49	14.57	15.90	27.28	30.47	3.19
	velocity	7.25		7.41		6.86		6.29	6.93	219.0	7.25	7.41	6.86	6.29	7.33	6.56	

Coetzee, Miranda (RSA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2025 World Athletics Championships (Tokyo, JPN)																	*Seiko Timing (2025) - 2025 World Championships race analysis*
date 14-Sep-25	time	12.45		24.72		38.59		57.78	57.78	9 / 8							
reaction time 0.194	interval			12.27		13.87		19.19		# of strides	12.45	12.27	13.87	19.19	24.72	33.06	8.34
	velocity	8.03		8.15		7.21		5.21	6.92		8.03	8.15	7.21	5.21	8.09	6.05	

Esumi, Kazuka (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*
date 24-May-24	time	13.53		26.93		41.88		57.88	57.88	6 / 2							
reaction time	interval			13.40		14.95		16.00		# of strides	13.53	13.40	14.95	16.00	26.93	30.95	4.02
	velocity	7.39		7.46		6.69		6.25	6.91		7.39	7.46	6.69	6.25	7.43	6.46	

Ito, Aimi (JPN) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 All Japan Corporate Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/10/05/post-1097/*
date 24-Sep-17	time	13.67		27.48		41.90		57.94	57.94	3 / 8							
reaction time 0.176	interval			13.81		14.42		16.04	PB	# of strides	13.67	13.81	14.42	16.04	27.48	30.46	2.98
	velocity	7.32		7.24		6.93		6.23	6.90	213.0	7.32	7.24	6.93	6.23	7.28	6.57	

Gajić, Jelena (BIH) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time	14.34		28.09		42.89		57.94	57.94	3 / 7							
reaction time 0.336	interval			13.75		14.80		15.05		# of strides	14.34	13.75	14.80	15.05	28.09	29.85	1.76
	velocity	6.97		7.27		6.76		6.64	6.90		6.97	7.27	6.76	6.64	7.12	6.70	

Kimoto, Ayana (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Shizuoka International Meeting (Fukuroi, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date 03-May-16	time	7.54	13.94	20.52	27.37	34.51	41.96	49.64	57.96	57.96	/ 8						
reaction time	interval		6.40	6.58	6.85	7.14	7.45	7.68	8.32		# of strides	13.94	13.43	14.59	16.00	27.37	30.59	3.22
	velocity	6.63	7.81	7.60	7.30	7.00	6.71	6.51	6.01	6.90		7.17	7.45	6.85	6.25	7.31	6.54	

Mabuchi, Kanade (JPN) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 Japanese National High School Championships (Saga, JPN)																	*Hitorara (2007) - 60st high school championships: JAF scientific committee - biomechanics data*
date 02-Aug-07	time	6.83	13.57	21.05	28.49	35.70	42.88	50.28	58.01	58.01	/ 1						
reaction time	interval		6.74	7.48	7.44	7.21	7.18	7.40	7.73		# of strides	13.57	14.92	14.39	15.13	28.49	29.52	1.03
	velocity	7.32	7.42	6.68	6.72	6.93	6.96	6.76	6.47	6.90		7.37	6.70	6.95	6.61	7.02	6.78	

Iwata, Mebuki (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 1 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time	13.33		26.80		41.73		58.01	58.01	9 / 8							
reaction time 0.254	interval			13.47		14.93		16.28		# of strides	13.33	13.47	14.93	16.28	26.80	31.21	4.41
	velocity	7.50		7.42		6.70		6.14	6.90	220.5	7.50	7.42	6.70	6.14	7.46	6.41	

Hayashibara, Yori (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2025) - shimane high school championships 2025 - biomechanics data analysis*
date 30-May-25	time	13.90		28.13		42.07		58.04	58.04	6 / 3							
reaction time	interval			14.23		13.94		15.97		# of strides	13.90	14.23	13.94	15.97	28.13	29.91	1.78
	velocity	7.19		7.03		7.17		6.26	6.89		7.19	7.03	7.17	6.26	7.11	6.69	

Yuki Ishikawa (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*
date 26-May-17	time	13.57		27.23		42.40		58.12	58.12	4 / 1							
reaction time	interval			13.66		15.17		15.72		# of strides	13.57	13.66	15.17	15.72	27.23	30.89	3.66
	velocity	7.37		7.32		6.59		6.36	6.88		7.37	7.32	6.59	6.36	7.34	6.47	

Toya, Moenan (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*
date 25-May-18	time	13.59		27.33		42.33		58.16	58.16	4 / 1							
reaction time	interval			13.74		15.00		15.83		# of strides	13.59	13.74	15.00	15.83	27.33	30.83	3.50
	velocity	7.36		7.28		6.67		6.32	6.88		7.36	7.28	6.67	6.32	7.32	6.49	

Watanabe, Suzuka (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*
date 11-Jul-20	time		13.36		27.00		41.91		58.26	58.26	7 / 1						
reaction time	interval				13.64		14.91		16.35		# of strides	13.36	13.64	14.91	16.35	27.00	31.26	4.26
	velocity		7.49		7.33		6.71		6.12	6.87		7.49	7.33	6.71	6.12	7.41	6.40	

Mochida, Kanon (JPN) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*
date 28-May-21	time		14.07		27.60		42.29		58.36	58.36	5 / 1						
reaction time	interval				13.53		14.69		16.07		# of strides	14.07	13.53	14.69	16.07	27.60	30.76	3.16
	velocity		7.11		7.39		6.81		6.22	6.85		7.11	7.39	6.81	6.22	7.25	6.50	

Taslakian, Greta (LBN) (1985)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)																	*Omega Timing (2024) - diamond league race analysis*
date 10-May-24	time	7.45	13.72	20.35	27.31	34.61	42.25	50.10	58.36	58.36	5 / 2						
reaction time 0.208	interval		6.27	6.63	6.96	7.30	7.64	7.85	8.26		# of strides	13.72	13.59	14.94	16.11	27.31	31.05	3.74
	velocity	6.71	7.97	7.54	7.18	6.85	6.54	6.37	6.05	6.85		7.29	7.36	6.69	6.21	7.32	6.44	

Nohra, Maria (LBN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)																	*Omega Timing (2024) - diamond league race analysis*
date 10-May-24	time	7.11	13.26	19.93	27.02	34.39	42.03	49.97	58.36	58.36	7 / 3						
reaction time 0.179	interval		6.15	6.67	7.09	7.37	7.64	7.94	8.39		# of strides	13.26	13.76	15.01	16.33	27.02	31.34	4.32
	velocity	7.03	8.13	7.50	7.05	6.78	6.54	6.30	5.96	6.85		7.54	7.27	6.66	6.12	7.40	6.38	

Kitamura, Chisato (JPN) (1990)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 Japanese National High School Championships (Saga, JPN)																	*Hitorara (2007) - 60st high school championships: JAF scientific committee - biomechanics data*
date 02-Aug-07	time	7.43	14.31	21.92	29.36	36.41	43.46	50.74	58.38	58.38	/ 2						
reaction time	interval		6.88	7.61	7.44	7.05	7.05	7.28	7.64		# of strides	14.31	15.05	14.10	14.92	29.36	29.02	-0.34
	velocity	6.73	7.27	6.57	6.72	7.09	7.09	6.87	6.54	6.85		6.99	6.64	7.09	6.70	6.81	6.89	

Yoshida, Kasomi (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Division 1 Semi-Final 2 - 2017 Kanto Collegiate Championships (Yokohama, JPN)																	*(2017) - tfdata-store.com/2017/06/02/post-835/*
date 26-May-17	time		13.41		26.70		41.73		58.39	58.39	9 / 8						
reaction time	interval				13.29		15.03		16.66		# of strides	13.41	13.29	15.03	16.66	26.70	31.69	4.99
	velocity		7.46		7.52		6.65		6.00	6.85	223.7	7.46	7.52	6.65	6.00	7.49	6.31	

Kurniawati, Dewi Ayu Agung (INA) (1

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 East Java National Championships (Surabaya, INA)																	*Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional athletik jawa timur terbuka*
date 15-Apr-16	time	7.01	13.52	19.54	26.60	34.46	42.12	48.69	58.48	58.48	/ 2						
reaction time	interval		6.51	6.02	7.06	7.86	7.66	6.57	9.79		# of strides	13.52	13.08	15.52	16.36	26.60	31.88	5.28
	velocity	7.13	7.68	8.31	7.08	6.36	6.53	7.61	5.11	6.84		7.40	7.65	6.44	6.11	7.52	6.27	

Kameoka, Mitsuru (JPN) (1996)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 2 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time		13.12		26.49		41.61		58.52	58.52	3 / 6						
reaction time	interval				13.37		15.12		16.91		# of strides	13.12	13.37	15.12	16.91	26.49	32.03	5.54
	velocity		7.62		7.48		6.61		5.91	6.84		7.62	7.48	6.61	5.91	7.55	6.24	

Málaga Morán, Carlota Meritxell (AND

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time		14.04		27.49		42.22		58.52	58.52	5 / 2						
reaction time 0.329	interval				13.45		14.73		16.30		# of strides	14.04	13.45	14.73	16.30	27.49	31.03	3.54
	velocity		7.12		7.43		6.79		6.13	6.84		7.12	7.43	6.79	6.13	7.28	6.45	

Sigurðardóttir, Ingibjörg (ISL) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time		13.44		26.37		41.50		58.52	58.52	7 / 7						
reaction time 0.280	interval				12.93		15.13		17.02		# of strides	13.44	12.93	15.13	17.02	26.37	32.15	5.78
	velocity		7.44		7.73		6.61		5.88	6.84		7.44	7.73	6.61	5.88	7.58	6.22	

Yukina, Murakami (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2007 Japanese National High School Championships (Saga, JPN)																	*Hitorara (2007) - 60st high school championships: JAF scientific committee - biomechanics data collection*
date 02-Aug-07	time	7.32	14.43	22.02	29.35	36.45	43.71	51.08	58.69	58.69	/ 3						
reaction time	interval		7.11	7.59	7.33	7.10	7.26	7.37	7.61		# of strides	14.43	14.92	14.36	14.98	29.35	29.34	-0.01
	velocity	6.83	7.03	6.59	6.82	7.04	6.89	6.78	6.57	6.82		6.93	6.70	6.96	6.68	6.81	6.82	

Nakamura, Mayumi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Atheltics Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/04/07/post-249/*
date 06-Apr-17	time		13.91		27.58		42.34		58.70	58.70	6 / 4						
reaction time	interval				13.67		14.76		16.36		# of strides	13.91	13.67	14.76	16.36	27.58	31.12	3.54
	velocity		7.19		7.32		6.78		6.11	6.81		7.19	7.32	6.78	6.11	7.25	6.43	

Bozinovska, Ana (MKD) (2004)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
A FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date 20-Jun-23	time		13.45		26.74		41.83		58.70	58.70	4 / 8						
reaction time 0.306	interval				13.29		15.09		16.87		# of strides	13.45	13.29	15.09	16.87	26.74	31.96	5.22
	velocity		7.43		7.52		6.63		5.93	6.81		7.43	7.52	6.63	5.93	7.48	6.26	

Iyo, Maeda (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Atheltics Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/04/07/post-249/*
date 06-Apr-17	time		14.10		27.83		42.74		58.83	58.83	3 / 5						
reaction time	interval				13.73		14.91		16.09		# of strides	14.10	13.73	14.91	16.09	27.83	31.00	3.17
	velocity		7.09		7.28		6.71		6.22	6.80		7.09	7.28	6.71	6.22	7.19	6.45	

Mujovi, Anabela (MNE) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*

date	20-Jun-23	time	14.55	28.19	42.62	58.88	58.86	9 / 3									
reaction time	0.237	interval		13.64	14.43	16.26	PB	# of strides	14.55	13.64	14.43	16.26	28.19	30.69	2.50		
		velocity	6.87	7.33	6.93	6.15	6.80		6.87	7.33	6.93	6.15	7.09	6.52			

Yamamoto, Mizuke (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2025) - shimane high school championships 2025 - biomechanics data analysis*
date	30-May-25	time	14.05	28.10	42.77	58.87	58.87	5 / 4									
reaction time		interval		14.05	14.67	16.10		# of strides	14.05	14.05	14.67	16.10	28.10	30.77	2.67		
		velocity	7.12	7.12	6.82	6.21	6.79		7.12	7.12	6.82	6.21	7.12	6.50			

Sokhadze, Ana (GEO) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date	20-Jun-23	time	13.91	27.44	42.62	58.94	58.94	6 / 4									
reaction time	0.204	interval		13.53	15.18	16.32	PB	# of strides	13.91	13.53	15.18	16.32	27.44	31.50	4.06		
		velocity	7.19	7.39	6.59	6.13	6.79		7.19	7.39	6.59	6.13	7.29	6.35			

Oshita, Airi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*
date	24-May-19	time	13.30	26.68	42.15	58.96	58.96	5 / 1									
reaction time		interval		13.38	15.47	16.81		# of strides	13.30	13.38	15.47	16.81	26.68	32.28	5.60		
		velocity	7.52	7.47	6.46	5.95	6.78		7.52	7.47	6.46	5.95	7.50	6.20			

Mori, Ayano (JPN) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Atheltics Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/04/07/post-249/*
date	06-Apr-17	time	13.93	27.73		59.14	59.14	9 / 6									
reaction time		interval		13.80		31.41		# of strides	13.93	13.80			27.73	31.41	3.68		
		velocity	7.18	7.25		6.37	6.76		7.18	7.25			7.21	6.37			

Idoabigeiru, Fuka (JPN) (2001)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)																	*Kobayashi (2019) - research on athlete performance and technique- 2019 data book*
date	03-May-19	time	6.83	12.80	19.22	26.43	34.19	42.16	50.51	59.19	59.19	/ 6					
reaction time		interval		5.97	6.42	7.21	7.76	7.97	8.35	8.68		# of strides	12.80	13.63	15.73	17.03	26.43	32.76	6.33
		velocity	7.32	8.38	7.79	6.93	6.44	6.27	5.99	5.76	6.76		7.81	7.34	6.36	5.87	7.57	6.11	

Toya, Moenan (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*
date	26-May-17	time	13.90	27.77	43.10	59.21	59.21	7 / 2									
reaction time		interval		13.87	15.33	16.11		# of strides	13.90	13.87	15.33	16.11	27.77	31.44	3.67		
		velocity	7.19	7.21	6.52	6.21	6.76		7.19	7.21	6.52	6.21	7.20	6.36			

Jenuzi, Emine (KOS) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)																	*European Athletics (2023) - 3rd european games, athletics - results book*
date	20-Jun-23	time	14.02	27.24	42.21	59.31	59.31	3 / 5									
reaction time	0.211	interval		13.22	14.97	17.10	PB	# of strides	14.02	13.22	14.97	17.10	27.24	32.07	4.83		
		velocity	7.13	7.56	6.68	5.85	6.74		7.13	7.56	6.68	5.85	7.34	6.24			

Watanabe, Suzuka (JPN) (2002)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*
date	24-May-19	time	13.80	27.61	43.43	59.35	59.35	7 / 2									
reaction time		interval		13.81	15.82	15.92		# of strides	13.80	13.81	15.82	15.92	27.61	31.74	4.13		
		velocity	7.25	7.24	6.32	6.28	6.74		7.25	7.24	6.32	6.28	7.24	6.30			

Karuyama, Yakari (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 Japanese National Youth Championships (Mizuho, JPN)																	*Yamamoto (2016) - race analysis of male & female 400m runners at major competitions in 2016*
date	21-Oct-16	time	7.19	13.40	19.99	26.96	34.32	42.13	50.52	59.55	59.55	1 / 8					
reaction time		interval		6.21	6.59	6.97	7.36	7.81	8.39	9.03		# of strides	13.40	13.56	15.17	17.42	26.96	32.59	5.63
		velocity	6.95	8.05	7.59	7.17	6.79	6.40	5.96	5.54	6.72		7.46	7.37	6.59	5.74	7.42	6.14	

Reyes, Norcady (GIB) (2003)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 3 - 2022 European Athletics Championships (Munich, GER)																	*European Athletics (2022) - european athletics championships race analysis*
date	15-Aug-22	time	14.02	28.04	42.96	59.59	59.59	7 / 8									
reaction time	0.250	interval		14.02	14.92	16.63		# of strides	14.02	14.02	14.92	16.63	28.04	31.55	3.51		
		velocity	7.13	7.13	6.70	6.01	6.71		7.13	7.13	6.70	6.01	7.13	6.34			

Okuni, Chinatsu (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*
date	26-May-23	time	14.85	29.43	44.29	59.61	59.61	3 / 1									
reaction time		interval		14.58	14.86	15.32		# of strides	14.85	14.58	14.86	15.32	29.43	30.18	0.75		
		velocity	6.73	6.86	6.73	6.53	6.71		6.73	6.86	6.73	6.53	6.80	6.63			

Nafiah, Nikmatul (INA)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 East Java National Championships (Surabaya, INA)																	*Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional athletik jawa timur terbuka*
date	15-Apr-16	time	7.04	13.73	20.06	26.96	34.92	42.84	49.74	59.64	59.64	/ 3					
reaction time		interval		6.69	6.33	6.90	7.96	7.92	6.90	9.90		# of strides	13.73	13.23	15.88	16.80	26.96	32.68	5.72
		velocity	7.10	7.47	7.90	7.25	6.28	6.31	7.25	5.05	6.71		7.28	7.56	6.30	5.95	7.42	6.12	

Majors, Felecia (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 NCAA Championships (Eugene, OR)																	*Track Newsletter (2016) - NCAA women's championships*
date	11-Jun-16	time		25.2		37.8		59.7	59.68	/ 8							
reaction time		interval				12.60		21.90		# of strides			12.60	21.90	25.20	34.50	9.30		
		velocity		7.94		7.94		4.57	6.70				7.94	4.57	7.94	5.80			

Tsugu, Kaneko (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*
date	26-May-22	time	13.82	27.80	43.09	59.78	59.78	7 / 1									
reaction time		interval		13.98	15.29	16.69		# of strides	13.82	13.98	15.29	16.69	27.80	31.98	4.18		

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		7.24		7.15		6.54		5.99	6.69		7.24	7.15	6.54	5.99	7.19	6.25	

Christianti, Emma Anita (INA) (1997)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 East Java National Championships (Surabaya, INA)													*Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional athletik jawa timur terbuka*						
date	15-Apr-16	time	7.11	14.27	20.46	27.56	35.66	43.44	50.03	59.81	59.81	/ 4							
reaction time		interval		7.16	6.19	7.10	8.10	7.78	6.59	9.78		# of strides	14.27	13.29	15.88	16.37	27.56	32.25	4.69
		velocity	7.03	6.98	8.08	7.04	6.17	6.43	7.59	5.11	6.69		7.01	7.52	6.30	6.11	7.26	6.20	

Sakakibara, Sora (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)													*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*						
date	26-May-22	time		13.82		27.87		43.41		60.03	60.03	5 / 2							
reaction time		interval				14.05		15.54		16.62		# of strides	13.82	14.05	15.54	16.62	27.87	32.16	4.29
		velocity		7.24		7.12		6.44		6.02	6.66		7.24	7.12	6.44	6.02	7.18	6.22	

Noda, Kazuha (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)													*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*						
date	24-May-24	time		14.07		28.33		42.47		60.06	60.06	5 / 3							
reaction time		interval				14.26		14.14		17.59		# of strides	14.07	14.26	14.14	17.59	28.33	31.73	3.40
		velocity		7.11		7.01		7.07		5.69	6.66		7.11	7.01	7.07	5.69	7.06	6.30	

Yoneda, Ryoha (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shimane High School Championships (Izumo, JPN)													*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						
date	26-May-17	time		14.15		28.00		43.35		60.10	60.10	5 / 3							
reaction time		interval				13.85		15.35		16.75		# of strides	14.15	13.85	15.35	16.75	28.00	32.10	4.10
		velocity		7.07		7.22		6.51		5.97	6.66		7.07	7.22	6.51	5.97	7.14	6.23	

Watanabe, Suzuka (JPN) (2002)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)													*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						
date	25-May-18	time		14.00		28.32		43.65		60.17	60.17	5 / 2							
reaction time		interval				14.32		15.33		16.52		# of strides	14.00	14.32	15.33	16.52	28.32	31.85	3.53
		velocity		7.14		6.98		6.52		6.05	6.65		7.14	6.98	6.52	6.05	7.06	6.28	

Stüber, Nadine (LIE) (2005)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)													*European Athletics (2023) - 3rd european games, athletics - results book*						
date	20-Jun-23	time		14.17		27.98		42.96		60.29	60.29	8 / 6							
reaction time	0.207	interval				13.81		14.98		17.33	PB	# of strides	14.17	13.81	14.98	17.33	27.98	32.31	4.33
		velocity		7.06		7.24		6.68		5.77	6.63		7.06	7.24	6.68	5.77	7.15	6.19	

Yamamoto, Mizuke (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)													*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*						
date	24-May-24	time		14.40		28.63		43.76		60.47	60.47	8 / 4							
reaction time		interval				14.23		15.13		16.71		# of strides	14.40	14.23	15.13	16.71	28.63	31.84	3.21
		velocity		6.94		7.03		6.61		5.98	6.61		6.94	7.03	6.61	5.98	6.99	6.28	

Hihara, Honaka (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Shimane High School Championships (Izumo, JPN)													*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*						
date	11-Jul-20	time		14.02		28.65		44.01		60.51	60.51	6 / 2							
reaction time		interval				14.63		15.36		16.50		# of strides	14.02	14.63	15.36	16.50	28.65	31.86	3.21
		velocity		7.13		6.84		6.51		6.06	6.61		7.13	6.84	6.51	6.06	6.98	6.28	

Saito, Yuna (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)													*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*						
date	26-May-23	time		15.44		28.97		44.08		60.52	60.52	5 / 2							
reaction time		interval				13.53		15.11		16.44		# of strides	15.44	13.53	15.11	16.44	28.97	31.55	2.58
		velocity		6.48		7.39		6.62		6.08	6.61		6.48	7.39	6.62	6.08	6.90	6.34	

Miyahara, Hina (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)													*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*						
date	28-May-21	time		14.53		28.35		43.51		60.59	60.59	3 / 2							
reaction time		interval				13.82		15.16		17.08		# of strides	14.53	13.82	15.16	17.08	28.35	32.24	3.89
		velocity		6.88		7.24		6.60		5.85	6.60		6.88	7.24	6.60	5.85	7.05	6.20	

Nakabayashi, Aya (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)													*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						
date	25-May-18	time		14.26		28.53		44.14		60.62	60.62	3 / 3							
reaction time		interval				14.27		15.61		16.48		# of strides	14.26	14.27	15.61	16.48	28.53	32.09	3.56
		velocity		7.01		7.01		6.41		6.07	6.60		7.01	7.01	6.41	6.07	7.01	6.23	

Shibuya, Rika (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)													*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						
date	25-May-18	time		14.18		28.60		43.98		60.63	60.63	7 / 4							
reaction time		interval				14.42		15.38		16.65		# of strides	14.18	14.42	15.38	16.65	28.60	32.03	3.43
		velocity		7.05		6.93		6.50		6.01	6.60		7.05	6.93	6.50	6.01	6.99	6.24	

Bucci, Sofia (SMR) (1998)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Third Division (Chorzów, POL)													*European Athletics (2023) - 3rd european games, athletics - results book*						
date	20-Jun-23	time		14.53		28.38		43.61		60.69	60.69	4 / 7							
reaction time	0.222	interval				13.85		15.23		17.08		# of strides	14.53	13.85	15.23	17.08	28.38	32.31	3.93
		velocity		6.88		7.22		6.57		5.85	6.59		6.88	7.22	6.57	5.85	7.05	6.19	

Saito, Yui (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)													*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*						
date	26-May-22	time		14.57		29.18		44.77		60.71	60.71	4 / 3							
reaction time		interval				14.61		15.59		15.94		# of strides	14.57	14.61	15.59	15.94	29.18	31.53	2.35
		velocity		6.86		6.84		6.41		6.27	6.59		6.86	6.84	6.41	6.27	6.85	6.34	

Almohamad, Ghufran (SYR) (1989)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)																	*Omega Timing (2024) - diamond league race analysis*
date 10-May-24	time	7.44	13.92	20.75	27.95	35.44	43.39	51.65	60.74	60.74	6 / 4							
reaction time 0.180	interval		6.48	6.83	7.20	7.49	7.95	8.26	9.09		# of strides	13.92	14.03	15.44	17.35	27.95	32.79	4.84
	velocity	6.72	7.72	7.32	6.94	6.68	6.29	6.05	5.50	6.59		7.18	7.13	6.48	5.76	7.16	6.10	

Ishikawa, Akane (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2025) - shimane high school championships 2025 - biomechanics data analysis*
date 30-May-25	time		13.98		28.18		43.54		60.75	60.75	4 / 5							
reaction time	interval				14.20		15.36		17.21		# of strides	13.98	14.20	15.36	17.21	28.18	32.57	4.39
	velocity		7.15		7.04		6.51		5.81	6.58		7.15	7.04	6.51	5.81	7.10	6.14	

Takagi, Rina (JPN) (1999)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U19 Semi-Final 2 - 2017 National Sports Festival (Matsuyama, JPN)																	*(2017) - tfdata-store.com/2017/10/12/post-1100/*
date 08-Oct-17	time		13.57		26.85		41.00		60.91	60.91	2 / 8							
reaction time	interval				13.28		14.15		19.91		# of strides	13.57	13.28	14.15	19.91	26.85	34.06	7.21
	velocity		7.37		7.53		7.07		5.02	6.57	213.0	7.37	7.53	7.07	5.02	7.45	5.87	

Kaneko, Akira (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*
date 26-May-23	time		14.12		28.28		43.75		60.93	60.93	6 / 3							
reaction time	interval				14.16		15.47		17.18		# of strides	14.12	14.16	15.47	17.18	28.28	32.65	4.37
	velocity		7.08		7.06		6.46		5.82	6.56		7.08	7.06	6.46	5.82	7.07	6.13	

Matsui, Minata (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*
date 26-May-23	time		14.53		28.93		45.06		61.30	60.99	4 / 4							
reaction time	interval				14.40		16.13		16.24		# of strides	14.53	14.40	16.13	16.24	28.93	32.37	3.44
	velocity		6.88		6.94		6.20		6.16	6.56		6.88	6.94	6.20	6.16	6.91	6.18	

Takahara, Nanami (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*
date 25-May-18	time		14.41		28.78		44.10		61.04	61.04	2 / 5							
reaction time	interval				14.37		15.32		16.94		# of strides	14.41	14.37	15.32	16.94	28.78	32.26	3.48
	velocity		6.94		6.96		6.53		5.90	6.55		6.94	6.96	6.53	5.90	6.95	6.20	

Miyahara, Hina (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*
date 11-Jul-20	time		14.37		28.98		44.62		61.12	61.12	8 / 3							
reaction time	interval				14.61		15.64		16.50		# of strides	14.37	14.61	15.64	16.50	28.98	32.14	3.16
	velocity		6.96		6.84		6.39		6.06	6.54		6.96	6.84	6.39	6.06	6.90	6.22	

Amano, Iori (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*
date 25-May-18	time		14.61		28.97		44.26		61.20	61.21	8 / 6							
reaction time	interval				14.36		15.29		16.94		# of strides	14.61	14.36	15.29	16.94	28.97	32.23	3.26
	velocity		6.84		6.96		6.54		5.90	6.53		6.84	6.96	6.54	5.90	6.90	6.21	

Shimura, Minami (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*
date 28-May-21	time		14.93		29.08		44.56		61.21	61.21	8 / 3							
reaction time	interval				14.15		15.48		16.65		# of strides	14.93	14.15	15.48	16.65	29.08	32.13	3.05
	velocity		6.70		7.07		6.46		6.01	6.53		6.70	7.07	6.46	6.01	6.88	6.22	

Nagase, Nozomi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*
date 24-May-19	time		13.90		27.94		44.09		61.23	61.23	2 / 3							
reaction time	interval				14.04		16.15		17.14		# of strides	13.90	14.04	16.15	17.14	27.94	33.29	5.35
	velocity		7.19		7.12		6.19		5.83	6.53		7.19	7.12	6.19	5.83	7.16	6.01	

Hirayabu, Mei (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*
date 24-May-19	time		14.44		28.85		44.77		61.24	61.24	4 / 4							
reaction time	interval				14.41		15.92		16.47		# of strides	14.44	14.41	15.92	16.47	28.85	32.39	3.54
	velocity		6.93		6.94		6.28		6.07	6.53		6.93	6.94	6.28	6.07	6.93	6.17	

Tsuji, Mio (JPN) (2000)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Osaka University Atheltics Championships (Osaka, JPN)																	*(2017) - tfdata-store.com/2017/04/07/post-249/*
date 06-Apr-17	time		14.63		29.01				61.26	61.26	8 / 8							
reaction time	interval				14.38				32.25		# of strides	14.63	14.38			29.01	32.25	3.24
	velocity		6.84		6.95				6.20	6.53		6.84	6.95			6.89	6.20	

Yamao, Mizuki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*
date 26-May-22	time		14.35		28.53		44.00		61.29	61.29	6 / 4							
reaction time	interval				14.18		15.47		17.29		# of strides	14.35	14.18	15.47	17.29	28.53	32.76	4.23
	velocity		6.97		7.05		6.46		5.78	6.53		6.97	7.05	6.46	5.78	7.01	6.11	

Moriyoshi, Hinata (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*
date 26-May-23	time		14.88		29.68		45.06		61.30	61.30	2 / 5							
reaction time	interval				14.80		15.38		16.24		# of strides	14.88	14.80	15.38	16.24	29.68	31.62	1.94
	velocity		6.72		6.76		6.50		6.16	6.53		6.72	6.76	6.50	6.16	6.74	6.33	

Ishikawa, Mahiro (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shimane High School Championships (Izumo, JPN)																	*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*

date	26-May-17	time	14.22	28.67	44.77	61.48	61.48	6 / 4									
reaction time		interval		14.45	16.10	16.71		# of strides	14.22	14.45	16.10	16.71	28.67	32.81	4.14		
		velocity	7.03	6.92	6.21	5.98	6.51		7.03	6.92	6.21	5.98	6.98	6.10			

Moriyoshi, Hinata (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)											*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*						
date 26-May-22	time	14.25		28.30		43.97		61.52	61.52	9 / 5							
reaction time	interval			14.05		15.67		17.55		# of strides	14.25	14.05	15.67	17.55	28.30	33.22	4.92
	velocity	7.02		7.12		6.38		5.70	6.50		7.02	7.12	6.38	5.70	7.07	6.02	

Matsuda, Yowa (JPN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Japanese National High School Championsips (Fukuoka, JPN)											*Takashima (2024) - national high school sports festival - biomechanics data*						
date 28-Jul-24	time	15.53		30.80		45.91		61.76	61.76	8 / 8							
reaction time	interval			15.27		15.11		15.85		# of strides	15.53	15.27	15.11	15.85	30.80	30.96	0.16
	velocity	6.44		6.55		6.62		6.31	6.48		6.44	6.55	6.62	6.31	6.49	6.46	

Matsumura, Ai (JPN

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Shimane High School Championships (Izumo, JPN)											*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*						
date 11-Jul-20	time	14.04		28.40		44.39		61.78	61.78	4 / 4							
reaction time	interval			14.36		15.99		17.39		# of strides	14.04	14.36	15.99	17.39	28.40	33.38	4.98
	velocity	7.12		6.96		6.25		5.75	6.47		7.12	6.96	6.25	5.75	7.04	5.99	

Hihara, Honaka (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)											*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*						
date 24-May-19	time	14.87		30.08		45.98		61.84	61.84	6 / 5							
reaction time	interval			15.21		15.90		15.86		# of strides	14.87	15.21	15.90	15.86	30.08	31.76	1.68
	velocity	6.72		6.57		6.29		6.31	6.47		6.72	6.57	6.29	6.31	6.65	6.30	

Hiwa, Hiyori (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)											*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						
date 25-May-18	time	14.45		28.98		44.33		61.85	61.85	6 / 7							
reaction time	interval			14.53		15.35		17.52		# of strides	14.45	14.53	15.35	17.52	28.98	32.87	3.89
	velocity	6.92		6.88		6.51		5.71	6.47		6.92	6.88	6.51	5.71	6.90	6.08	

Tanimura, Kazuha (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Shimane High School Championships (Izumo, JPN)											*Shimizu (2025) - shimane high school championships 2025 - biomechanics data analysis*						
date 30-May-25	time	14.07		28.17		44.03		61.93	61.93	9 / 6							
reaction time	interval			14.10		15.86		17.90		# of strides	14.07	14.10	15.86	17.90	28.17	33.76	5.59
	velocity	7.11		7.09		6.31		5.59	6.46		7.11	7.09	6.31	5.59	7.10	5.92	

Al Qassimi, Hanaa Juma Masi (OMA) (

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - West Asian Championships - 2024 Seashore Doha Meeting (Doha, QAT)											*Omega Timing (2024) - diamond league race analysis*						
date 10-May-24	time	7.17	13.34	19.86	26.89	34.45	42.63	51.47	61.96	61.96	3 / 5						
reaction time 0.178	interval		6.17	6.52	7.03	7.56	8.18	8.84	10.49		# of strides	13.34	13.55	15.74	19.33	26.89	35.07	8.18
	velocity	6.97	8.10	7.67	7.11	6.61	6.11	5.66	4.77	6.46		7.50	7.38	6.35	5.17	7.44	5.70	

Matsui, Minata (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)											*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*						
date 24-May-24	time	14.97		29.45		44.99		61.97	61.97	9 / 5							
reaction time	interval			14.48		15.54		16.98		# of strides	14.97	14.48	15.54	16.98	29.45	32.52	3.07
	velocity	6.68		6.91		6.44		5.89	6.45		6.68	6.91	6.44	5.89	6.79	6.15	

Inoue, Mai (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Shimane High School Championships (Izumo, JPN)											*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						
date 26-May-17	time	14.77		29.13		45.55		62.03	62.03	8 / 5							
reaction time	interval			14.36		16.42		16.48		# of strides	14.77	14.36	16.42	16.48	29.13	32.90	3.77
	velocity	6.77		6.96		6.09		6.07	6.45		6.77	6.96	6.09	6.07	6.87	6.08	

Candra, Kadek Dian (INA) (1998)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 East Java National Championships (Surabaya, INA)											*Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional athletik jawa timur terbuka*						
date 15-Apr-16	time	7.84	15.24	20.98	28.76	37.29	45.48	52.36	62.08	62.08	/ 5						
reaction time	interval		7.40	5.74	7.78	8.53	8.19	6.88	9.72		# of strides	15.24	13.52	16.72	16.60	28.76	33.32	4.56
	velocity	6.38	6.76	8.71	6.43	5.86	6.11	7.27	5.14	6.44		6.56	7.40	5.98	6.02	6.95	6.00	

Ichise, Honaka (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)											*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*						
date 24-May-19	time	14.68		29.45		45.20		62.09	62.09	8 / 6							
reaction time	interval			14.77		15.75		16.89		# of strides	14.68	14.77	15.75	16.89	29.45	32.64	3.19
	velocity	6.81		6.77		6.35		5.92	6.44		6.81	6.77	6.35	5.92	6.79	6.13	

Mitsui, Sakiya (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Shimane High School Championships (Izumo, JPN)											*Shimizu (2025) - shimane high school championships 2025 - biomechanics data analysis*						
date 30-May-25	time	14.02		28.43		44.46		62.13	62.13	3 / 7							
reaction time	interval			14.41		16.03		17.67		# of strides	14.02	14.41	16.03	17.67	28.43	33.70	5.27
	velocity	7.13		6.94		6.24		5.66	6.44		7.13	6.94	6.24	5.66	7.03	5.93	

Matsumoto, Haruka (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)											*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*						
date 26-May-22	time	14.43		29.13		44.98		62.20	62.20	2 / 6							
reaction time	interval			14.70		15.85		17.22		# of strides	14.43	14.70	15.85	17.22	29.13	33.07	3.94
	velocity	6.93		6.80		6.31		5.81	6.43		6.93	6.80	6.31	5.81	6.87	6.05	

Kanayama, Aoi (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)											*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*						
date 26-May-23	time	14.73		29.42		45.08		62.40	62.40	8 / 6							
reaction time	interval			14.69		15.66		17.32		# of strides	14.73	14.69	15.66	17.32	29.42	32.98	3.56

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity		6.79		6.81		6.39		5.77	6.41		6.79	6.81	6.39	5.77	6.80	6.06	

Ishikawa, Akane (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)													*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*						
date	24-May-24	time		13.96		28.15		44.31		62.44	62.44	3 / 6							
reaction time		interval				14.19		16.16		18.13		# of strides	13.96	14.19	16.16	18.13	28.15	34.29	6.14
		velocity		7.16		7.05		6.19		5.52	6.41		7.16	7.05	6.19	5.52	7.10	5.83	

Natsuki, Okuni (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2018 Shimane High School Championships (Izumo, JPN)													*Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis*						
date	25-May-18	time		14.56		29.12		45.16		62.47	62.47	1 / 8							
reaction time		interval				14.56		16.04		17.31		# of strides	14.56	14.56	16.04	17.31	29.12	33.35	4.23
		velocity		6.87		6.87		6.23		5.78	6.40		6.87	6.87	6.23	5.78	6.87	6.00	

Hihara, Honaka (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)													*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*						
date	28-May-21	time		15.15		29.98		45.82		62.55	62.55	6 / 4							
reaction time		interval				14.83		15.84		16.73		# of strides	15.15	14.83	15.84	16.73	29.98	32.57	2.59
		velocity		6.60		6.74		6.31		5.98	6.39		6.60	6.74	6.31	5.98	6.67	6.14	

Kishimoto, Reina (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)													*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*						
date	24-May-24	time		14.60		29.08		45.16		62.68	62.68	2 / 7							
reaction time		interval				14.48		16.08		17.52		# of strides	14.60	14.48	16.08	17.52	29.08	33.60	4.52
		velocity		6.85		6.91		6.22		5.71	6.38		6.85	6.91	6.22	5.71	6.88	5.95	

Matsui, Minata (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)													*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*						
date	26-May-22	time		14.27		28.77		44.96		62.70	62.70	3 / 7							
reaction time		interval				14.50		16.19		17.74		# of strides	14.27	14.50	16.19	17.74	28.77	33.93	5.16
		velocity		7.01		6.90		6.18		5.64	6.38		7.01	6.90	6.18	5.64	6.95	5.89	

Okada, Eina (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)													*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*						
date	28-May-21	time		14.22		28.22		44.61		62.90	62.90	4 / 5							
reaction time		interval				14.00		16.39		18.29		# of strides	14.22	14.00	16.39	18.29	28.22	34.68	6.46
		velocity		7.03		7.14		6.10		5.47	6.36		7.03	7.14	6.10	5.47	7.09	5.77	

Yu Chenxi (CHN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)													*Omega Timing (2025) - diamond league race analysis*						
date	03-May-25	time	7.75	14.41	21.44	28.97	36.91	45.18	53.89	63.48	63.48	3 / 2							
reaction time	0.212	interval		6.66	7.03	7.53	7.94	8.27	8.71	9.59		# of strides	14.41	14.56	16.21	18.30	28.97	34.51	5.54
		velocity	6.45	7.51	7.11	6.64	6.30	6.05	5.74	5.21	6.30		6.94	6.87	6.17	5.46	6.90	5.80	

Ishitobi, Miyu (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)													*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*						
date	24-May-19	time		15.58		30.50		46.14		63.10	63.10	9 / 7							
reaction time		interval				14.92		15.64		16.96		# of strides	15.58	14.92	15.64	16.96	30.50	32.60	2.10
		velocity		6.42		6.70		6.39		5.90	6.34		6.42	6.70	6.39	5.90	6.56	6.13	

Takami, Mashiro (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2025 Shimane High School Championships (Izumo, JPN)													*Shimizu (2025) - shimane high school championships 2025 - biomechanics data analysis*						
date	30-May-25	time		14.98		30.05		46.28		63.20	63.20	2 / 8							
reaction time		interval				15.07		16.23		16.92		# of strides	14.98	15.07	16.23	16.92	30.05	33.15	3.10
		velocity		6.68		6.64		6.16		5.91	6.33		6.68	6.64	6.16	5.91	6.66	6.03	

Kanayama, Aoi (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2022 Shimane High School Championships (Izumo, JPN)													*Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis*						
date	26-May-22	time		15.05		29.93		45.69		63.50	63.50	8 / 8							
reaction time		interval				14.88		15.76		17.81		# of strides	15.05	14.88	15.76	17.81	29.93	33.57	3.64
		velocity		6.64		6.72		6.35		5.61	6.30		6.64	6.72	6.35	5.61	6.68	5.96	

Lange, Anna Obakke (DEN) (1999)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
B FINAL - 2023 European Team Championships, Second Division (Chorzów, POL)													*European Athletics (2023) - 3rd european games, athletics - results book*						
date	20-Jun-23	time		12.33		24.32		37.95		63.63	63.63	8 / 8							
reaction time	0.154	interval				11.99		13.63		25.68		# of strides	12.33	11.99	13.63	25.68	24.32	39.31	14.99
		velocity		8.11		8.34		7.34		3.89	6.29		8.11	8.34	7.34	3.89	8.22	5.09	

Saito, Yuna (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)													*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*						
date	28-May-21	time		14.75		29.00		45.18		63.66	63.66	2 / 6							
reaction time		interval				14.25		16.18		18.48		# of strides	14.75	14.25	16.18	18.48	29.00	34.66	5.66
		velocity		6.78		7.02		6.18		5.41	6.28		6.78	7.02	6.18	5.41	6.90	5.77	

Mitsui, Sakiya (JPN)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2024 Shimane High School Championships (Izumo, JPN)													*Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis*						
date	24-May-24	time		14.05		28.57		45.04		63.70	63.70	4 / 8							
reaction time		interval				14.52		16.47		18.66		# of strides	14.05	14.52	16.47	18.66	28.57	35.13	6.56
		velocity		7.12		6.89		6.07		5.36	6.28		7.12	6.89	6.07	5.36	7.00	5.69	

Ivolam, Revina (INA) (2001)

			50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 East Java National Championships (Surabaya, INA)													*Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional athletik jawa timur terbuka*						
date	15-Apr-16	time	7.14	14.64	20.82	28.20	36.79	45.24	52.61	64.03	64.03	/ 6							
reaction time		interval		7.50	6.18	7.38	8.59	8.45	7.37	11.42		# of strides	14.64	13.56	17.04	18.79	28.20	35.83	7.63
		velocity	7.00	6.67	8.09	6.78	5.82	5.92	6.78	4.38	6.25		6.83	7.37	5.87	5.32	7.09	5.58	

Yamamoto, Mizuke (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)											*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*						
date 26-May-23	time		15.00		30.32		46.12		64.24	64.24	1 / 7						
reaction time	interval				15.32		15.80		18.12		# of strides	15.00	15.32	15.80	18.12	30.32	33.92	3.60
	velocity		6.67		6.53		6.33		5.52	6.23		6.67	6.53	6.33	5.52	6.60	5.90	

Kishimoto, Reina (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Shimane High School Championships (Izumo, JPN)											*Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis*						
date 26-May-23	time		14.57		29.23		46.38		64.37	64.37	7 / 8						
reaction time	interval				14.66		17.15		17.99		# of strides	14.57	14.66	17.15	17.99	29.23	35.14	5.91
	velocity		6.86		6.82		5.83		5.56	6.21		6.86	6.82	5.83	5.56	6.84	5.69	

Angelia, Niken (INA) (1997)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2016 East Java National Championships (Surabaya, INA)											*Saputri (2016) - analisis kecepatan lari 400m putri final kejuaraan nasional athletik jawa timur terbuka*						
date 15-Apr-16	time	7.51	15.24	22.02	29.68	38.19	46.96	54.28	64.38	64.38	/ 7						
reaction time	interval		7.73	6.78	7.66	8.51	8.77	7.32	10.10		# of strides	15.24	14.44	17.28	17.42	29.68	34.70	5.02
	velocity	6.66	6.47	7.37	6.53	5.88	5.70	6.83	4.95	6.21		6.56	6.93	5.79	5.74	6.74	5.76	

Rui Liao (CHN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)											*Omega Timing (2025) - diamond league race analysis*						
date 03-May-25	time	7.46	13.92	20.82	28.69	37.29	46.01	54.87	64.40	64.40	4 / 3						
reaction time 0.204	interval		6.46	6.90	7.87	8.60	8.72	8.86	9.53		# of strides	13.92	14.77	17.32	18.39	28.69	35.71	7.02
	velocity	6.70	7.74	7.25	6.35	5.81	5.73	5.64	5.25	6.21		7.18	6.77	5.77	5.44	6.97	5.60	

Natsuki, Okuni (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Shimane High School Championships (Izumo, JPN)											*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*						
date 24-May-19	time		15.16		30.28		47.19		64.96	64.96	3 / 8						
reaction time	interval				15.12		16.91		17.77		# of strides	15.16	15.12	16.91	17.77	30.28	34.68	4.40
	velocity		6.60		6.61		5.91		5.63	6.16		6.60	6.61	5.91	5.63	6.61	5.77	

Luo Zicheng (CHN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)											*Omega Timing (2025) - diamond league race analysis*						
date 03-May-25	time	7.76	14.39	21.49	28.96	37.04	45.71	55.17	65.36	65.36	2 / 4						
reaction time 0.259	interval		6.63	7.10	7.47	8.08	8.67	9.46	10.19		# of strides	14.39	14.57	16.75	19.65	28.96	36.40	7.44
	velocity	6.44	7.54	7.04	6.69	6.19	5.77	5.29	4.91	6.12		6.95	6.86	5.97	5.09	6.91	5.49	

Saito, Yui (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)											*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*						
date 28-May-21	time		15.27		30.18		46.76		65.50	65.50	1 / 7						
reaction time	interval				14.91		16.58		18.74		# of strides	15.27	14.91	16.58	18.74	30.18	35.32	5.14
	velocity		6.55		6.71		6.03		5.34	6.11		6.55	6.71	6.03	5.34	6.63	5.66	

Yoshimoto, Chika (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2020 Shimane High School Championships (Izumo, JPN)											*Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis*						
date 11-Jul-20	time		14.15		28.98		45.85		65.53	65.53	5 / 5						
reaction time	interval				14.83		16.87		19.68		# of strides	14.15	14.83	16.87	19.68	28.98	36.55	7.57
	velocity		7.07		6.74		5.93		5.08	6.10		7.07	6.74	5.93	5.08	6.90	5.47	

Qian Hanqi (CHN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)											*Omega Timing (2025) - diamond league race analysis*						
date 03-May-25	time	8.23	15.49	23.27	31.37	39.50	48.14	56.98	65.89	65.89	8 / 5						
reaction time 0.216	interval		7.26	7.78	8.10	8.13	8.64	8.84	8.91		# of strides	15.49	15.88	16.77	17.75	31.37	34.52	3.15
	velocity	6.08	6.89	6.43	6.17	6.15	5.79	5.66	5.61	6.07		6.46	6.30	5.96	5.63	6.38	5.79	

Kawakami, Koyuki (JPN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Shimane High School Championships (Izumo, JPN)											*Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis*						
date 28-May-21	time		15.20		30.00		47.24		66.29	66.29	7 / 8						
reaction time	interval				14.80		17.24		19.05		# of strides	15.20	14.80	17.24	19.05	30.00	36.29	6.29
	velocity		6.58		6.76		5.80		5.25	6.03		6.58	6.76	5.80	5.25	6.67	5.51	

Tang Keying (CHN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)											*Omega Timing (2025) - diamond league race analysis*						
date 03-May-25	time	7.85	14.65	21.96	29.90	38.26	47.20	56.68	66.36	66.36	5 / 6						
reaction time 0.261	interval		6.80	7.31	7.94	8.36	8.94	9.48	9.68		# of strides	14.65	15.25	17.30	19.16	29.90	36.46	6.56
	velocity	6.37	7.35	6.84	6.30	5.98	5.59	5.27	5.17	6.03		6.83	6.56	5.78	5.22	6.69	5.49	

Wang Yixin (CHN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)											*Omega Timing (2025) - diamond league race analysis*						
date 03-May-25	time	7.97	15.13	22.57	30.45	38.74	47.57	57.13	67.43	67.43	6 / 7						
reaction time 0.214	interval		7.16	7.44	7.88	8.29	8.83	9.56	10.30		# of strides	15.13	15.32	17.12	19.86	30.45	36.98	6.53
	velocity	6.27	6.98	6.72	6.35	6.03	5.66	5.23	4.85	5.93		6.61	6.53	5.84	5.04	6.57	5.41	

Feng Shumin (CHN)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Sport School FINAL - 2025 Yangtze River Delta Athletics Diamond Gala (Keqiao, CHN)											*Omega Timing (2025) - diamond league race analysis*						
date 03-May-25	time	7.72	14.69	22.12	30.29	39.17	48.64	59.09	70.19	70.19	7 / 8						
reaction time 0.184	interval		6.97	7.43	8.17	8.88	9.47	10.45	11.10		# of strides	14.69	15.60	18.35	21.55	30.29	39.90	9.61
	velocity	6.48	7.17	6.73	6.12	5.63	5.28	4.78	4.50	5.70		6.81	6.41	5.45	4.64	6.60	5.01	

Miller-Uibo, Shaunae (BAH) (1994)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Heat 4 - 2024 Olympic Games (Paris, FRA)											*Paris 2024 Olympic Games - Results Book (2024)*						
date 05-Aug-24	time	6.84	12.50	18.35	24.49	32.05				2:22.29	7 / ~~8~~ 7						
reaction time 0.143	interval		5.66	5.85	6.14	7.56					# of strides	12.50	11.99			24.49		
	velocity	7.31	8.83	8.55	8.14	6.61						8.00	8.34			8.17		

Wimbley, Shakima (USA) (1995)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
National FINAL - 2019 Memorial van Damme (Brussels, BEL)											*Omega Timing (2019) - diamond league race analysis*						

date	06-Sep-19	time	6.6	12.2	18.0	24.1				dnf	4 / --							
reaction time	0.152	interval		5.6	5.8	6.1					# of strides	12.20	11.90			24.10		
		velocity	7.58	8.93	8.62	8.20						8.20	8.40			8.30		

Ellsworth, Maureen (NED) (1991)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Memorial van Damme (Brussels, BEL)																	*Omega Timing (2021) - diamond league race analysis*
date 03-Sep-21 time	7.1	12.9	18.9	25.3	32.0	39.1	46.6			8 / --							
reaction time 0.197 interval		5.80	6.00	6.40	6.70	7.10	7.50		DQ	# of strides	12.90	12.40	13.80		25.30		
velocity	7.04	8.62	8.33	7.81	7.46	7.04	6.67				7.75	8.06	7.25		7.91		

Vehovar, Ema (SLO) (2007)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 1 - 2025 European Athletics U20 Championships (Tampere, FIN)																	*European Athletics (2025) - 2025 european athletics U20 championships - results book*
date 08-Aug-25 time	7.07	13.09	19.31	25.73	32.50	39.38	46.53		dnf	2 / --							
reaction time 0.165 interval		6.02	6.22	6.42	6.77	6.88	7.15			# of strides	13.09	12.64	13.65	-39.38	25.73	-25.73	-51.46
velocity	7.07	8.31	8.04	7.79	7.39	7.27	6.99				7.64	7.91	7.33	-2.54	7.77	-7.77	

Szentgyörgyi, Zita (HUN) (2006)

	50m	100m	150m	200m	250m	300m	350m	400m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
Semi-Final 3 - 2025 European Athletics U20 Championships (Tampere, FIN)																	*European Athletics (2025) - 2025 european athletics U20 championships - results book*
date 08-Aug-25 time	7.03	12.61	18.95						dnf	3 / 8							
reaction time 0.166 interval		5.58	6.34							# of strides	12.61						
velocity	7.11	8.96	7.89								7.93						

Women's 300m Split Times - by time

Miller-Uibo, Shaunae (BAH) (1994)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2019 Golden Spike (Ostrava, CZE) (300m)															
date 20-Jun-19 time							34.41	/ 1							
reaction time interval		no information available					WB	# of strides							
velocity							8.72								

Aono, Shuri (JPN) (2000)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)															*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 15-Oct-23 time	6.93	12.72	18.56	24.59	30.79	37.33	37.33	5 / 1							**100-300m**
reaction time 0.197 interval		5.79	5.84	6.03	6.20	6.54	PB	# of strides	12.72	11.87	12.74		24.59		*24.61*
velocity	7.22	8.64	8.56	8.29	8.06	7.65	8.04	148.0	7.86	8.42	7.85		8.13		*8.13*

Moriyama, Shizuho (JPN) (2001)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)															*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 15-Oct-23 time	6.61	12.22	18.07	24.21	30.63	37.56	37.56	7 / 2							**100-300m**
reaction time 0.197 interval		5.61	5.85	6.14	6.42	6.93	PB	# of strides	12.22	11.99	13.35		24.21		*25.34*
velocity	7.56	8.91	8.55	8.14	7.79	7.22	7.99	154.0	8.18	8.34	7.49		8.26		*7.89*

Yamagata, Aiha (JPN) (2005)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)															*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 14-Oct-23 time	6.71	12.49	18.54	24.72	31.04	37.73	37.73	5 / 1							**100-300m**
reaction time 0.208 interval		5.78	6.05	6.18	6.32	6.69	PB	# of strides	12.49	12.23	13.01		24.72		*25.24*
velocity	7.45	8.65	8.26	8.09	7.91	7.47	7.95		8.01	8.18	7.69		8.09		*7.92*

Aoyama, Seika (JPN) (1996)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17 time		12.39		24.32		37.76	37.76	6 / 1							**100-300m**
reaction time interval				11.93		13.44	PB	# of strides	12.39	11.93	13.44		24.32		*25.37*
velocity		8.07		8.38		7.44	7.94	153.0	8.07	8.38	7.44		8.22		*7.88*

Matsumoto, Nanako (JPN) (1996)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)															*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 15-Oct-23 time	6.93	12.61	18.49	24.70	31.10	37.87	37.87	6 / 3							**100-300m**
reaction time 0.282 interval		5.68	5.88	6.21	6.40	6.77		# of strides	12.61	12.09	13.17		24.70		*25.26*
velocity	7.22	8.80	8.50	8.05	7.81	7.39	7.92	150.5	7.93	8.27	7.59		8.10		*7.92*

Fujisawa, Sayaka (JPN) (1991)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17 time		12.29		24.25		38.09	38.09	4 / 2							**100-300m**
reaction time interval				11.96		13.84	PB	# of strides	12.29	11.96	13.84		24.25		*25.80*
velocity		8.14		8.36		7.23	7.88	151.7	8.14	8.36	7.23		8.25		*7.75*

Kuboyama, Haruna (JPN) (1996)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)															*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 15-Oct-23 time	6.82	12.54	18.46	24.63	31.09	38.09	38.09	4 / 4							**100-300m**
reaction time 0.341 interval		5.72	5.92	6.17	6.46	7.00		# of strides	12.54	12.09	13.46		24.63		*25.55*
velocity	7.33	8.74	8.45	8.10	7.74	7.14	7.88	157.0	7.97	8.27	7.43		8.12		*7.83*

Iwata, Yuna (JPN) (1997)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)															*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 15-Oct-23 time	6.90	12.66	18.60	24.85	31.28	38.15	38.15	3 / 5							**100-300m**
reaction time 0.181 interval		5.76	5.94	6.25	6.43	6.87		# of strides	12.66	12.19	13.30		24.85		*25.49*
velocity	7.25	8.68	8.42	8.00	7.78	7.28	7.86	158.5	7.90	8.20	7.52		8.05		*7.85*

Miyachi, Ririka (JPN) (2005)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)															*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*
date 14-Oct-23 time	6.91	12.65	18.58	24.71	31.14	38.35	38.35	6 / 2							**100-300m**
reaction time 0.186 interval		5.74	5.93	6.13	6.43	7.21	PB	# of strides	12.65	12.06	13.64		24.71		*25.70*

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

			50m	100m	150m	200m	250m	300m			0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
		velocity	7.24	8.71	8.43	8.16	7.78	6.93	7.82		7.91	8.29	7.33	8.09			7.78

Saita, Jennifer (JPN) (2006)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)											*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*						
date	14-Oct-23	time	6.62	12.26	18.23	24.52	31.20	38.43	38.43	2 / 3							**100-300m**
reaction time	0.193	interval		5.64	5.97	6.29	6.68	7.23	PB	# of strides	12.26	12.26	13.91	24.52			*26.17*
		velocity	7.55	8.87	8.38	7.95	7.49	6.92	7.81		8.16	8.16	7.19	8.16			*7.64*

Aoki, Rin (JPN) (1998)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)											*(2017) - tfdata-store.com/2017/05/17/post-537/*						
date	23-Apr-17	time		12.69		24.82		38.47	38.47	5 / 3							**100-300m**
reaction time		interval				12.13		13.65	PB	# of strides	12.69	12.13	13.65	24.82			*25.78*
		velocity		7.88		8.24		7.33	7.80	162.2	7.88	8.24	7.33	8.06			*7.76*

Ehara, Mizuyu (JPN) (2005)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)											*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*						
date	14-Oct-23	time	7.03	12.85	18.81	24.96	31.49	38.48	38.48	3 / 4							**100-300m**
reaction time	0.192	interval		5.82	5.96	6.15	6.53	6.99	PB	# of strides	12.85	12.11	13.52	24.96			*25.63*
		velocity	7.11	8.59	8.39	8.13	7.66	7.15	7.80		7.78	8.26	7.40	8.01			*7.80*

Miura, Karen (JPN) (2005)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U20 FINAL - 2023 Japanese National Sports Festival (Kagoshima, JPN) (300m)											*Yamanaka (2024) - analysis of men's and women's 400m and 300m runs in the 2023 season*						
date	14-Oct-23	time	6.91	12.72	18.78	25.11	31.62	38.53	38.53	4 / 5							**100-300m**
reaction time	0.180	interval		5.81	6.06	6.33	6.51	6.91	PB	# of strides	12.72	12.39	13.42	25.11			*25.81*
		velocity	7.24	8.61	8.25	7.90	7.68	7.24	7.79		7.86	8.07	7.45	7.96			*7.75*

Takino, Miku (JPN) (2005)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)											*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
date	23-Oct-21	time	7.00	12.87	18.91	25.23	31.81	38.63	38.63	5 / 1							**100-300m**
reaction time	0.204	interval		5.87	6.04	6.32	6.58	6.82	PB	# of strides	12.87	12.36	13.40	25.23			*25.76*
		velocity	7.14	8.52	8.28	7.91	7.60	7.33	7.77	148.7	7.77	8.09	7.46	7.93			*7.76*

Sato, Shihori (JPN) (2005)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)											*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
date	23-Oct-21	time	6.88	12.58	18.54	24.91	31.56	38.69	38.69	9 / 2							**100-300m**
reaction time	0.211	interval		5.70	5.96	6.37	6.65	7.13	PB	# of strides	12.58	12.33	13.78	24.91			*26.11*
		velocity	7.27	8.77	8.39	7.85	7.52	7.01	7.75	149.5	7.95	8.11	7.26	8.03			*7.66*

Takeishi, Konomi (JPN) (1991)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)											*(2017) - tfdata-store.com/2017/05/17/post-537/*						
date	23-Apr-17	time		12.42		24.87		38.96	38.96	3 / 4							**100-300m**
reaction time		interval				12.45		14.09		# of strides	12.42	12.45	14.09	24.87			*26.54*
		velocity		8.05		8.03		7.10	7.70	149.5	8.05	8.03	7.10	8.04			*7.54*

Nakao, Yuzuki (JPN) (2004)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)											*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
date	23-Oct-21	time	7.03	12.90	18.93	25.30	32.00	39.15	39.15	8 / 3							**100-300m**
reaction time	0.199	interval		5.87	6.03	6.37	6.70	7.15	PB	# of strides	12.90	12.40	13.85	25.30			*26.25*
		velocity	7.11	8.52	8.29	7.85	7.46	6.99	7.66	152.0	7.75	8.06	7.22	7.91			*7.62*

Kudo, Mei (JPN) (2002)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)											*Kijima (2019) - research on athlete performance and technique- 2019 data book*						
date	18-Oct-19	time		12.90		25.48		39.22	39.22	4 / 1							**100-300m**
reaction time	0.193	interval				12.58		13.74		# of strides	12.90	12.58	13.74	25.48			*26.32*
		velocity		7.75		7.95		7.28	7.65	150.2	7.75	7.95	7.28	7.85			*7.60*

Yamauchi, Soyo (JPN) (2004)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)											*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
date	23-Oct-21	time	7.16	13.05	19.17	25.60	32.28	39.35	39.35	7 / 4							**100-300m**
reaction time	0.225	interval		5.89	6.12	6.43	6.68	7.07		# of strides	13.05	12.55	13.75	25.60			*26.30*
		velocity	6.98	8.49	8.17	7.78	7.49	7.07	7.62	152.7	7.66	7.97	7.27	7.81			*7.60*

Akasaka, Mirei (JPN) (2004)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)											*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*						
date	23-Oct-21	time	7.08	12.85	18.79	25.13	31.89	39.40	39.40	6 / 5							**100-300m**
reaction time	0.196	interval		5.77	5.94	6.34	6.76	7.51		# of strides	12.85	12.28	14.27	25.13			*26.55*
		velocity	7.06	8.67	8.42	7.89	7.40	6.66	7.61	152.2	7.78	8.14	7.01	7.96			*7.53*

Matsuoka, Moe (JPN) (2003)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)											*Kijima (2019) - research on athlete performance and technique- 2019 data book*						
date	18-Oct-19	time		13.20		25.78		39.41	39.41	3 / 2							**100-300m**
reaction time	0.197	interval				12.58		13.63		# of strides	13.20	12.58	13.63	25.78			*26.21*
		velocity		7.58		7.95		7.34	7.61	159.2	7.58	7.95	7.34	7.76			*7.63*

Ono, Mizuna (JPN) (2002)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)											*Kijima (2019) - research on athlete performance and technique- 2019 data book*						
date	18-Oct-19	time		12.69		25.16		39.52	39.52	5 / 3							**100-300m**
reaction time	0.166	interval				12.47		14.36		# of strides	12.69	12.47	14.36	25.16			*26.83*
		velocity		7.88		8.02		6.96	7.59	147.5	7.88	8.02	6.96	7.95			*7.45*

Mizuguchi, Moe (JPN) (2002)

			50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)											*Kijima (2019) - research on athlete performance and technique- 2019 data book*						
date	18-Oct-19	time		12.98		25.54		39.53	39.53	6 / 4							**100-300m**
reaction time	0.192	interval				12.56		13.99		# of strides	12.98	12.56	13.99	25.54			*26.55*
		velocity		7.70		7.96		7.15	7.59	149.2	7.70	7.96	7.15	7.83			*7.53*

Fujii, Ayano (JPN) (1998)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time		12.89		25.47		39.54	8 / 5							**100-300m**
reaction time	interval				12.58		14.07	PB	# of strides	12.89	12.58	14.07	25.47		*26.65*
	velocity		7.76		7.95		7.11	7.59	152.0	7.76	7.95	7.11	7.85		*7.50*

Kojima, Yuzuki (JPN) (2004)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2021 Japanese U18 National Championships (Matsuyama, JPN) (300m)															*Yamanaka (2021) - race analysis of men's and women's 400m and 300m races in 2021 competition*
date 23-Oct-21	time	7.12	13.18	19.39	25.87	32.55	39.70	39.70	4 / 6						**100-300m**
reaction time 0.176	interval		6.06	6.21	6.48	6.68	7.15		# of strides	13.18	12.69	13.83	25.87		*26.52*
	velocity	7.02	8.25	8.05	7.72	7.49	6.99	7.56	153.0	7.59	7.88	7.23	7.73		*7.54*

Uesugi, Haruna (JPN) (1998)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time		12.99		25.77		39.98	39.98	7 / 6						**100-300m**
reaction time	interval				12.78		14.21	PB	# of strides	12.99	12.78	14.21	25.77		*26.99*
	velocity		7.70		7.82		7.04	7.50	156.5	7.70	7.82	7.04	7.76		*7.41*

Ishikawa, Kimishia (JPN)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time		12.93		25.72		40.03	40.03	2 / 7						**100-300m**
reaction time	interval				12.79		14.31		# of strides	12.93	12.79	14.31	25.72		*27.10*
	velocity		7.73		7.82		6.99	7.49	163.0	7.73	7.82	6.99	7.78		*7.38*

Iida, Keiko (JPN) (2002)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)															*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*
date 18-Oct-19	time		13.50		26.37		40.07	40.07	8 / 5						**100-300m**
reaction time 0.192	interval				12.87		13.70		# of strides	13.50	12.87	13.70	26.37		*26.57*
	velocity		7.41		7.77		7.30	7.49	158.0	7.41	7.77	7.30	7.58		*7.53*

Shibayama, Sayaka (JPN)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time		12.56		25.11		40.10	40.10	9 / 8						**100-300m**
reaction time	interval				12.55		14.99		# of strides	12.56	12.55	14.99	25.11		*27.54*
	velocity		7.96		7.97		6.67	7.48	154.7	7.96	7.97	6.67	7.96		*7.26*

Takeuchi, Kokoro (JPN)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)															*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*
date 18-Oct-19	time		13.57		26.46		40.13	40.13	1 / 6						**100-300m**
reaction time 0.194	interval				12.89		13.67		# of strides	13.57	12.89	13.67	26.46		*26.56*
	velocity		7.37		7.76		7.32	7.48		7.37	7.76	7.32	7.56		*7.53*

Hada, Yuka (JPN)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)															*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*
date 18-Oct-19	time		13.20		25.98		40.18	40.18	2 / 7						**100-300m**
reaction time 0.176	interval				12.78		14.20		# of strides	13.20	12.78	14.20	25.98		*26.98*
	velocity		7.58		7.82		7.04	7.47	159.7	7.58	7.82	7.04	7.70		*7.41*

Umehara, Satsuki (JPN) (1994)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
FINAL - 2017 Izumo Athletics Games (Izuma, JPN) (300m)															*(2017) - tfdata-store.com/2017/05/17/post-537/*
date 23-Apr-17	time		13.35		26.28		40.52	40.52	1 / 9						**100-300m**
reaction time	interval				12.93		14.24		# of strides	13.35	12.93	14.24	26.28		*27.17*
	velocity		7.49		7.73		7.02	7.40	157.0	7.49	7.73	7.02	7.61		*7.36*

Funabiki, Ruka (JPN) (2002)

	50m	100m	150m	200m	250m	300m	Official Time	Lane / Place	0-100m	100-200m	200-300m	300-400m	0-200m	200m-400m	Differential
U18 FINAL - 2019 Japanese National U18/U20 Championships (Hiroshima, JPN) (300m)															*Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis*
date 18-Oct-19	time		13.50		26.84		40.82	40.82	7 / 8						**100-300m**
reaction time 0.176	interval				13.34		13.98		# of strides	13.50	13.34	13.98	26.84		*27.32*
	velocity		7.41		7.50		7.15	7.35	152.7	7.41	7.50	7.15	7.45		*7.32*