

2022 Women's 400m Hurdles World Record Season

Sydney McLaughlin (USA) - 50.68

Hurdle Touchdown Times



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Todd Henson

2022 Women's 400m Hurdles World Record Season Sydney McLaughlin (USA) - 50.68

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Notes:

- The times listed as TV Analysis are taken from [youtube.com](https://www.youtube.com) videos and generally coming from Television broadcasts. These are not always the best angles or coverage for getting times. They are often trying to tell a story by focusing on one athlete, and sometimes while shifting camera angles an extra frame can get added or removed.
- Where times are taken from the first movement, instead of the gun, there is at least a ± 0.12 second difference/error. This will show up from the start to the first hurdle and then from hurdle 10 to the finish. The between hurdle intervals should be fairly consistent, but there is still the usual ± 0.03 second
- Data errors, missing data, spelling mistakes, anything that need correction - please let me know. As always, I try to put together the most complete and accurate report possible.
- I have done the best I could, I hope people find it useful or at least interesting.

2022 Women's 400m Hurdles World Record Season - Sydney McLaughlin (USA) (1999)**2022 István Gyulai Memorial (Székesfehérvár, HUN)**

FINAL		date	08-Aug-22			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Henson (2022) - Athlete First: 2022 year end hurdle report				
																	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (199)		time				6.24	10.27	14.36	18.63	22.96		32.16	36.86	41.63	46.30		51.68	4 / 1			
reaction time		0.182	interval				4.03	4.09	4.27	4.33		9.20	4.70	4.77	4.67	5.38			12.39	13.53	14.14
			velocity				7.21	8.68	8.56	8.20	8.08		7.61	7.45	7.34	7.49	7.43		8.47	7.76	7.43
H1 lead leg		R	strides			22	14	14	14	14			15	15	15	18	141				

2022 World Athletics Championships (Eugene, OR)

FINAL		date	22-Jul-22			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Henson (2022) - Athlete First: 2022 year end hurdle report				
																	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (199)		time				6.10	10.10	14.10	18.27	22.50	26.84	31.23	35.80	40.40	45.17		50.68	5 / 1			
reaction time		0.158	interval				4.00	4.00	4.17	4.23	4.34	4.39	4.57	4.60	4.77	5.51			12.17	12.96	13.94
			velocity				7.38	8.75	8.75	8.39	8.27	8.06	7.97	7.66	7.61	7.34	7.26		8.63	8.10	7.53
H1 lead leg		R	strides			22	14	14	14	14	14	14	15	15	15	18.7	169.7				

Semi-Final 3

		date	20-Jul-22			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Henson (2022) - Athlete First: 2022 year end hurdle report				
																	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (199)		time				6.12	10.10	14.30	18.42	22.73	27.27	31.90	36.60	41.43	46.43		52.17	6 / 1			
reaction time		0.174	interval				3.98	4.20	4.12	4.31	4.54	4.63	4.70	4.83	5.00	5.74			12.30	13.48	14.53
			velocity				7.35	8.79	8.33	8.50	8.12	7.71	7.56	7.45	7.25	7.00	6.97		8.54	7.79	7.23
H1 lead leg		R	strides			22	14	14	14	14	15	15	15	15	16	18	172				

Heat 1

		date	19-Jul-22			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Henson (2022) - Athlete First: 2022 year end hurdle report				
																	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (199)		time				6.40	10.43	14.83	19.12	23.60	28.36		38.03	43.20	48.30		53.95	8 / 1			
reaction time		0.168	interval				4.03	4.40	4.29	4.48	4.76		9.67	5.17	5.10	5.65			12.72		
			velocity				7.03	8.68	7.95	8.16	7.81	7.35		7.24	6.77	6.86	7.08		8.25		
H1 lead leg		R	strides			22	14	14	14	14	15			16	16	18	143				

2022 USATF National Championships (Eugene, OR) (TV Analysis)

FINAL		date	25-Jun-22			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Henson (2022) - Athlete First: 2022 year end hurdle report				
																	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (199)		time				6.20	10.14	14.21	18.48	22.85	27.36	31.89	36.53	41.31	46.08		51.41	5 / 1			
reaction time			interval				3.94	4.07	4.27	4.37	4.51	4.53	4.64	4.78	4.77	5.33			12.28	13.41	14.19
			velocity				7.26	8.88	8.60	8.20	8.01	7.76	7.73	7.54	7.32	7.34	7.50		8.55	7.83	7.40
H1 lead leg		R	strides			22	14	14	14	14	14	14	14	15	15	18.2	168.2				

Semi-Final 1

		date	24-Jun-22			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Henson (2022) - Athlete First: 2022 year end hurdle report				
																	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (199)		time				6.26	10.26	14.40	18.73	23.20	27.83	32.60	37.46	42.30	47.23		52.90	5 / 1			
reaction time			interval				4.00	4.14	4.33	4.47	4.63	4.77	4.86	4.84	4.93	5.67			12.47	13.87	14.63
			velocity				7.19	8.75	8.45	8.08	7.83	7.56	7.34	7.20	7.23	7.10	7.05		8.42	7.57	7.18
H1 lead leg		R	strides			22	14	14	14	14	15	15	15	15	16	18.2	172.2				

Heat 1

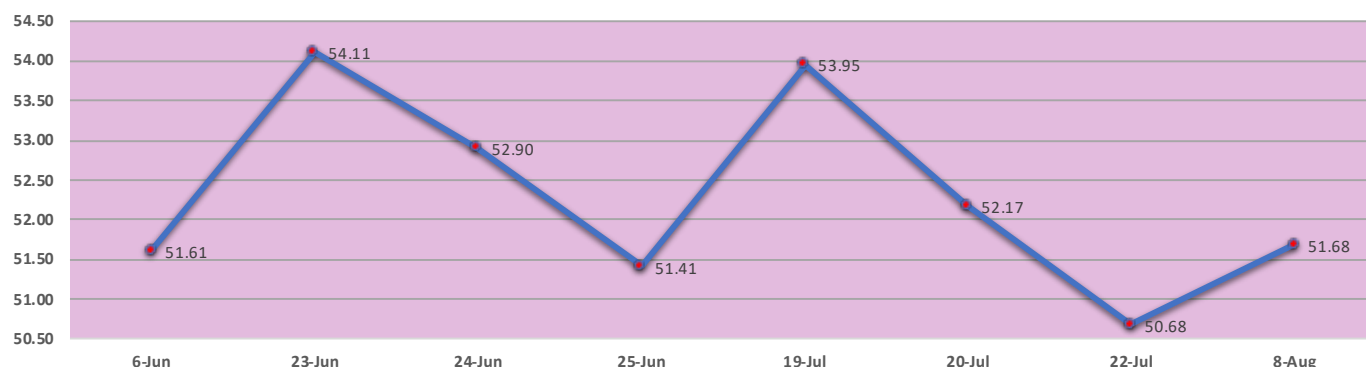
		date	23-Jun-22			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Henson (2022) - Athlete First: 2022 Sydney McLaughlin 400m hurdles world record season				
																	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (199)		time				6.37	10.41	14.61	18.98	23.42	28.09	32.90	37.87	43.01	48.21		54.11	5 / 1			
reaction time			interval				4.04	4.20	4.37	4.44	4.67	4.81	4.97	5.14	5.20	5.90			12.61	13.92	15.31
			velocity				7.06	8.66	8.33	8.01	7.88	7.49	7.28	7.04	6.81	6.73	6.78		8.33	7.54	6.86
H1 lead leg		R	strides			22	14	14	14	14	15	15	15	16	16	18.5	173.5				

2022 Music City Track Carnival (Nashville, TN) (TV Analysis)

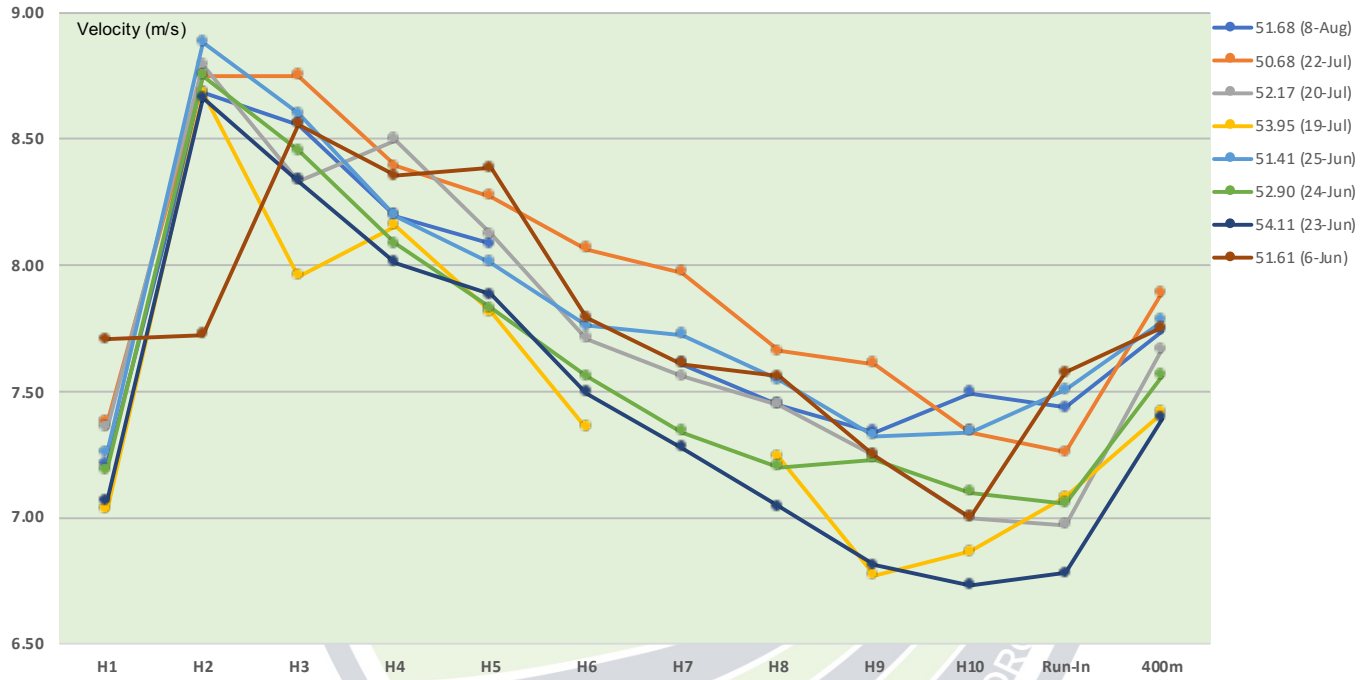
FINAL		date	06-Jun-21			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Henson (2022) - Athlete First: 2022 year end hurdle report				
																	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (199)		time				5.84	10.37	14.46	18.65	23.42	27.27	31.87	36.50	41.33	46.33		51.61	5 / 1			
reaction time			interval				4.53	4.09	4.19	4.77	3.85	4.60	4.63	4.83	5.00	5.28			12.81	13.22	14.46
			velocity				7.71	7.73	8.56	8.35	8.39	7.79	7.61	7.56	7.25	7.00	7.58		8.20	7.94	7.26
H1 lead leg		R	strides				14	14	14	16	13	15	15		16		117				

2022 Penn Relays (Philadelphia, PA) (TV Analysis) (100m Hurdles)

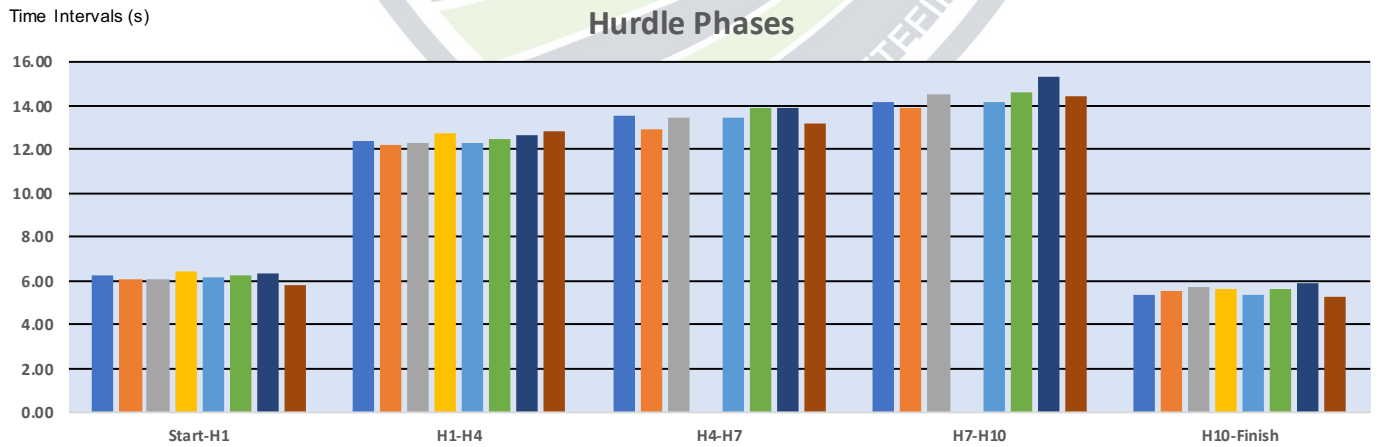
OD FINAL		date	30-Apr-22	Wind:	0.0 m/s	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	Henson (2022) - Athlete First: 2022 Sydney McLaughlin 400m hurdles world record season				
																	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (199)		time				2.50	3.54	4.58	5.58	6.58	7.55	8.55	9.55	10.55	11.55		12.75	4 / 1			
reaction time			interval				7 steps	1.04	1.04	1.00	1.00	0.97	1.00	1.00	1.00	1.20			3.08	2.97	3.00
			velocity				5.20	8.17	8.17	8.50	8.50	8.76	8.50	8.50	8.50	8.38	7.84		8.28	8.59	8.50

Sydney McLaughlin 2022

Hurdle Rhythmic Units



Hurdle Phases



Sydney McLaughlin 400m Hurdles World Record Races

2022 World Athletics Championships (Eugene, OR) (TV Analysis)

FINAL			Date 2022.07.22											Henson (2022) - Athlete First: 2022 year end hurdle report						
			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10		
McLaughlin, Sydney (USA) (1999)	time		6.10	10.10	14.10	18.27	22.50	26.84	31.23	35.80	40.40	45.17		50.68	5 / 1					
	reaction time	0.158												WR		12.17	12.96	13.94		
	interval																			
	velocity		7.38	8.75	8.75	8.39	8.27	8.06	7.97	7.66	7.61	7.34	7.26	7.89		8.63	8.10	7.53		
	H1 lead leg	R		22	14	14	14	14	14	14	15	15	15	18.7	169.7					

2022 USATF National Championships (Eugene, OR) (TV Analysis)

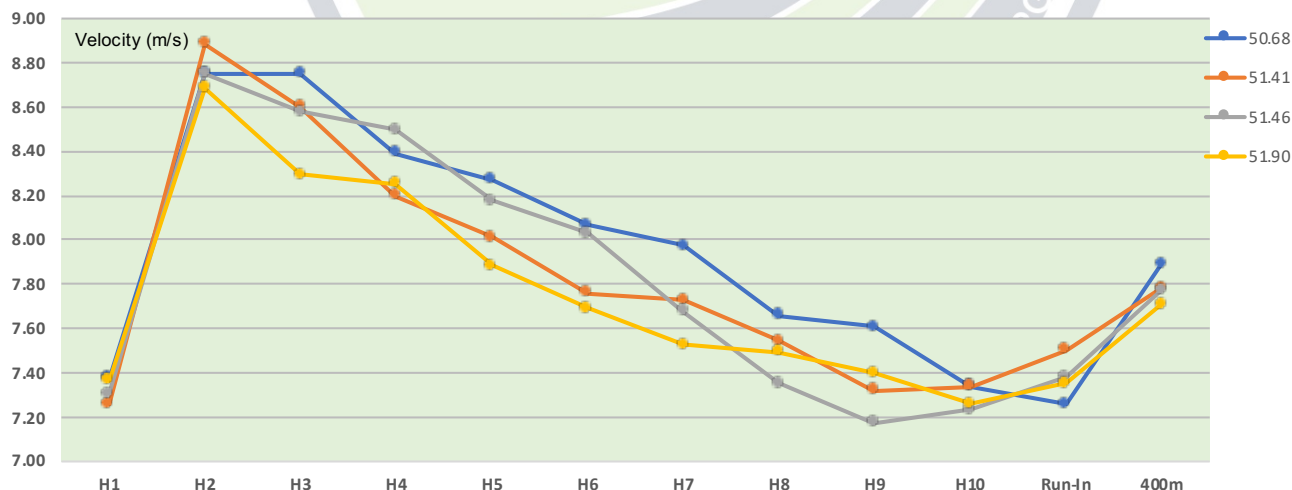
FINAL		date 2022.06.25												Henson (2022) - Athlete First: 2022 year end hurdle report						
		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10			
McLaughlin, Sydney (USA) (1999)	time	6.20	10.14	14.21	18.48	22.85	27.36	31.89	36.53	41.31	46.08		51.41	5 / 1						
	reaction time												WR		12.28	13.41	14.19			
	interval																			
	velocity	7.26	8.88	8.60	8.20	8.01	7.76	7.73	7.54	7.32	7.34	7.50	7.78		8.55	7.83	7.40			
	H1 lead leg	R	22	14	14	14	14	14	14	15	15	18.2	168.2							

2020 Olympic Games (Tokyo, JPN) (TV Analysis)

FINAL		date 2021.08.04												Henson (2021) - Athlete First: 2021 year end hurdle report					
				H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time			6.16	10.16	14.24	18.36	22.64	27.00	31.56	36.32	41.20	46.04		51.46	4 / 1			
	reaction time	0.163													WR		12.20	13.20	14.48
	interval			7.31	8.75	8.58	8.50	8.18	8.03	7.68	7.35	7.17	7.23	7.38	7.77		8.61	7.95	7.25
	velocity																		
	H1 lead leg	R																	
	strides			22	14	14	14	14	14	14	15	16	15	18.5	170.5				

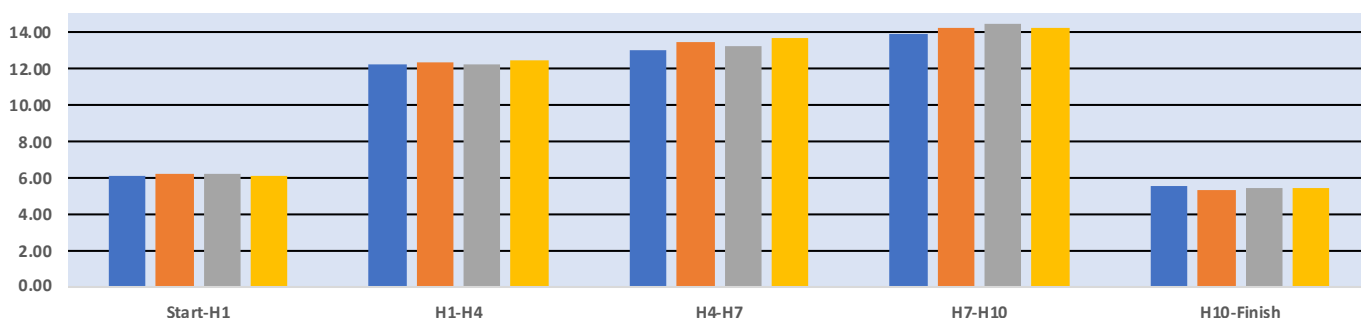
2020 USA Olympic Trials (Eugene, OR) (TV Analysis)

FINAL			date 2021.06.27											Henson (2021) - Athlete First: 2021 year end hurdle report						
			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10		
McLaughlin, Sydney (USA) (1999)	time		6.11	10.14	14.36	18.60	23.04	27.59	32.24	36.91	41.64	46.46		51.90	6 / 1					
	reaction time	0.194																		
	interval			4.03	4.22	4.24	4.44	4.55	4.65	4.67	4.73	4.82	5.44	WR		12.49	13.64	14.22		
	velocity		7.36	8.68	8.29	8.25	7.88	7.69	7.53	7.49	7.40	7.26	7.35	7.71		8.41	7.70	7.38		
	strides		22	14	14	14	14	15	15	15	15	15	15	18.2	171.2					
	H1 lead leg	R																		



Time Intervals (s)

Hurdle Phases



2022 World Athletics Championships

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: Gun Flash

Source: <https://www.youtube.com/watch?v=RMZQO-i-Gf4o&t=11769s>

2022 USATF National Championships

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: Gun Flash

Source: <https://www.youtube.com/watch?v=6aGdPD9lfs>

2020 Olympic Games

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 25fps

Timing From: First Movement

Source: <https://www.youtube.com/watch?v=-BTQpQqSR-k>

2020 USA Olympic Trials

Source: Athlete Tracking (2021.06.28). Women's 400mH - Unofficial Split Times.

Retrieved from <https://twitter.com/athletetracking/status/1409736538364260357?s=21>

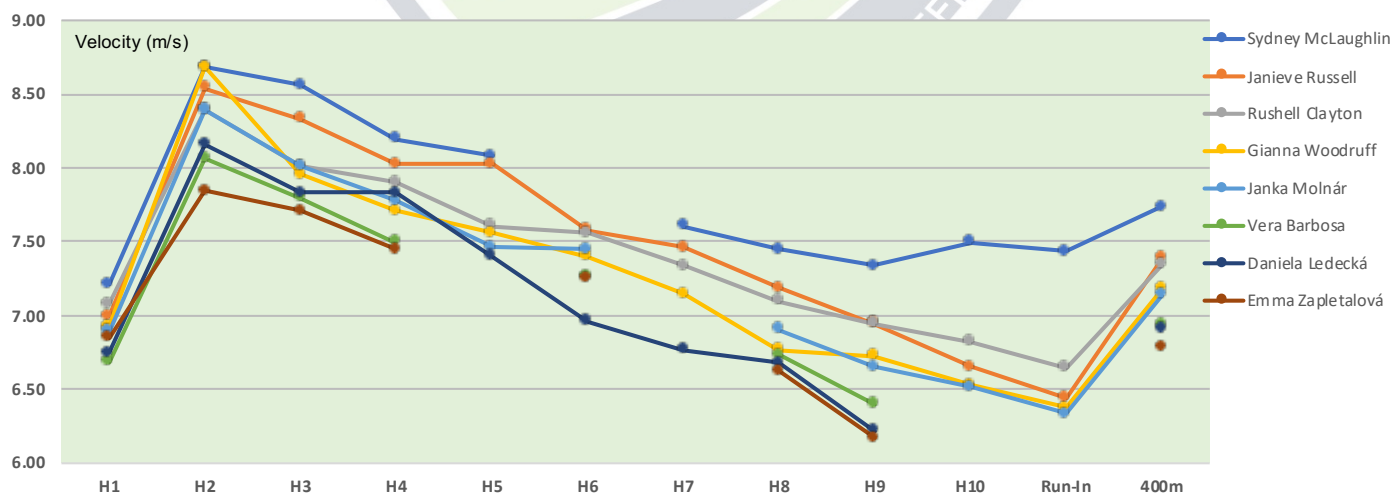
2022 Gyulai István Memorial (Székesfehérvár, HUN) (TV Analysis)

Women's 400m Hurdles

Date 2022.08.08

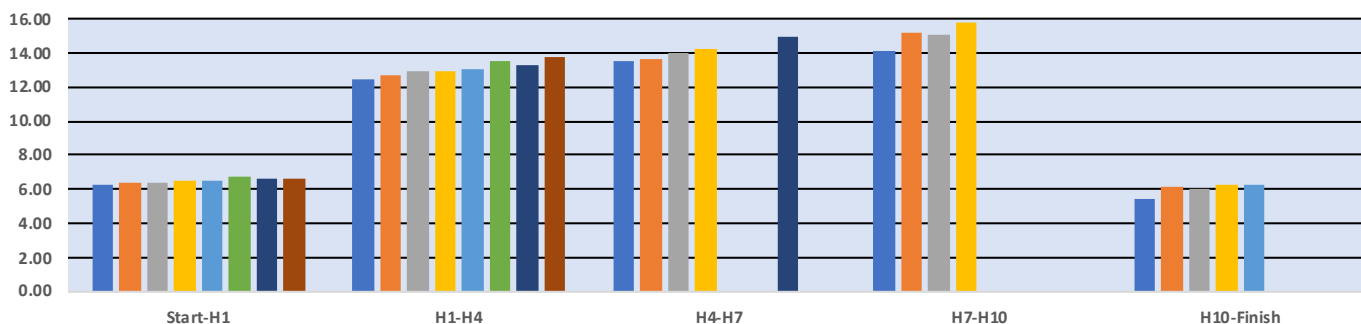
FINAL

				H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time			6.24	10.27	14.36	18.63	22.96		32.16	36.86	41.63	46.30		51.68	4 / 1			
	reaction time	0.182	interval		4.03	4.09	4.27	4.33		9.20	4.70	4.77	4.67	5.38			12.39	13.53	14.14
	velocity			7.21	8.68	8.56	8.20	8.08		7.61	7.45	7.34	7.49	7.43	7.74		8.47	7.76	7.43
	H1 lead leg	R	strides	22	14	14	14	14			15	15	15	18	141				
Russell, Janieve (JAM) (1993)	time			6.43	10.53	14.73	19.09	23.45	28.07	32.76	37.63	42.67	47.93		54.14	5 / 2			
	reaction time	0.168	interval		4.10	4.20	4.36	4.36	4.62	4.69	4.87	5.04	5.26	6.21			12.66	13.67	15.17
	velocity			7.00	8.54	8.33	8.03	8.03	7.58	7.46	7.19	6.94	6.65	6.44	7.39		8.29	7.68	6.92
	H1 lead leg	R	strides	23	15	15	15	15			16	16	17		132				
Clayton, Rushell (JAM) (1992)	time			6.36	10.53	14.90	19.33	23.93	28.56	33.33	38.26	43.30	48.43		54.45	7 / 3			
	reaction time	0.196	interval		4.17	4.37	4.43	4.60	4.63	4.77	4.93	5.04	5.13	6.02			12.97	14.00	15.10
	velocity			7.08	8.39	8.01	7.90	7.61	7.56	7.34	7.10	6.94	6.82	6.64	7.35		8.10	7.50	6.95
	H1 lead leg	L	strides	22	15	15	15	15			16	16	16		145				
Woodruff, Gianna (PAN) (1993)	time			6.50	10.53	14.93	19.47	24.10	28.83	33.73	38.90	44.10	49.46		55.73	6 / 4			
	reaction time	0.234	interval		4.03	4.40	4.54	4.63	4.73	4.90	5.17	5.20	5.36	6.27			12.97	14.26	15.73
	velocity			6.92	8.68	7.95	7.71	7.56	7.40	7.14	6.77	6.73	6.53	6.38	7.18		8.10	7.36	6.68
	H1 lead leg	L	strides	23	15	15	15	15			15	16	17		147				
Molnár, Janka (HUN) (2001)	time			6.53	10.70	15.07	19.57	24.26	28.96		39.10	44.36	49.73		56.04	3 / 5			
	reaction time	0.232	interval		4.17	4.37	4.50	4.69	4.70		10.14	5.26	5.37	6.31			13.04		
	velocity			6.89	8.39	8.01	7.78	7.46	7.45		6.90	6.65	6.52	6.34	7.14		8.05		
	H1 lead leg	L	strides	23	16	16	16	16				17	17		121				
Barbosa, Vera (POR) (1989)	time			6.73	11.07	15.56	20.23		29.87		40.26	45.73			57.66	1 / 6			
	reaction time	0.248	interval		4.34	4.49	4.67		9.64		10.39	5.47					13.50		
	velocity			6.69	8.06	7.80	7.49		7.26		6.74	6.40			6.94		7.78		
	H1 lead leg	L	strides	24	16	16	16	16				18			106				
Ledecská, Daniela (SVK) (1996)	time			6.67	10.96	15.43	19.90	24.63	29.66	34.83	40.07	45.70			57.89	8 / 7			
	reaction time	0.146	interval		4.29	4.47	4.47	4.73	5.03	5.17	5.24	5.63					13.23	14.93	
	velocity			6.75	8.16	7.83	7.83	7.40	6.96	6.77	6.68	6.22			6.91		7.94	7.03	
	H1 lead leg	R	strides	23	15	15	15	15	16	16	16	17			148				
Zapletalová, Emma (SVK) (2000)	time			6.57	11.03	15.57	20.27		29.93		40.50	46.17			59	2 / 8			
	reaction time	0.160	interval		4.46	4.54	4.70		9.66		10.57	5.67					13.70		
	velocity			6.85	7.85	7.71	7.45		7.25		6.62	6.17			6.78		7.66		
	H1 lead leg	R	strides	23	16	16	16	16				17			104				



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=7bSum-4L4vM>

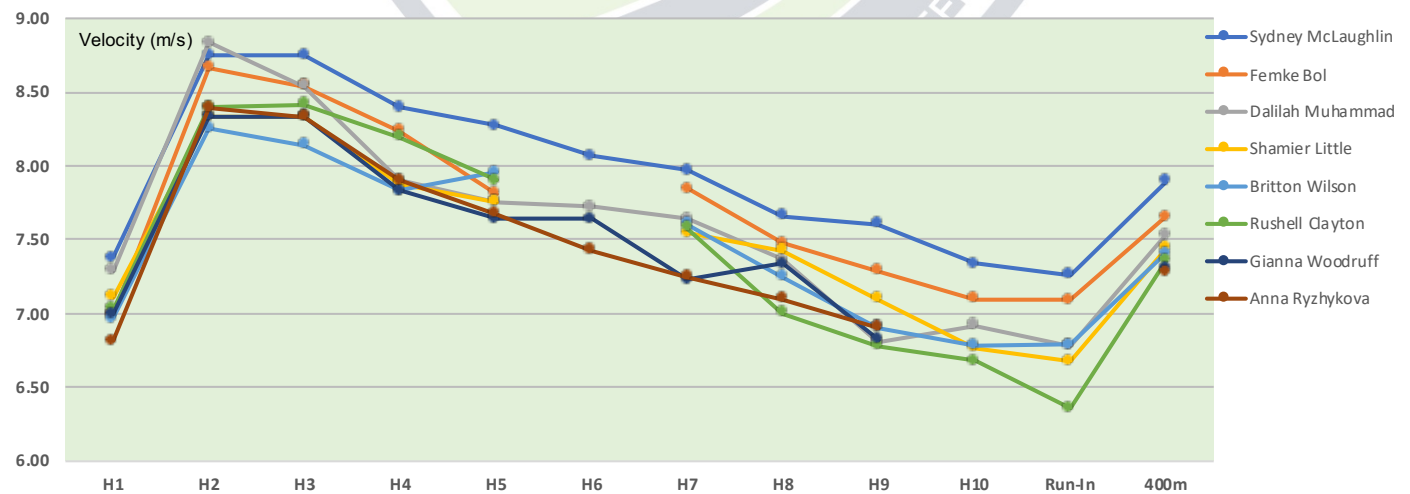
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.07.22

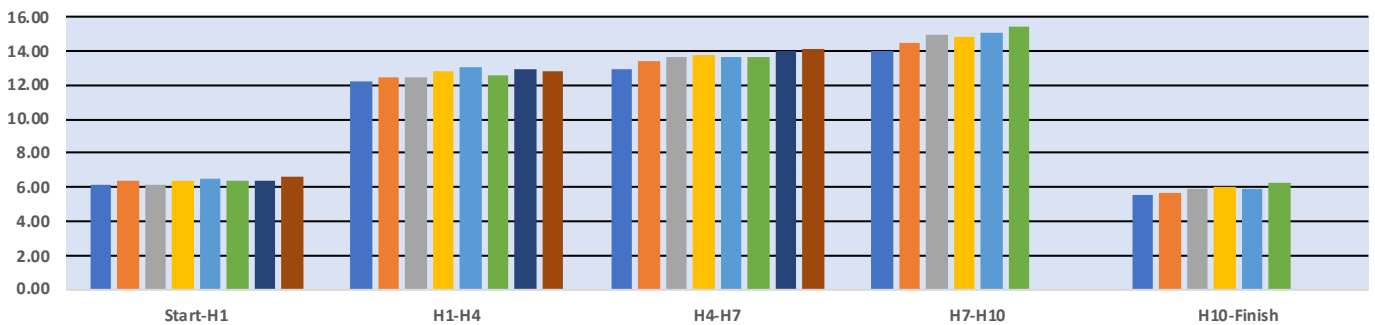
FINAL

				H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time			6.10	10.10	14.10	18.27	22.50	26.84	31.23	35.80	40.40	45.17		50.68	5 / 1			
	reaction time	0.158	interval		4.00	4.00	4.17	4.23	4.34	4.39	4.57	4.60	4.77	5.51	WR		12.17	12.96	13.94
			velocity	7.38	8.75	8.75	8.39	8.27	8.06	7.97	7.66	7.61	7.34	7.26	7.89		8.63	8.10	7.53
	H1 lead leg	R	strides	22	14	14	14	14	14	14	15	15	15	18.7	169.7				
Bol, Femke (NED) (2000)	time			6.43	10.47	14.57	18.82	23.30		32.22	36.90	41.70	46.63		52.27	4 / 2			
	reaction time	0.179	interval		4.04	4.10	4.25	4.48		8.92	4.68	4.80	4.93	5.64			12.39	13.40	14.41
			velocity	7.00	8.66	8.54	8.24	7.81		7.85	7.48	7.29	7.10	7.09	7.65		8.47	7.84	7.29
	H1 lead leg	L	strides	22	15	15	15	15		15	15	15	15	19	146				
Muhammad, Dalilah (USA) (1990)	time			6.17	10.13	14.23	18.66	23.17	27.70	32.28	37.03	42.17	47.23		53.13	6 / 3			
	reaction time	0.162	interval		3.96	4.10	4.43	4.51	4.53	4.58	4.75	5.14	5.06	5.90			12.49	13.62	14.95
			velocity	7.29	8.84	8.54	7.90	7.76	7.73	7.64	7.37	6.81	6.92	6.78	7.53		8.41	7.71	7.02
	H1 lead leg	R	strides	22	14	14	15	15	15	15	15	16	16		157				
Little, Shamier (USA) (1995)	time			6.33	10.53	14.73	19.17	23.68		32.96	37.67	42.60	47.77		53.76	3 / 4			
	reaction time	0.147	interval		4.20	4.20	4.44	4.51		9.28	4.71	4.93	5.17	5.99			12.84	13.79	14.81
			velocity	7.11	8.33	8.33	7.88	7.76		7.54	7.43	7.10	6.77	6.68	7.44		8.18	7.61	7.09
	H1 lead leg	R	strides	22	15	15	15	15		15	15	15	16	128					
Wilson, Britton (USA) (2000)	time			6.46	10.70	15.00	19.47	23.87		33.07	37.90	42.97	48.13		54.02	1 / 5			
	reaction time	0.141	interval		4.24	4.30	4.47	4.40		9.20	4.83	5.07	5.16	5.89			13.01	13.60	15.06
			velocity	6.97	8.25	8.14	7.83	7.95		7.61	7.25	6.90	6.78	6.79	7.40		8.07	7.72	6.97
	H1 lead leg	R	strides	23	15	15	15	15		15	16	16	16	130					
Clayton, Rushell (JAM) (1992)	time			6.40	10.57	14.73	19.00	23.43		32.67	37.67	42.83	48.07		54.36	2 / 6			
	reaction time	0.145	interval		4.17	4.16	4.27	4.43		9.24	5.00	5.16	5.24	6.29			12.60	13.67	15.40
			velocity	7.03	8.39	8.41	8.20	7.90		7.58	7.00	6.78	6.68	6.36	7.36		8.33	7.68	6.82
	H1 lead leg	L	strides	22	15	15	15	15		16	16	16	16	130					
Woodruff, Gianna (PAN) (1993)	time			6.43	10.63	14.83	19.30	23.88	28.46	33.30	38.07	43.20			54.75	7 / 7			
	reaction time	0.177	interval		4.20	4.20	4.47	4.58	4.58	4.84	4.77	5.13					12.87	14.00	
			velocity	7.00	8.33	8.33	7.83	7.64	7.64	7.23	7.34	6.82			7.31		8.16	7.50	
	H1 lead leg	R	strides	23	16	15	15	15	15	16	16	16		147					
Ryzhykova, Anna (UKR) (1989)	time			6.60	10.77	14.97	19.40	23.96	28.67	33.50	38.43	43.50			54.93	8 / 8			
	reaction time	0.167	interval		4.17	4.20	4.43	4.56	4.71	4.83	4.93	5.07					12.80	14.10	
			velocity	6.82	8.39	8.33	7.90	7.68	7.43	7.25	7.10	6.90			7.28		8.20	7.45	
	H1 lead leg	R	strides	22	14	14	14	14	14	15	15	15		137					



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: Gun Flash

Source: <https://www.youtube.com/watch?v=RMZQQj-Gf4o&t=11769s>

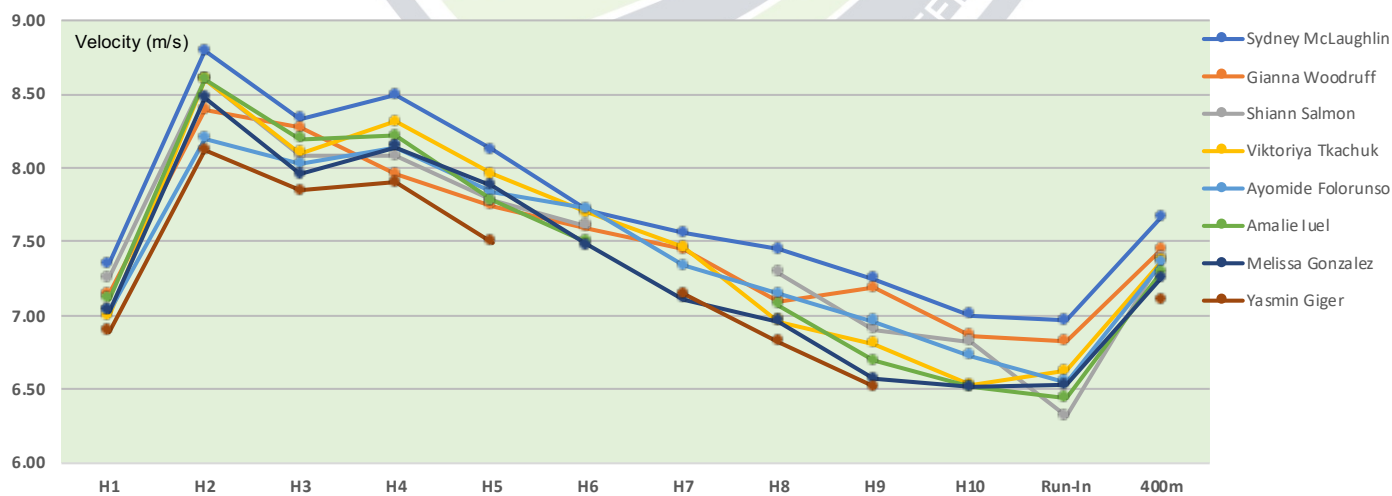
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.07.20

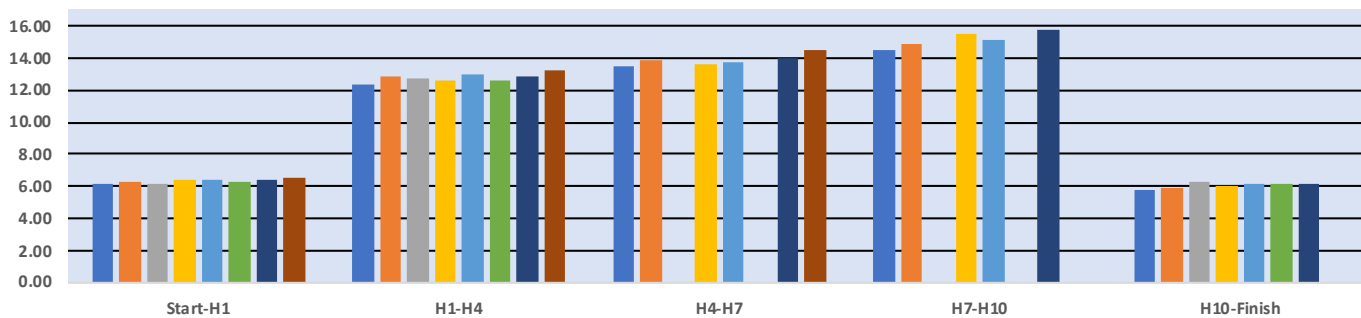
Semi-Final 3

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time		6.12	10.10	14.30	18.42	22.73	27.27	31.90	36.60	41.43	46.43		52.17	6 / 1			
	reaction time	0.174														12.30	13.48	14.53
	interval		7.35	3.98	4.20	4.12	4.31	4.54	4.63	4.70	4.83	5.00	5.74			8.54	7.79	7.23
	velocity																	
Woodruff, Gianna (PAN) (1993)	time		6.30	10.47	14.70	19.10	23.62	28.23	32.93	37.86	42.73	47.83		53.69	7 / 2			
	reaction time	0.211														12.80	13.83	14.90
	interval		7.14	4.17	4.23	4.40	4.52	4.61	4.70	4.93	4.87	5.10	5.86	AR		8.20	7.59	7.05
	velocity																	
Salmon, Shiann (JAM) (1999)	time		6.20	10.27	14.60	18.93	23.43	28.03		37.63	42.70	47.83		54.16	3 / 3			
	reaction time	0.187														12.73		
	interval		7.26	4.07	4.33	4.33	4.50	4.60		9.60	5.07	5.13	6.33			8.25		
	velocity																	
Tkachuk, Viktoriya (UKR) (1994)	time		6.43	10.50	14.82	19.03	23.43	27.98	32.67	37.70	42.84	48.20		54.24	8 / 4			
	reaction time	0.212														12.60	13.64	15.53
	interval		7.00	4.07	4.32	4.21	4.40	4.55	4.69	5.03	5.14	5.36	6.04			8.33	7.70	6.76
	velocity																	
Folorunso, Ayomide (ITA) (1996)	time		6.40	10.67	15.03	19.33	23.80	28.33	33.10	38.00	43.03	48.23		54.34	5 / 5			
	reaction time	0.188														12.93	13.77	15.13
	interval		7.03	4.27	4.36	4.30	4.47	4.53	4.77	4.90	5.03	5.20	6.11	NR		8.12	7.63	6.94
	velocity																	
Iuel, Amalie (NOR) (1996)	time		6.33	10.40	14.67	18.93	23.43	28.10		38.00	43.23	48.60		54.81	4 / 6			
	reaction time	0.123														12.60		
	interval		7.11	4.07	4.27	4.26	4.50	4.67		9.90	5.23	5.37	6.21			8.33		
	velocity																	
Gonzalez, Melissa (COL) (1994)	time		6.40	10.53	14.93	19.23	23.67	28.35	33.27	38.30	43.63	49.00		55.13	1 / 7			
	reaction time	0.143														12.83	14.04	15.73
	interval		7.03	4.13	4.40	4.30	4.44	4.68	4.92	5.03	5.33	5.37	6.13			8.18	7.48	6.68
	velocity																	
Giger, Yasmin (SUI) (1999)	time		6.53	10.84	15.30	19.73	24.40		34.20	39.33	44.70			56.31	2 / 8			
	reaction time	0.154														13.20	14.47	
	interval		6.89	4.31	4.46	4.43	4.67		9.80	5.13	5.37					7.95	7.26	
	velocity																	
H1 lead leg	time																	
	interval																	
	velocity																	
	strides																	



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: First Movement

Source: <https://www.youtube.com/watch?v=B-Pu9se9z3A>

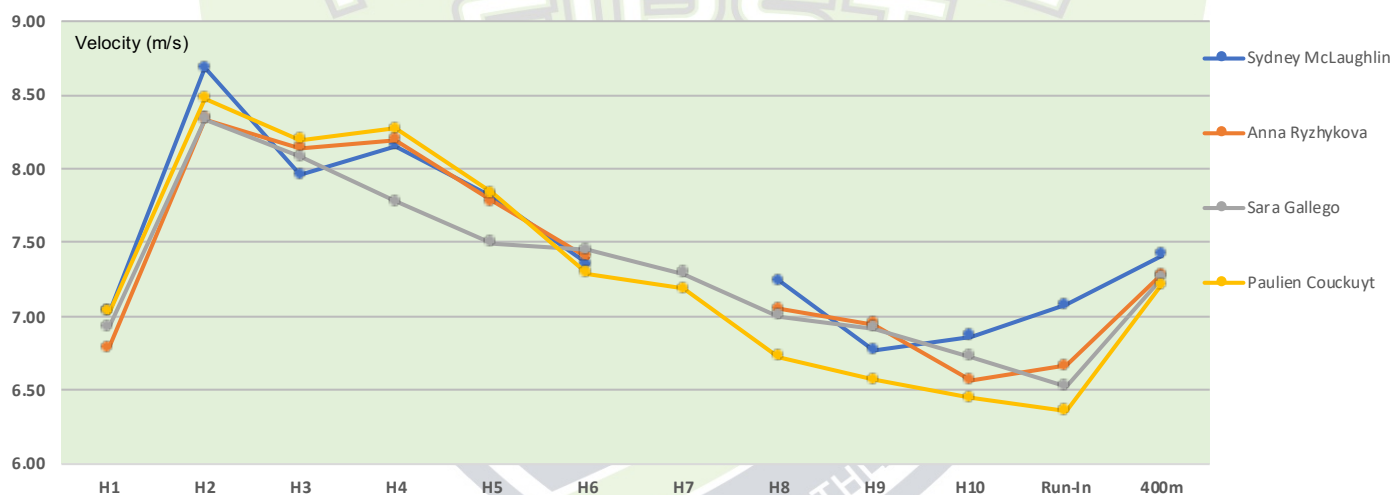
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.07.19

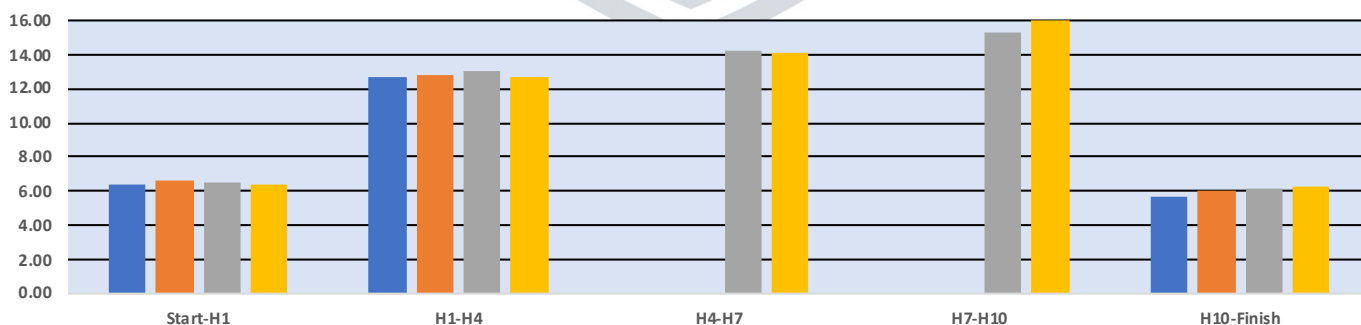
Heat 1

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time		6.40	10.43	14.83	19.12	23.60	28.36		38.03	43.20	48.30		53.95	8 / 1			
	reaction time	0.168																
	interval		7.03	4.03	4.40	4.29	4.48	4.76		9.67	5.17	5.10	5.65			12.72		
	velocity		8.68	7.95	8.16	8.16	7.81	7.35		7.24	6.77	6.86	7.08	7.41		8.25		
Ryzhykova, Anna (UKR) (1989)	time		6.63	10.83	15.13	19.40	23.90	28.63		38.56	43.60	48.93		54.93	2 / 2			
	reaction time	0.139																
	interval		6.79	4.20	4.30	4.27	4.50	4.73		9.93	5.04	5.33	6.00			12.77		
	velocity		8.33	8.14	8.20	8.20	7.78	7.40		7.05	6.94	6.57	6.67	7.28		8.22		
Gallego, Sara (ESP) (2000)	time		6.50	10.70	15.03	19.53	24.20	28.90	33.70	38.70	43.76	48.96		55.09	7 / 3			
	reaction time	0.125																
	interval		6.92	4.20	4.33	4.50	4.67	4.70	4.80	5.00	5.06	5.20	6.13			13.03	14.17	15.26
	velocity		8.33	8.08	8.08	7.78	7.49	7.45	7.29	7.00	6.92	6.73	6.53	7.26		8.06	7.41	6.88
Couckuyt, Paulien (BEL) (1997)	time		6.40	10.53	14.80	19.03	23.50	28.30	33.17	38.37	43.70	49.13		55.42	5 / 4			
	reaction time	0.168																
	interval		7.03	4.13	4.27	4.23	4.47	4.80	4.87	5.20	5.33	5.43	6.29			12.63	14.14	15.96
	velocity		8.47	8.20	8.20	8.27	7.83	7.29	7.19	6.73	6.57	6.45	6.36	7.22		8.31	7.43	6.58
	H1 lead leg	R	22	14	14	14	14	15			16	16	18	143				
	H1 lead leg	R	22	14	14	14	14	15			15	15	19.2	142.2				
	H1 lead leg	L	23	15	16	16	16	16	16	17	17	17	20.2	189.2				
	H1 lead leg	L	23	15	15	15	15	16	16	17	17	17	21	187				



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: Gun Flash

Source: <https://www.youtube.com/watch?v=ERLzKtIf6RA>

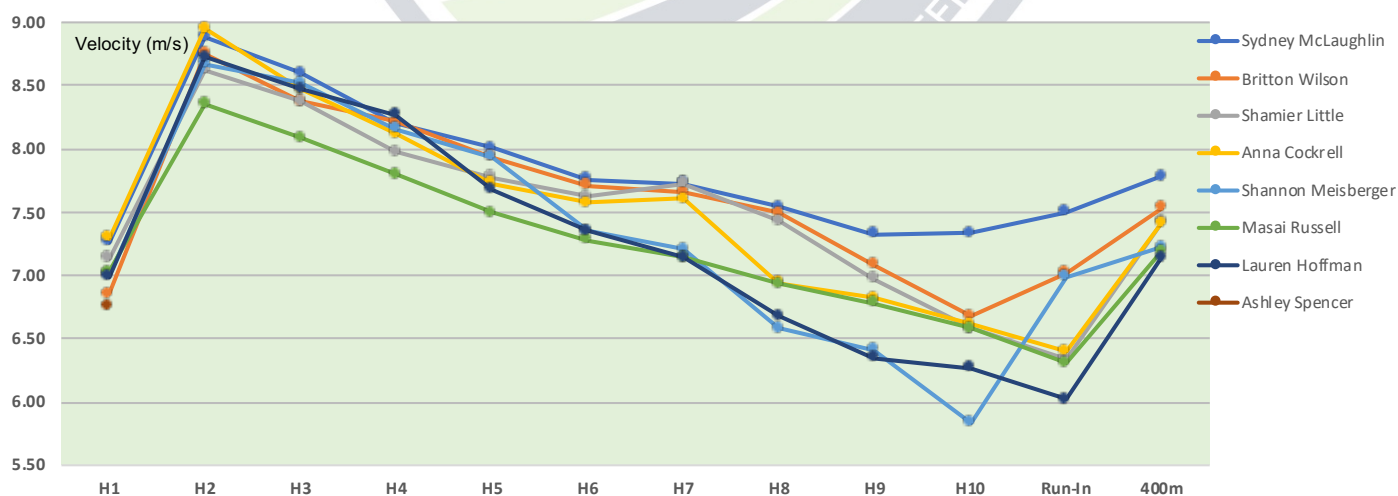
2022 USATF National Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.06.25

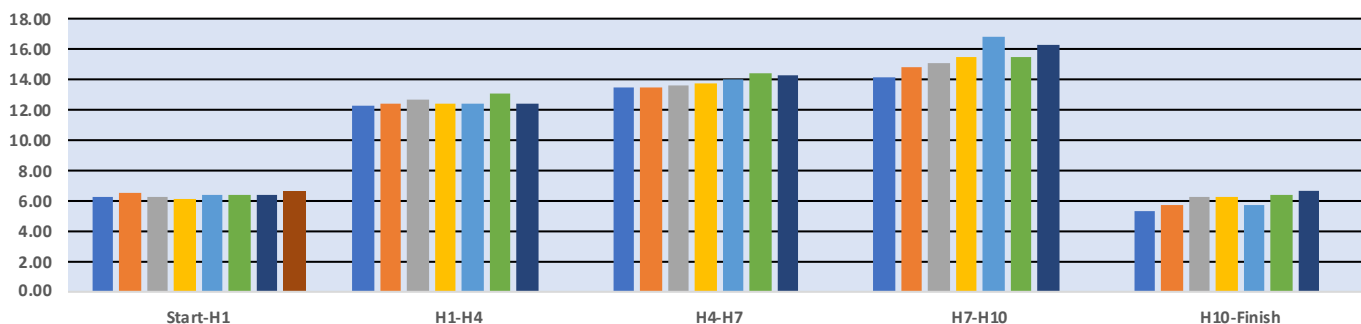
FINAL

		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time	6.20	10.14	14.21	18.48	22.85	27.36	31.89	36.53	41.31	46.08		51.41	5 / 1			
	reaction time																
	interval		3.94	4.07	4.27	4.37	4.51	4.53	4.64	4.78	4.77	5.33	WR		12.28	13.41	14.19
	velocity	7.26	8.88	8.60	8.20	8.01	7.76	7.73	7.54	7.32	7.34	7.50	7.78		8.55	7.83	7.40
Wilson, Britton (USA) (2000)	time	6.57	10.57	14.75	19.01	23.42	27.96	32.53	37.20	42.14	47.38		53.08	6 / 2			
	reaction time																
	interval		4.00	4.18	4.26	4.41	4.54	4.57	4.67	4.94	5.24	5.70	PB		12.44	13.52	14.85
	velocity	6.85	8.75	8.37	8.22	7.94	7.71	7.66	7.49	7.09	6.68	7.02	7.54		8.44	7.77	7.07
Little, Shamier (USA) (1995)	time	6.31	10.37	14.55	18.94	23.44	28.03	32.56	37.27	42.29	47.61	53.94	53.92	8 / 3			
	reaction time																
	interval		4.06	4.18	4.39	4.50	4.59	4.53	4.71	5.02	5.32	6.31			12.63	13.62	15.05
	velocity	7.13	8.62	8.37	7.97	7.78	7.63	7.73	7.43	6.97	6.58	6.34	7.42		8.31	7.71	6.98
Cockrell, Anna (USA) (1997)	time	6.17	10.08	14.21	18.52	23.05	27.67	32.27	37.31	42.44	47.73	54.03	53.98	7 / 4			
	reaction time																
	interval		3.91	4.13	4.31	4.53	4.62	4.60	5.04	5.13	5.29	6.25			12.35	13.75	15.46
	velocity	7.29	8.95	8.47	8.12	7.73	7.58	7.61	6.94	6.82	6.62	6.40	7.41		8.50	7.64	6.79
Meisberger, Shannon (USA) (1999)	time	6.42	10.46	14.57	18.86	23.27	28.03	32.89	38.21	43.67	49.67	55.42	55.39	9 / 5			
	reaction time																
	interval		4.04	4.11	4.29	4.41	4.76	4.86	5.32	5.46	6.00	5.72	PB		12.44	14.03	16.78
	velocity	7.01	8.67	8.52	8.16	7.94	7.35	7.20	6.58	6.41	5.83	6.99	7.22		8.44	7.48	6.26
Russell, Masai (USA) (2000)	time	6.40	10.59	14.92	19.41	24.08	28.89	33.79	38.84	44.00	49.32	55.66	55.66	4 / 6			
	reaction time																
	interval		4.19	4.33	4.49	4.67	4.81	4.90	5.05	5.16	5.32	6.34			13.01	14.38	15.53
	velocity	7.03	8.35	8.08	7.80	7.49	7.28	7.14	6.93	6.78	6.58	6.31	7.19		8.07	7.30	6.76
Hoffman, Lauren (USA) (1999)	time	6.44	10.45	14.58	18.81	23.37	28.13	33.03	38.27	43.78	49.36	56.00	56.00	2 / 7			
	reaction time																
	interval		4.01	4.13	4.23	4.56	4.76	4.90	5.24	5.51	5.58	6.64			12.37	14.22	16.33
	velocity	6.99	8.73	8.47	8.27	7.68	7.35	7.14	6.68	6.35	6.27	6.02	7.14		8.49	7.38	6.43
Spencer, Ashley (USA) (1993)	time	6.67												3 / --			
	reaction time																
	interval																
	velocity	6.75															
H1 lead leg	time	23															
	reaction time																
	interval																
	velocity	23															



Time Intervals (s)

Hurdle Phases



First & 2nd Place

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: Gun Flash

Source: <https://www.youtube.com/watch?v=6aGdpPD9lfs>

3rd - 7th Place

Source: USATF (2022) - Results powered by Karmarush.com.

Retrieved from <https://results.usatf.org/2022Outdoors/>

Times taken at the exact hurdle distances, the athlete is on top of the hurdle

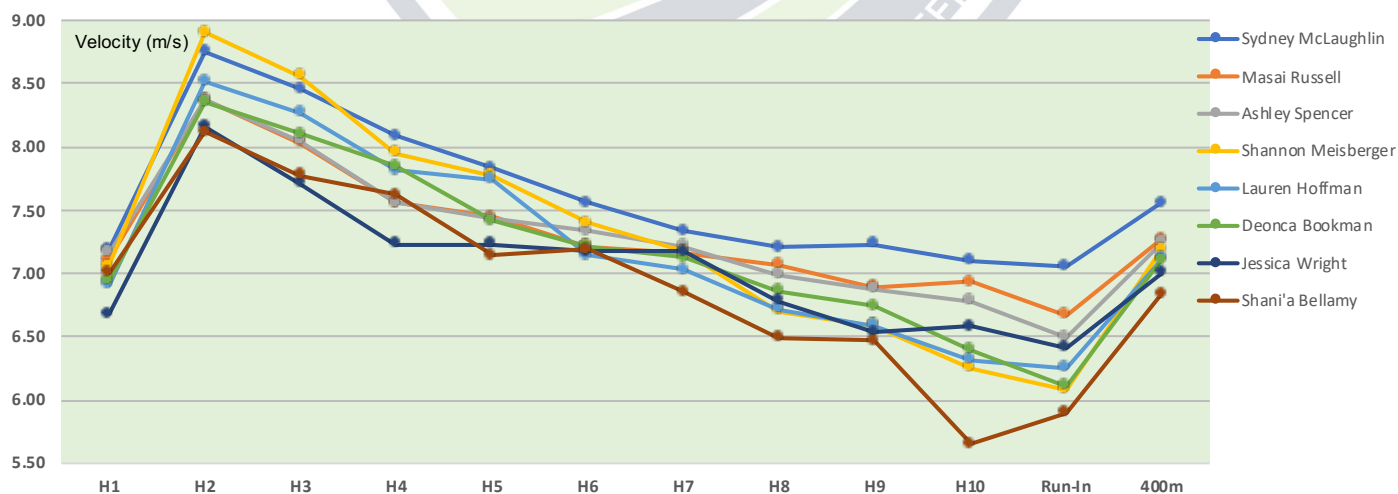
2022 USATF National Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.06.24

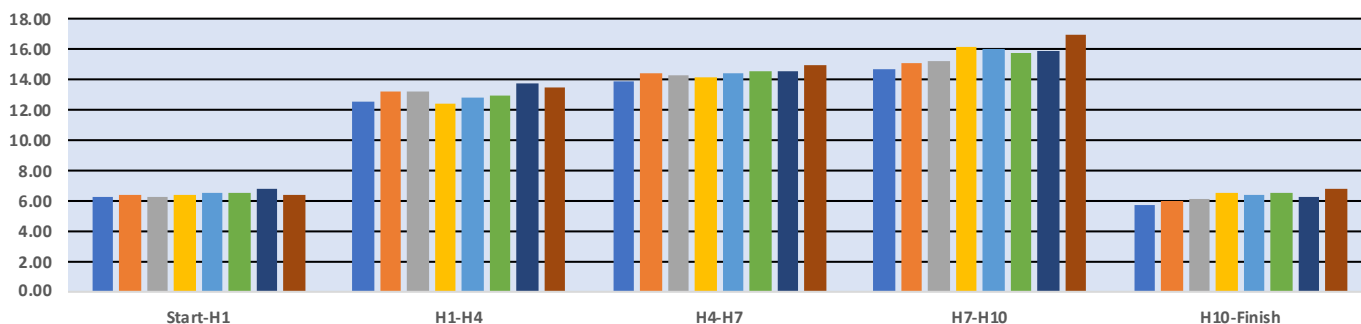
Semi-Final 1

			H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time		6.26	10.26	14.40	18.73	23.20	27.83	32.60	37.46	42.30	47.23		52.90	5 / 1			
	reaction time																	
	interval			4.00	4.14	4.33	4.47	4.63	4.77	4.86	4.84	4.93	5.67			12.47	13.87	14.63
	velocity		7.19	8.75	8.45	8.08	7.83	7.56	7.34	7.20	7.23	7.10	7.05	7.56		8.42	7.57	7.18
	H1 lead leg	R												172.2				
	strides		22	14	14	14	14	15	15	15	15	16	18.2					
Russell, Masai (USA) (2000)	time		6.33	10.51	14.87	19.50	24.20	29.05	33.94	38.89	43.97	49.02	55.02	55.02	6 / 2			
	reaction time																	
	interval			4.18	4.36	4.63	4.70	4.85	4.89	4.95	5.08	5.05	6.00	PB		13.17	14.44	15.08
	velocity		7.11	8.37	8.03	7.56	7.45	7.22	7.16	7.07	6.89	6.93	6.67	7.27		7.97	7.27	6.96
	H1 lead leg	R												139				
	strides		24	16	16	16	16	17	17	17	17							
Spencer, Ashley (USA) (1993)	time		6.28	10.46	14.81	19.44	24.15	28.92	33.77	38.78	43.87	49.03	55.19	55.19	4 / 3			
	reaction time																	
	interval			4.18	4.35	4.63	4.71	4.77	4.85	5.01	5.09	5.16	6.16			13.16	14.33	15.26
	velocity		7.17	8.37	8.05	7.56	7.43	7.34	7.22	6.99	6.88	6.78	6.49	7.25		7.98	7.33	6.88
	H1 lead leg	L												127				
	strides		22	15	15	15	15	15	15	15	15							
Meisberger, Shannon (USA) (1999)	time		6.37	10.30	14.39	18.79	23.29	28.02	32.90	38.12	43.43	49.03	55.61	55.61	8 / 4			
	reaction time																	
	interval			3.93	4.09	4.40	4.50	4.73	4.88	5.22	5.31	5.60	6.58	PB		12.42	14.11	16.13
	velocity		7.06	8.91	8.56	7.95	7.78	7.40	7.17	6.70	6.59	6.25	6.08	7.19		8.45	7.44	6.51
	H1 lead leg	L												147				
	strides		22	15	15	15	15	16	16	16	17							
Hoffman, Lauren (USA) (1999)	time		6.51	10.62	14.85	19.33	23.85	28.75	33.73	38.94	44.25	49.79	56.19	56.19	9 / 5			
	reaction time																	
	interval			4.11	4.23	4.48	4.52	4.90	4.98	5.21	5.31	5.54	6.40			12.82	14.40	16.06
	velocity		6.91	8.52	8.27	7.81	7.74	7.14	7.03	6.72	6.59	6.32	6.25	7.12		8.19	7.29	6.54
	H1 lead leg	L												133				
	strides		23	15	15	15	16	16	16	17								
Bookman, Deonca (USA) (1995)	time		6.48	10.67	14.99	19.45	24.17	29.02	33.93	39.03	44.22	49.69	56.24	56.24	7 / 6			
	reaction time																	
	interval			4.19	4.32	4.46	4.72	4.85	4.91	5.10	5.19	5.47	6.55			12.97	14.48	15.76
	velocity		6.94	8.35	8.10	7.85	7.42	7.22	7.13	6.86	6.74	6.40	6.11	7.11		8.10	7.25	6.66
	H1 lead leg	L												124				
	strides		24	16	16	16	17	17	17	18								
Wright, Jessica (USA) (2000)	time		6.74	11.03	15.57	20.41	25.25	30.13	35.01	40.17	45.53	50.85	57.09	57.09	3 / 7			
	reaction time																	
	interval			4.29	4.54	4.84	4.84	4.88	4.88	5.16	5.36	5.32	6.24			13.67	14.60	15.84
	velocity		6.68	8.16	7.71	7.23	7.23	7.17	7.17	6.78	6.53	6.58	6.41	7.01		7.68	7.19	6.63
	H1 lead leg	R												126				
	strides		24	16	17	17	17	17	17	18								
Bellamy, Shani'a (USA) (2002)	time		6.42	10.73	15.23	19.82	24.72	29.59	34.70	40.09	45.50	51.69	58.47	58.47	2 / 8			
	reaction time																	
	interval			4.31	4.50	4.59	4.90	4.87	5.11	5.39	5.41	6.19	6.78			13.40	14.88	16.99
	velocity		7.01	8.12	7.78	7.63	7.14	7.19	6.85	6.49	6.47	5.65	5.90	6.84		7.84	7.06	6.18
	H1 lead leg	L												115				
	strides		23	15	15	15	15	15	16	16								



Time Intervals (s)

Hurdle Phases



First Place - Sydney McLaughlin

2nd-8th Place

Evaluated with: ObjectusVideo

Source: USATF (2022) - Results powered by Karmarush.com.

Quality & Frame Rate: 1280 x 720 @ 30fps

Retrieved from <https://results.usatf.org/2022Outdoors/>

Timing From: Gun Flash

Times taken at the exact hurdle distances, the athlete is on top of the hurdle

Source: <https://www.youtube.com/watch?v=4aPGPscxl2I>

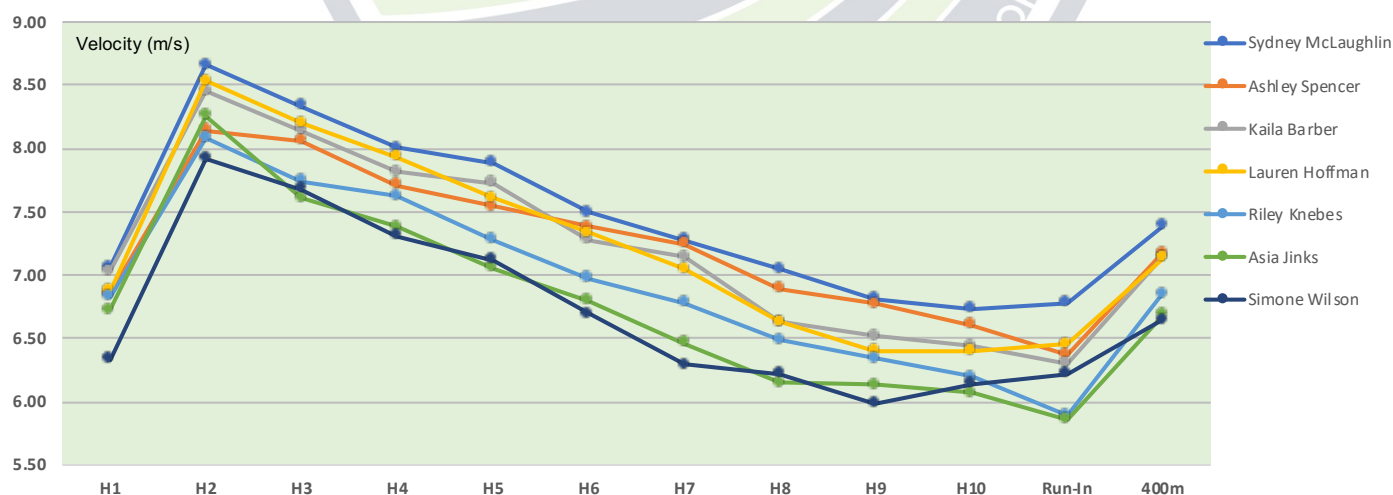
2022 USATF National Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.06.23

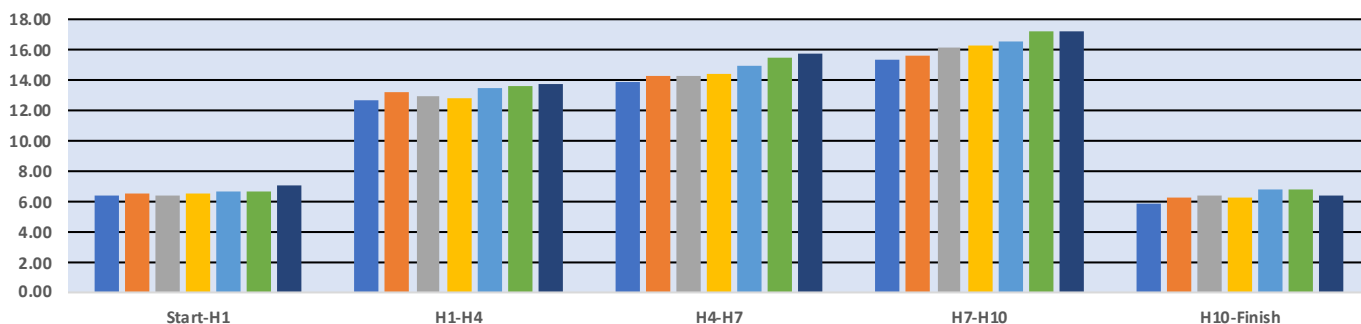
Heat 1

		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time	6.37	10.41	14.61	18.98	23.42	28.09	32.90	37.87	43.01	48.21		54.11	5 / 1			
	reaction time																
	interval		4.04	4.20	4.37	4.44	4.67	4.81	4.97	5.14	5.20	5.90			12.61	13.92	15.31
	velocity	7.06	8.66	8.33	8.01	7.88	7.49	7.28	7.04	6.81	6.73	6.78	7.39		8.33	7.54	6.86
Spencer, Ashley (USA) (1993)	time	6.57	10.87	15.21	19.75	24.39	29.13	33.96	39.04	44.21	49.51		55.79	4 / 2			
	reaction time																
	interval		4.30	4.34	4.54	4.64	4.74	4.83	5.08	5.17	5.30	6.28			13.18	14.21	15.55
	velocity	6.85	8.14	8.06	7.71	7.54	7.38	7.25	6.89	6.77	6.60	6.37	7.17		7.97	7.39	6.75
Barber, Kaila (USA) (1993)	time	6.40	10.54	14.84	19.32	23.85	28.66	33.56	38.84	44.21	49.65		56.00	6 / 3			
	reaction time																
	interval		4.14	4.30	4.48	4.53	4.81	4.90	5.28	5.37	5.44	6.35			12.92	14.24	16.09
	velocity	7.03	8.45	8.14	7.81	7.73	7.28	7.14	6.63	6.52	6.43	6.30	7.14		8.13	7.37	6.53
Hoffman, Lauren (USA) (1999)	time	6.54	10.64	14.91	19.32	23.92	28.69	33.66	38.94	44.41	49.88		56.08	3 / 4			
	reaction time																
	interval		4.10	4.27	4.41	4.60	4.77	4.97	5.28	5.47	5.47	6.20			12.78	14.34	16.22
	velocity	6.88	8.54	8.20	7.94	7.61	7.34	7.04	6.63	6.40	6.40	6.45	7.13		8.22	7.32	6.47
Knebes, Riley (USA) (1996)	time	6.59	10.92	15.44	20.03	24.84	29.86	35.02	40.42	45.94	51.59	58.38	58.38	9 / 5			
	reaction time																
	interval		4.33	4.52	4.59	4.81	5.02	5.16	5.40	5.52	5.65	6.79			13.44	14.99	16.57
	velocity	6.83	8.08	7.74	7.63	7.28	6.97	6.78	6.48	6.34	6.19	5.89	6.85		7.81	7.00	6.34
Jinks, Asia (USA) (1999)	time	6.69	10.93	15.53	20.27	25.23	30.38	35.80	41.49	47.20	52.97	59.80	59.80	7 / 6			
	reaction time																
	interval		4.24	4.60	4.74	4.96	5.15	5.42	5.69	5.71	5.77	6.83			13.58	15.53	17.17
	velocity	6.73	8.25	7.61	7.38	7.06	6.80	6.46	6.15	6.13	6.07	5.86	6.69		7.73	6.76	6.12
Wilson, Simone (USA) (1998)	time	7.11	11.53	16.09	20.88	25.80	31.03	36.59	42.22	48.07	53.77	60.20	60.20	8 / 7			
	reaction time																
	interval		4.42	4.56	4.79	4.92	5.23	5.56	5.63	5.85	5.70	6.43			13.77	15.71	17.18
	velocity	6.33	7.92	7.68	7.31	7.11	6.69	6.29	6.22	5.98	6.14	6.22	6.64		7.63	6.68	6.11



Time Intervals (s)

Hurdle Phases



1st - 4th Place

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: Gun Flash

Source: <https://www.youtube.com/watch?v=FRLzKtIf6RA>

5th - 7th Place

Source: USATF (2022) - Results powered by Karmarush.com.

Retrieved from <https://results.usatf.org/2022Outdoors/>

Times taken at the exact hurdle distances, the athlete is on top of the hurdle

2022 Music City Track Carnival (Nashville, TN) (TV Analysis)

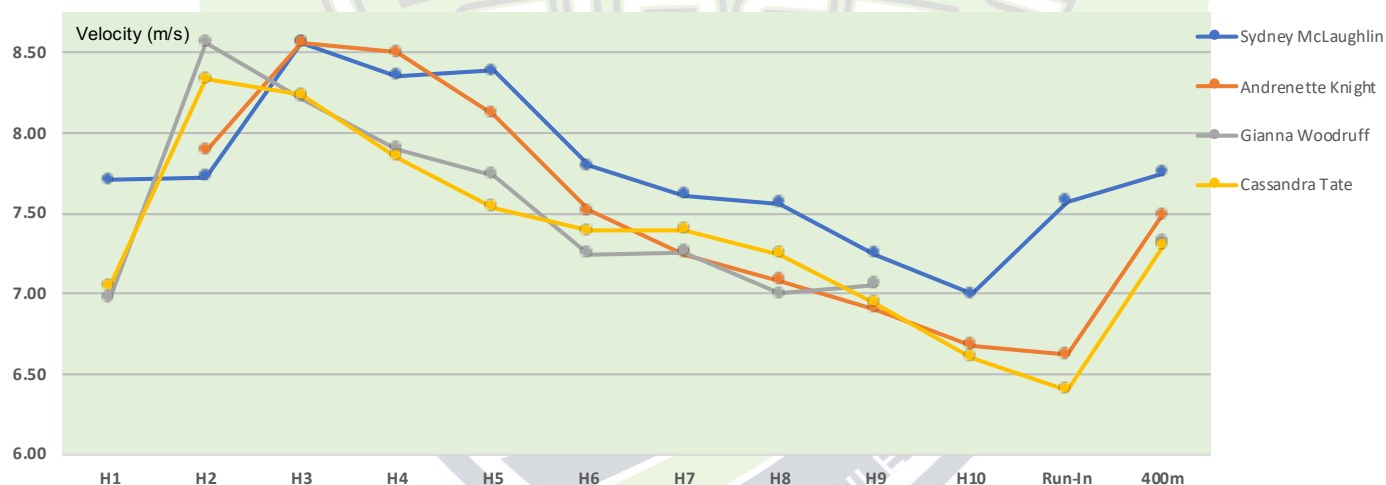
Women's 400m Hurdles

Date: 2022.06.05

(H5 5m long)

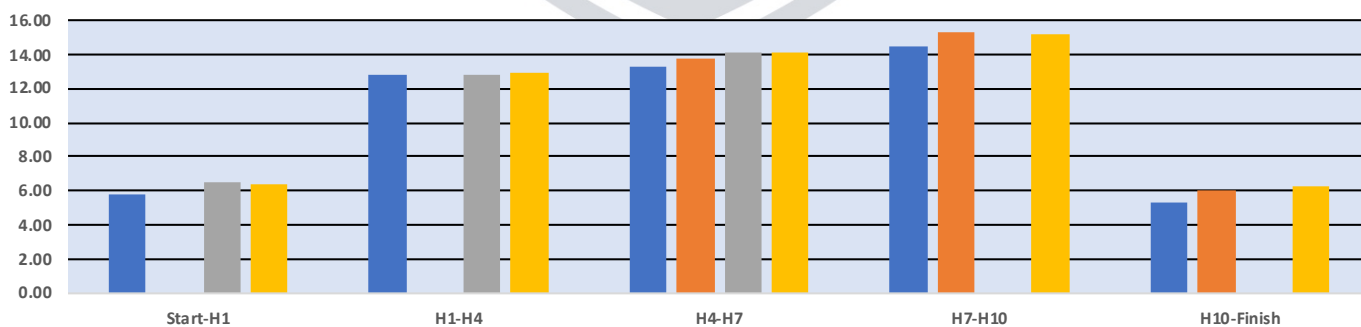
FINAL

		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	400m	Lane / Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time	5.84	10.37	14.46	18.65	23.42	27.27	31.87	36.50	41.33	46.33		51.61	5 / 1			
	reaction time																
	interval		4.53	4.09	4.19	4.77	3.85	4.60	4.63	4.83	5.00	5.28			12.81	13.22	14.46
	velocity	7.71	7.73	8.56	8.35	8.39	7.79	7.61	7.56	7.25	7.00	7.58	7.75		8.20	7.94	7.26
Knight, Andrenette (JAM) (1996)	H1 lead leg	R		14	14	16	13	15	15		16		117				
	time		10.14	14.23	18.35	23.28	27.27	32.10	37.04	42.11	47.35		53.39	4 / 2			
	reaction time				4.09	4.12	4.93	3.99	4.83	4.94	5.07	5.24	6.04			13.75	15.25
	interval			7.89	8.56	8.11	7.52	7.25	7.09	6.90	6.68	6.62	7.49			7.64	6.89
Woodruff, Gianna (PAN) (1993)	H1 lead leg			15	15	17	13	16	16		16		108				
	time		6.45	10.54	14.80	19.23	24.40	28.54	33.36	38.36	43.32		54.63	6 / 3			
	reaction time				4.09	4.26	4.43	5.17	4.14	4.82	5.00	4.96			12.78	14.13	
	interval		6.98	8.56	8.22	7.90	7.74	7.25	7.26	7.00	7.06		7.32		8.22	7.43	
Tate, Cassandra (USA) (1990)	H1 lead leg	L		23	15	15	17	13		16	16		130				
	time		6.38	10.58	14.83	19.29	24.60	28.66	33.39	38.22	43.26	48.56	54.81	7 / 4			
	reaction time			4.20	4.25	4.46	5.31	4.06	4.73	4.83	5.04	5.30	6.25		12.91	14.10	15.17
	interval		7.05	8.33	8.24	7.85	7.53	7.39	7.40	7.25	6.94	6.60	6.40		8.13	7.45	6.92
Tate, Cassandra (USA) (1990)	H1 lead leg	L		21	14	14	17	13	15	15	15		138				
	velocity																
	strides																



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1280 x 716 @ 30fps

Timing From: Gun Flash

Source: https://www.youtube.com/watch?v=eA-Okk_fs_k&t=12s

Sydney McLaughlin 100m Hurdles (2021-22)

2022 Penn Relays (Philadelphia, PA) (TV Analysis)

100m Hurdles

Date: 2022.04.30

Wind: 0.0 m/s

Olympic Development FINAL

		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	100m	Lane/Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time	2.50	3.54	4.58	5.58	6.58	7.55	8.55	9.55	10.55	11.55		12.75	4 / 1			
	reaction time														3.08	2.97	3.00
	interval	7 steps	1.04	1.04	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.20			8.28	8.59	8.50
	velocity	5.20	8.17	8.17	8.50	8.50	8.76	8.50	8.50	8.50	8.50	8.38	7.84				

2021 USATF Grand Prix (Eugene, OR) (TV Analysis)

100m Hurdles

Date: 2021.04.24

Wind: -0.3 m/s

FINAL

		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	100m	Lane/Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time	2.57	3.63	4.65	5.65	6.65	7.65	8.65	9.65	10.67	11.71		12.86	2 / 4			
	reaction time														3.08	3.00	3.06
	interval	7 steps	1.06	1.02	1.00	1.00	1.00	1.00	1.00	1.02	1.04	1.15	PB		8.28	8.50	8.33
	velocity	5.06	8.02	8.33	8.50	8.50	8.50	8.50	8.50	8.33	8.17	8.74	7.78				

2021 Bryan Clay Invitational (Azusa, CA) (TV Analysis)

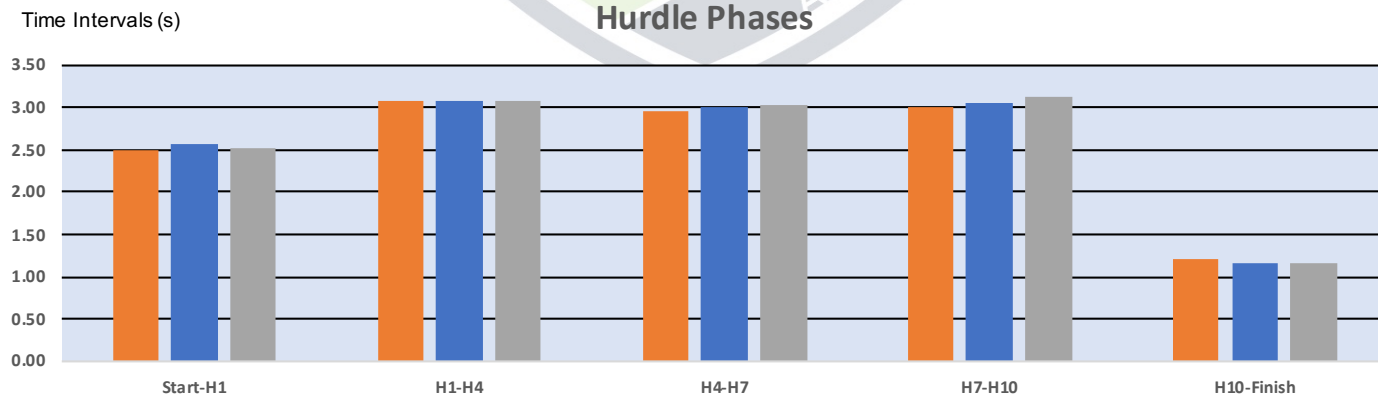
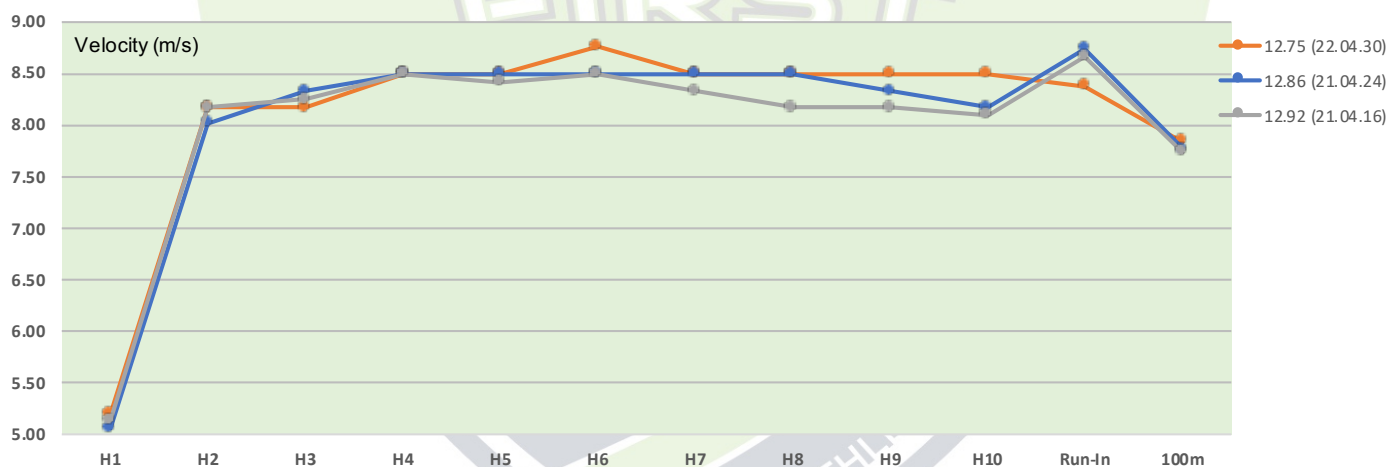
100m Hurdles

Date: 2021.04.16

Wind: 0.2 m/s

FINAL

		H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	Run-In	100m	Lane/Place	H1-H4	H4-H7	H7-H10
McLaughlin, Sydney (USA) (1999)	time	2.53	3.57	4.60	5.60	6.61	7.61	8.63	9.67	10.71	11.76		12.92	4 / 1			
	reaction time														3.07	3.03	3.13
	interval	7 steps	1.04	1.03	1.00	1.01	1.00	1.02	1.04	1.04	1.05	1.16	PB		8.31	8.42	8.15
	velocity	5.14	8.17	8.25	8.50	8.42	8.50	8.33	8.17	8.17	8.10	8.66	7.74				



2022 Penn Relays
 Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 24fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=SiZz0FFZh1o&t=10s>

2021 USATF Grand Prix
 Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=Z1amR0y6sw0>

2021 Bryan Clay Invitational
 Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=MXxaq179KQ4>