

2022 Season Hurdles Report

Hurdle Touchdown Times

Men's 110m Hurdles
Women's 100m Hurdles
Men's 400m Hurdles
Women's 400m Hurdles

UPDATED
2025.01.20



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Todd Henson

2022 Season Hurdles Report

Men's 110m Hurdles

| | |
|---|--------|
| Top 10 Times | 5 |
| Weltklasse (Zürich, SUI) (TV Analysis) — Final | 6 |
| ISTAF (Berlin, GER) (TV Analysis) — Final | 7 |
| NACAC Championships (Freeport, BAH) (TV Analysis) — Final | 7 |
| Athletissima (Lausanne, SUI) (TV Analysis) — Final | 8 |
| European Athletics Championships (Munich, GER) (TV Analysis) — Final | 9 |
| Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) — Final | 10 |
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| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 2 | 14 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 1 | 15 |
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| USATF National Championships (Eugene, OR) — Semi-Final 1 | 21 |
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| World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) — Semi-Final 2 | 30 |
| World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis) — Semi-Final 1 | 31 |

Women's 100m Hurdles

| | |
|---|--------|
| Top 10 Times | 33 |
| Weltklasse (Zürich, SUI) (TV Analysis) — Final | 34 |
| Memorial van Damme (Brussels, BEL) (TV Analysis) — Final | 35 |
| Athletissima (Lausanne, SUI) (TV Analysis) — Final | 36 |
| European Athletics Championships (Munich, GER) (TV Analysis) — Final | 37 |
| Gyulai István Memorial (Székesfehérvár, HUN) (TV Analysis) — Final | 38 |
| Commonwealth Games (Birmingham, GBR) (TV Analysis) — Final | 39 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Final | 40 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 3 | 41 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 2 | 42 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 1 | 43 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Heats 6-5 | 44 |
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| Bauhaus Galan (Stockholm, SWE) (TV Analysis) — Final | 48 |
| USATF National Championships (Eugene, OR) (TV Analysis) — Final | 49 |
| USATF National Championships (Eugene, OR) — Semi-Final 2 | 50 |
| USATF National Championships (Eugene, OR) — Semi-Final 1 | 51 |
| Meeting de Paris (Paris, FRA) (TV Analysis) — Final | 52 |
| New York Grand Prix (New York, NY) (TV Analysis) — Final | 53 |
| NCAA Championships (Eugene, OR) (TV Analysis) — Final | 54 |
| Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis) — Final | 55 |
| Prefontaine Classic (Eugene, OR) (TV Analysis) — Final | 56 |
| Doha Diamond League (Doha, QAT) (TV Analysis) — Final | 57 |
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| Texas Relays (Austin, TX) (TV Analysis) — International Final, University Final | 59 |
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2022 Season Hurdles Report

Men's 400m Hurdles

| | |
|---|----|
| Top 10 Times | 62 |
| Weltklasse (Zürich, SUI) (TV Analysis) — Final | 63 |
| ISTAF (Berlin, GER) (TV Analysis) — Final | 64 |
| NACAC Championships (Freeport, BAH) (TV Analysis) — Final | 64 |
| Memorial van Damme (Brussels, BEL) (TV Analysis) — Final | 65 |
| European Athletics Championships (Munich, GER) (TV Analysis) — Final | 66 |
| Silesia Kamila Skolimowska Memoriał (Chorzów, POL) (TV Analysis) — Final | 67 |
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| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 3 | 69 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 2 | 70 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 1 | 71 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Heats 5-4 | 72 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Heats 3-2 | 73 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Heat 1 | 74 |
| Bauhaus Galan (Stockholm, SWE) (TV Analysis) — Final | 75 |
| USATF National Championships (Eugene, OR) (TV Analysis) — Final | 76 |
| Bislett Games (Oslo, NOR) (TV Analysis) — Final | 77 |
| Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis) — Final | 78 |
| Prefontaine Classic (Eugene, OR) (TV Analysis) — Final | 79 |
| Doha Diamond League (Doha, QAT) (TV Analysis) — Final | 80 |

Women's 400m Hurdles

| | |
|---|-----|
| Top 10 Times | 82 |
| Weltklasse (Zürich, SUI) (TV Analysis) — Final | 83 |
| Athletissima (Lausanne, SUI) (TV Analysis) — Final | 84 |
| European Athletics Championships (Munich, GER) (TV Analysis) — Final | 85 |
| Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) — Final | 86 |
| Gyulai István Memorial (Székesfehérvár, HUN) (TV Analysis) — Final | 87 |
| Commonwealth Games (Birmingham, GBR) (TV Analysis) — Final | 88 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Final | 89 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 3 | 90 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 2 | 91 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Semi-Final 1 | 92 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Heats 5-4 | 93 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Heats 3-2 | 94 |
| World Athletics Championships (Eugene, OR) (TV Analysis) — Heat 1 | 95 |
| Bauhaus Galan (Stockholm, SWE) (TV Analysis) — Final | 96 |
| USATF National Championships (Eugene, OR) (TV Analysis) — Final | 97 |
| USATF National Championships (Eugene, OR) — Semi-Final 2 | 98 |
| USATF National Championships (Eugene, OR) — Semi-Final 1 | 99 |
| Bislett Games (Oslo, NOR) (TV Analysis) — Final | 100 |
| Golden Gala Pietro Mennea (Florence, ITA) (TV Analysis) — Final | 101 |
| Music City Track Carnival (Nashville, TN) (TV Analysis) — Final | 102 |
| Golden Spike (Ostrava, CZE) (300m Hurdles) (TV Analysis) — Final | 103 |
| Müller Birmingham Grand Prix (Birmingham, GBR) (TV Analysis) — Final | 104 |

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.

Men's 110m Hurdles

2022 Top 10 Times - Men's 110m Hurdles

| Name (Nationality) (Year) | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|----------|----------|---------|------|------|------|------|------|------|------|-------|--|-------|------------|-------|-------|--------|
| Allen, Devon (USA) (1994) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 New York Grand Prix (New York, NY) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 12-Jun | time | 2.42 | 3.44 | 4.43 | 5.42 | 6.38 | 7.38 | 8.36 | 9.38 | 10.38 | 11.42 | 12.84 | 5 / 1 | | | |
| reaction time | 0.128 | interval | 7 steps | 1.02 | 0.99 | 0.99 | 0.96 | 1.00 | 0.98 | 1.02 | 1.00 | 1.04 | 1.42 | PB | 3.00 | 2.94 | 3.06 |
| wind | 1.6 m/s | velocity | 5.67 | 8.96 | 9.23 | 9.23 | 9.52 | 9.14 | 9.33 | 8.96 | 9.14 | 8.79 | 9.87 | 8.57 | 9.14 | 9.33 | 8.96 |
| Holloway, Grant (USA) (1997) | | | | | | | | | | | | | | | | | |
| FINAL - Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 10-Aug | time | 2.40 | 3.40 | 4.36 | 5.33 | 6.30 | 7.30 | 8.30 | 9.30 | 10.36 | 11.43 | 12.99 | 6 / 1 | | | |
| reaction time | 0.148 | interval | 7 steps | 1.00 | 0.96 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 1.06 | 1.07 | 1.56 | | 2.93 | 2.97 | 3.13 |
| wind | 0.6 m/s | velocity | 5.72 | 9.14 | 9.52 | 9.42 | 9.42 | 9.14 | 9.14 | 9.14 | 8.62 | 8.54 | 8.99 | 8.47 | 9.36 | 9.23 | 8.76 |
| Broadbell, Rasheed (JAM) (2000) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 26-Aug | time | 2.47 | 3.50 | 4.50 | 5.50 | 6.50 | 7.52 | 8.51 | 9.52 | 10.54 | 11.58 | 12.99 | 5 / 1 | | | |
| reaction time | 0.142 | interval | 7 steps | 1.03 | 1.00 | 1.00 | 1.00 | 1.02 | 0.99 | 1.01 | 1.02 | 1.04 | 1.41 | PB | 3.03 | 3.01 | 3.07 |
| wind | 0.0 m/s | velocity | 5.55 | 8.87 | 9.14 | 9.14 | 9.14 | 8.96 | 9.23 | 9.05 | 8.96 | 8.79 | 9.94 | 8.47 | 9.05 | 9.11 | 8.93 |
| Cunningham, Trey (USA) (1998) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 NCAA Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 10-Jun | time | 2.44 | 3.45 | 4.44 | 5.42 | 6.40 | 7.44 | 8.44 | 9.46 | 10.51 | 11.56 | 13.00 | 5 / 1 | | | |
| reaction time | | interval | 7 steps | 1.01 | 0.99 | 0.98 | 0.98 | 1.04 | 1.00 | 1.02 | 1.05 | 1.05 | 1.44 | PB | 2.98 | 3.02 | 3.12 |
| wind | 0.0 m/s | velocity | 5.62 | 9.05 | 9.23 | 9.33 | 9.33 | 8.79 | 9.14 | 8.96 | 8.70 | 8.70 | 9.74 | 8.46 | 9.20 | 9.08 | 8.79 |
| Crittenden, Freddie (USA) (1994) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 NACAC Championships (Freeport, BAH) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 20-Aug | time | 2.43 | 3.45 | 4.44 | 5.43 | 6.40 | 7.40 | 8.40 | 9.43 | 10.47 | 11.52 | 13.00 | 4 / 1 | | | |
| reaction time | | interval | | 1.02 | 0.99 | 0.99 | 0.97 | 1.00 | 1.00 | 1.03 | 1.04 | 1.05 | 1.48 | PB | 3.00 | 2.97 | 3.12 |
| wind | 0.3 m/s | velocity | 5.65 | 8.96 | 9.23 | 9.23 | 9.42 | 9.14 | 9.14 | 8.87 | 8.79 | 8.70 | 9.47 | 8.46 | 9.14 | 9.23 | 8.79 |
| Holloway, Grant (USA) (1997) | | | | | | | | | | | | | | | | | |
| Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 17-Jul | time | 2.43 | 3.40 | 4.40 | 5.37 | 6.37 | 7.37 | 8.37 | 9.40 | 10.43 | 11.48 | 13.01 | 6 / 1 | | | |
| reaction time | 0.128 | interval | 7 steps | 0.97 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.03 | 1.03 | 1.05 | 1.53 | | 2.94 | 3.00 | 3.11 |
| wind | -0.6 m/s | velocity | 5.65 | 9.42 | 9.14 | 9.42 | 9.14 | 9.14 | 9.14 | 8.87 | 8.87 | 8.70 | 9.16 | 8.46 | 9.33 | 9.14 | 8.82 |
| Holloway, Grant (USA) (1997) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 8-Aug | time | 2.44 | 3.44 | 4.41 | 5.37 | 6.34 | 7.34 | 8.34 | 9.38 | 10.44 | 11.51 | 13.02 | 6 / 1 | | | |
| reaction time | 0.140 | interval | 7 steps | 1.00 | 0.97 | 0.96 | 0.97 | 1.00 | 1.00 | 1.04 | 1.06 | 1.07 | 1.51 | | 2.93 | 2.97 | 3.17 |
| wind | -1.0 m/s | velocity | 5.62 | 9.14 | 9.42 | 9.52 | 9.42 | 9.14 | 9.14 | 8.79 | 8.62 | 8.54 | 9.28 | 8.45 | 9.36 | 9.23 | 8.65 |
| Parchment, Hansle (JAM) (1990) | | | | | | | | | | | | | | | | | |
| Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 17-Jul | time | 2.56 | 3.60 | 4.60 | 5.66 | 6.52 | 7.53 | 8.50 | 9.50 | 10.53 | 11.56 | 13.02 | 3 / 1 | | | |
| reaction time | 0.128 | interval | 7 steps | 1.04 | 1.00 | 0.96 | 0.96 | 1.01 | 0.97 | 1.00 | 1.03 | 1.03 | 1.46 | | 3.00 | 2.94 | 3.06 |
| wind | 2.5 m/s | velocity | 5.36 | 8.79 | 9.14 | 9.52 | 9.52 | 9.05 | 9.42 | 9.14 | 8.87 | 8.87 | 9.60 | 8.45 | 9.14 | 9.33 | 8.96 |
| Holloway, Grant (USA) (1997) | | | | | | | | | | | | | | | | | |
| Semi-Final 1 - 2022 USATF National Championships (Eugene, OR) | | | | | | | | | | | | USATF (2022) - Results powered by Karmarsh.com | | | | | |
| date | 26-Jun | time | 2.41 | 3.41 | 4.38 | 5.35 | 6.34 | 7.36 | 8.36 | 9.40 | 10.45 | 11.53 | 13.03 | 13.03 | 4 / 1 | | |
| reaction time | | interval | 7 steps | 1.00 | 0.97 | 0.97 | 0.99 | 1.02 | 1.00 | 1.04 | 1.05 | 1.08 | 1.50 | | 2.94 | 3.01 | 3.17 |
| wind | 0.4 m/s | velocity | 5.69 | 9.14 | 9.42 | 9.42 | 9.23 | 8.96 | 9.14 | 8.79 | 8.70 | 8.46 | 9.35 | 8.44 | 9.33 | 9.11 | 8.65 |
| Roberts, Daniel (USA) (1998) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 USATF National Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 26-Jun | time | 2.43 | 3.47 | 4.47 | 5.47 | 6.47 | 7.47 | 8.50 | 9.52 | 10.54 | 11.61 | 13.03 | 7 / 1 | | | |
| reaction time | | interval | | 1.04 | 1.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.02 | 1.02 | 1.07 | 1.42 | | 3.04 | 3.03 | 3.11 |
| wind | 1.2 m/s | velocity | 5.65 | 8.79 | 9.14 | 9.14 | 9.14 | 9.14 | 8.87 | 8.96 | 8.96 | 8.54 | 9.87 | 8.44 | 9.02 | 9.05 | 8.82 |
| Holloway, Grant (USA) (1997) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 17-Jul | time | 2.40 | 3.38 | 4.36 | 5.34 | 6.34 | 7.32 | 8.34 | 9.36 | 10.40 | 11.46 | 13.03 | 4 / 1 | | | |
| reaction time | 0.124 | interval | 7 steps | 0.98 | 0.98 | 0.98 | 1.00 | 0.98 | 1.02 | 1.02 | 1.04 | 1.06 | 1.57 | | 2.94 | 3.00 | 3.12 |
| wind | 1.2 m/s | velocity | 5.72 | 9.33 | 9.33 | 9.33 | 9.14 | 9.33 | 8.96 | 8.96 | 8.79 | 8.62 | 8.93 | 8.44 | 9.33 | 9.14 | 8.79 |
| Cunningham, Trey (USA) (1998) | | | | | | | | | | | | | | | | | |
| FINAL - Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 10-Aug | time | 2.43 | 3.43 | 4.40 | 5.40 | 6.40 | 7.43 | 8.46 | 9.46 | 10.53 | 11.60 | 13.03 | 4 / 2 | | | |
| reaction time | 0.141 | interval | 7 steps | 1.00 | 0.97 | 1.00 | 1.00 | 1.03 | 1.03 | 1.00 | 1.07 | 1.07 | 1.43 | | 2.97 | 3.06 | 3.14 |
| wind | 0.6 m/s | velocity | 5.65 | 9.14 | 9.42 | 9.14 | 9.14 | 8.87 | 8.87 | 9.14 | 8.54 | 8.54 | 9.80 | 8.44 | 9.23 | 8.96 | 8.73 |
| Holloway, Grant (USA) (1997) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 ISTAF (Berlin, GER) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 4-Sep | time | 2.42 | 3.44 | 4.40 | 5.36 | 6.34 | 7.34 | 8.36 | 9.40 | 10.44 | 11.56 | 13.05 | 4 / 1 | | | |
| reaction time | 0.140 | interval | 7 steps | 1.02 | 0.96 | 0.96 | 0.98 | 1.00 | 1.02 | 1.04 | 1.04 | 1.12 | 1.49 | | 2.94 | 3.00 | 3.20 |
| wind | 0.6 m/s | velocity | 5.67 | 8.96 | 9.52 | 9.52 | 9.33 | 9.14 | 8.96 | 8.79 | 8.79 | 8.16 | 9.41 | 8.43 | 9.33 | 9.14 | 8.57 |
| Holloway, Grant (USA) (1997) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 New York Grand Prix (New York, NY) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 12-Jun | time | 2.35 | 3.35 | 4.33 | 5.33 | 6.30 | 7.28 | 8.30 | 9.35 | 10.38 | 11.52 | 13.06 | 6 / 2 | | | |
| reaction time | 0.116 | interval | 7 steps | 1.00 | 0.98 | 1.00 | 0.97 | 0.98 | 1.02 | 1.05 | 1.03 | 1.14 | 1.54 | | 2.98 | 2.97 | 3.22 |
| wind | 1.6 m/s | velocity | 5.84 | 9.14 | 9.33 | 9.14 | 9.42 | 9.33 | 8.96 | 8.70 | 8.87 | 8.02 | 9.10 | 8.42 | 9.20 | 9.23 | 8.52 |
| Broadbell, Rasheed (JAM) (2000) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) | | | | | | | | | | | | Henson (2022) - Athlete First: 2022 year end hurdle report | | | | | |
| date | 8-Aug | time | 2.44 | 3.47 | 4.48 | 5.47 | 6.45 | 7.48 | 8.50 | 9.52 | 10.61 | 11.64 | 13.06 | 7 / 2 | | | |
| reaction time | 0.149 | interval | 7 steps | 1.03 | 1.01 | 0.99 | 0.98 | 1.03 | 1.02 | 1.02 | 1.09 | 1.03 | 1.42 | | 3.03 | 3.03 | 3.14 |
| wind | -1.0 m/s | velocity | 5.62 | 8.87 | 9.05 | 9.23 | 9.33 | 8.87 | 8.96 | 8.96 | 8.39 | 8.87 | 9.87 | 8.42 | 9.05 | 9.05 | 8.73 |

2022 Weltklasse (Zürich, SUI) (TV Analysis)

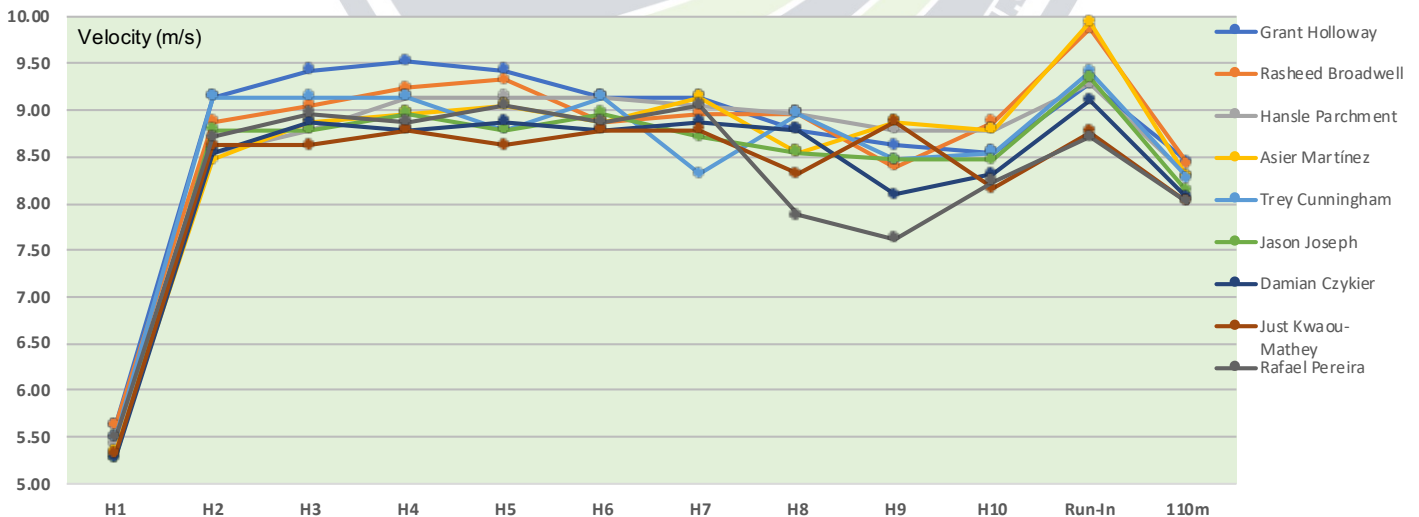
110m Hurdles

Date: 2022.09.08

Wind: -1.0 m/s

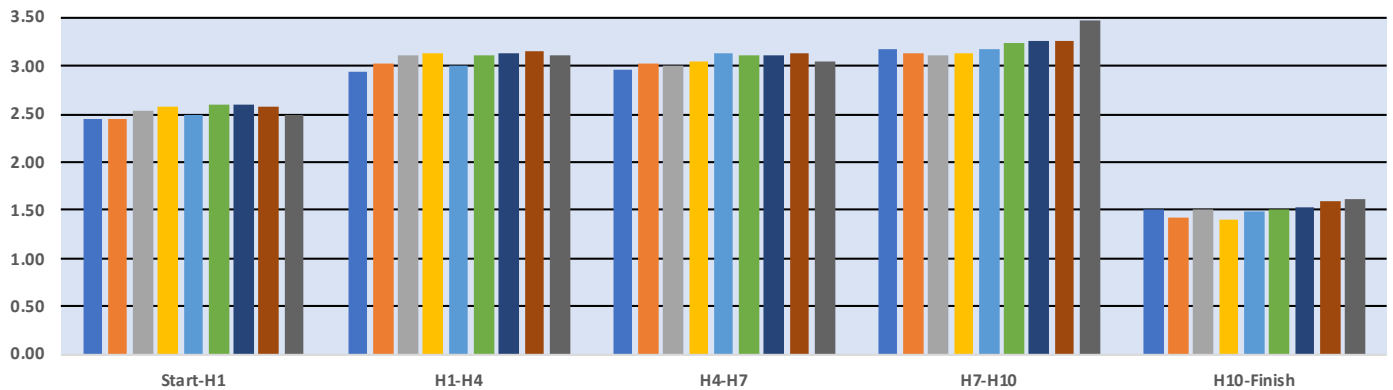
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Holloway, Grant (USA) (1997) | time | 2.44 | 3.44 | 4.41 | 5.37 | 6.34 | 7.34 | 8.34 | 9.38 | 10.44 | 11.51 | | 13.02 | 6 / 1 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 2.93 | 2.97 | 3.17 |
| | interval | 7 steps | 1.00 | 0.97 | 0.96 | 0.97 | 1.00 | 1.00 | 1.04 | 1.06 | 1.07 | 1.51 | | | 9.36 | 9.23 | 8.65 |
| | velocity | 5.62 | 9.14 | 9.42 | 9.52 | 9.42 | 9.14 | 9.14 | 8.79 | 8.62 | 8.54 | 9.28 | 8.45 | | | | |
| Broadbell, Rasheed (JAM) (2000) | time | 2.44 | 3.47 | 4.48 | 5.47 | 6.45 | 7.48 | 8.50 | 9.52 | 10.61 | 11.64 | | 13.06 | 7 / 2 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | 3.03 | 3.03 | 3.14 |
| | interval | 7 steps | 1.03 | 1.01 | 0.99 | 0.98 | 1.03 | 1.02 | 1.02 | 1.09 | 1.03 | 1.42 | | | 9.05 | 9.05 | 8.73 |
| | velocity | 5.62 | 8.87 | 9.05 | 9.23 | 9.33 | 8.87 | 8.96 | 8.96 | 8.39 | 8.87 | 9.87 | 8.42 | | | | |
| Parchment, Hansle (JAM) (1990) | time | 2.53 | 3.60 | 4.64 | 5.64 | 6.64 | 7.64 | 8.65 | 9.67 | 10.71 | 11.75 | | 13.26 | 5 / 3 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | 3.11 | 3.01 | 3.10 |
| | interval | 7 steps | 1.07 | 1.04 | 1.00 | 1.00 | 1.00 | 1.01 | 1.02 | 1.04 | 1.04 | 1.51 | | | 8.82 | 9.11 | 8.85 |
| | velocity | 5.42 | 8.54 | 8.79 | 9.14 | 9.14 | 9.14 | 9.05 | 8.96 | 8.79 | 8.79 | 9.28 | 8.30 | | | | |
| Martinez, Asier (ESP) (2000) | time | 2.57 | 3.65 | 4.68 | 5.70 | 6.71 | 7.74 | 8.74 | 9.81 | 10.84 | 11.88 | | 13.29 | 3 / 4 | | | |
| | reaction time | 0.144 | | | | | | | | | | | | | 3.13 | 3.04 | 3.14 |
| | interval | 7 steps | 1.08 | 1.03 | 1.02 | 1.01 | 1.03 | 1.00 | 1.07 | 1.03 | 1.04 | 1.41 | | | 8.76 | 9.02 | 8.73 |
| | velocity | 5.34 | 8.46 | 8.87 | 8.96 | 9.05 | 8.87 | 9.14 | 8.54 | 8.87 | 8.79 | 9.94 | 8.28 | | | | |
| Cunningham, Trey (USA) (1998) | time | 2.50 | 3.50 | 4.50 | 5.50 | 6.54 | 7.54 | 8.64 | 9.66 | 10.74 | 11.81 | | 13.30 | 4 / 5 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | 3.00 | 3.14 | 3.17 |
| | interval | 7 steps | 1.00 | 1.00 | 1.00 | 1.04 | 1.00 | 1.10 | 1.02 | 1.08 | 1.07 | 1.49 | | | 9.14 | 8.73 | 8.65 |
| | velocity | 5.49 | 9.14 | 9.14 | 9.14 | 8.79 | 9.14 | 8.31 | 8.96 | 8.46 | 8.54 | 9.41 | 8.27 | | | | |
| Joseph, Jason (SUI) (1998) | time | 2.60 | 3.64 | 4.68 | 5.70 | 6.74 | 7.76 | 8.81 | 9.88 | 10.96 | 12.04 | | 13.54 | 9 / 6 | | | |
| | reaction time | 0.178 | | | | | | | | | | | | | 3.10 | 3.11 | 3.23 |
| | interval | 7 steps | 1.04 | 1.04 | 1.02 | 1.04 | 1.02 | 1.05 | 1.07 | 1.08 | 1.08 | 1.50 | | | 8.85 | 8.82 | 8.49 |
| | velocity | 5.28 | 8.79 | 8.79 | 8.96 | 8.79 | 8.96 | 8.70 | 8.54 | 8.46 | 8.46 | 9.35 | 8.12 | | | | |
| Czykier, Damian (POL) (1992) | time | 2.60 | 3.67 | 4.70 | 5.74 | 6.77 | 7.81 | 8.84 | 9.88 | 11.01 | 12.11 | | 13.65 | 1 / 7 | | | |
| | reaction time | 0.142 | | | | | | | | | | | | | 3.14 | 3.10 | 3.27 |
| | interval | 7 steps | 1.07 | 1.03 | 1.04 | 1.03 | 1.04 | 1.03 | 1.04 | 1.13 | 1.10 | 1.54 | | | 8.73 | 8.85 | 8.39 |
| | velocity | 5.28 | 8.54 | 8.87 | 8.79 | 8.87 | 8.79 | 8.87 | 8.79 | 8.09 | 8.31 | 9.10 | 8.06 | | | | |
| Kwaou-Mathey, Just (FRA) (1999) | time | 2.58 | 3.64 | 4.70 | 5.74 | 6.80 | 7.84 | 8.88 | 9.98 | 11.01 | 12.13 | | 13.73 | 2 / 8 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | 3.16 | 3.14 | 3.25 |
| | interval | 7 steps | 1.06 | 1.06 | 1.04 | 1.06 | 1.04 | 1.04 | 1.10 | 1.03 | 1.12 | 1.60 | | | 8.68 | 8.73 | 8.44 |
| | velocity | 5.32 | 8.62 | 8.62 | 8.79 | 8.62 | 8.79 | 8.79 | 8.31 | 8.87 | 8.16 | 8.76 | 8.01 | | | | |
| Pereira, Rafael (BRA) (1997) | time | 2.50 | 3.55 | 4.57 | 5.60 | 6.61 | 7.64 | 8.65 | 9.81 | 11.01 | 12.12 | | 13.73 | 8 / 9 | | | |
| | reaction time | 0.130 | | | | | | | | | | | | | 3.10 | 3.05 | 3.47 |
| | interval | 7 steps | 1.05 | 1.02 | 1.03 | 1.01 | 1.03 | 1.01 | 1.16 | 1.20 | 1.11 | 1.61 | | | 8.85 | 8.99 | 7.90 |
| | velocity | 5.49 | 8.70 | 8.96 | 8.87 | 9.05 | 8.87 | 9.05 | 7.88 | 7.62 | 8.23 | 8.71 | 8.01 | | | | |



Time Intervals (s)

Hurdle Phases



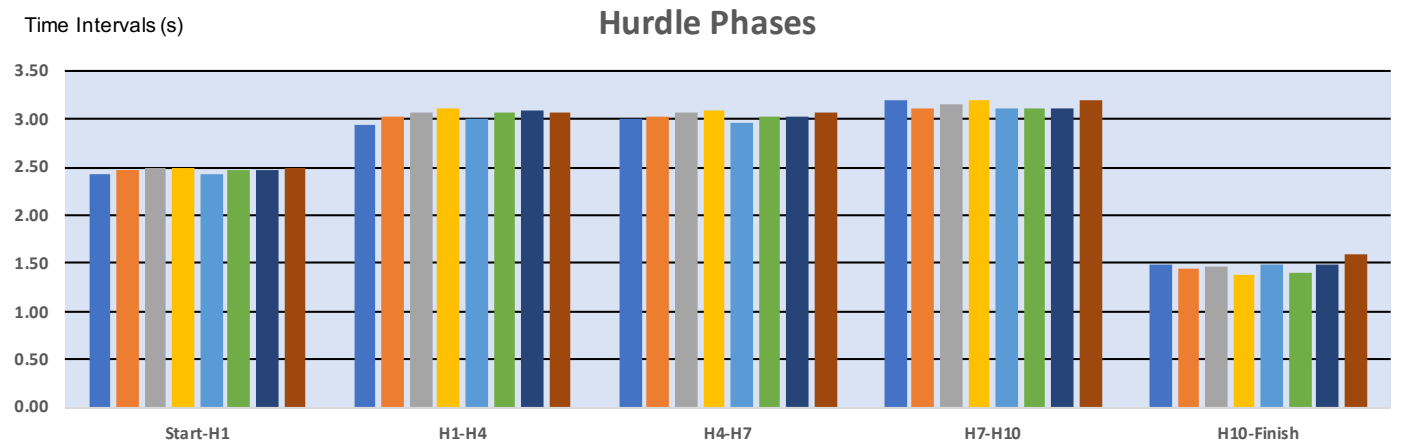
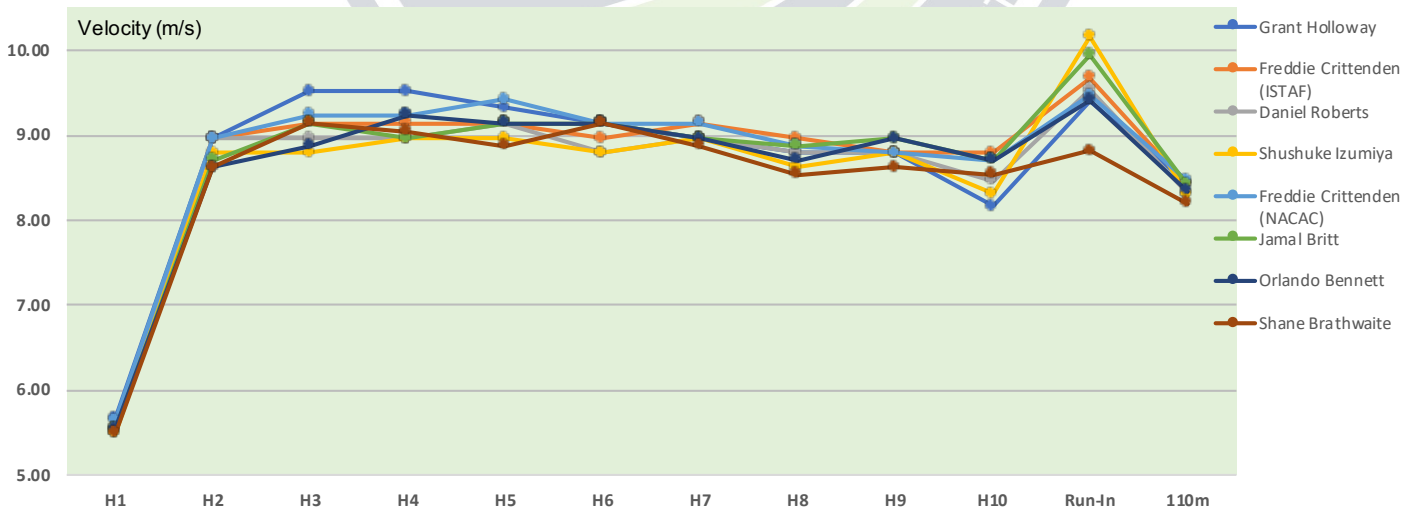
Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=ik8Dpmk5FBM&t=29s>

2022 ISTAF (Berlin, GER) (TV Analysis)

| 110m Hurdles | | Date: 2022.09.04 | Wind: 0.6 m/s | | | | | | | | | | FINAL | | | | |
|----------------------------------|---------------|------------------|---------------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
| Holloway, Grant (USA) (1997) | time | 2.42 | 3.44 | 4.40 | 5.36 | 6.34 | 7.34 | 8.36 | 9.40 | 10.44 | 11.56 | 13.05 | 13.05 | 4 / 1 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 2.94 | 3.00 | 3.20 |
| | interval | 7 steps | 1.02 | 0.96 | 0.96 | 0.98 | 1.00 | 1.02 | 1.04 | 1.04 | 1.12 | 1.49 | | | 9.33 | 9.14 | 8.57 |
| | velocity | 5.67 | 8.96 | 9.52 | 9.52 | 9.33 | 9.14 | 8.96 | 8.79 | 8.79 | 8.16 | 9.41 | 8.43 | | | | |
| Crittenden, Freddie (USA) (1994) | time | 2.48 | 3.50 | 4.50 | 5.50 | 6.50 | 7.52 | 8.52 | 9.54 | 10.58 | 11.62 | 13.07 | 13.07 | 5 / 2 | | | |
| | reaction time | 0.142 | | | | | | | | | | | | | 3.02 | 3.02 | 3.10 |
| | interval | 1.02 | 1.00 | 1.00 | 1.00 | 1.00 | 1.02 | 1.00 | 1.02 | 1.04 | 1.04 | 1.45 | | | 9.08 | 9.08 | 8.85 |
| | velocity | 5.53 | 8.96 | 9.14 | 9.14 | 9.14 | 8.96 | 9.14 | 8.96 | 8.79 | 8.79 | 9.67 | 8.42 | | | | |
| Roberts, Daniel (USA) (1998) | time | 2.50 | 3.52 | 4.54 | 5.56 | 6.56 | 7.60 | 8.62 | 9.66 | 10.70 | 11.78 | 13.25 | 13.25 | 6 / 3 | | | |
| | reaction time | 0.145 | | | | | | | | | | | | | 3.06 | 3.06 | 3.16 |
| | interval | 1.02 | 1.02 | 1.02 | 1.00 | 1.04 | 1.02 | 1.04 | 1.04 | 1.04 | 1.08 | 1.47 | | | 8.96 | 8.96 | 8.68 |
| | velocity | 5.49 | 8.96 | 8.96 | 8.96 | 9.14 | 8.79 | 8.96 | 8.79 | 8.79 | 8.46 | 9.54 | 8.30 | | | | |
| Izumiya, Shunsuke (JPN) (2000) | time | 2.50 | 3.54 | 4.58 | 5.60 | 6.62 | 7.66 | 8.68 | 9.74 | 10.78 | 11.88 | 13.26 | 13.26 | 8 / 4 | | | |
| | reaction time | 0.129 | | | | | | | | | | | | | 3.10 | 3.08 | 3.20 |
| | interval | 7 steps | 1.04 | 1.04 | 1.02 | 1.02 | 1.04 | 1.02 | 1.06 | 1.04 | 1.10 | 1.38 | | | 8.85 | 8.90 | 8.57 |
| | velocity | 5.49 | 8.79 | 8.79 | 8.96 | 8.96 | 8.79 | 8.96 | 8.62 | 8.79 | 8.31 | 10.16 | 8.30 | | | | |

2022 NACAC Championships (Freeport, BAH) (TV Analysis)

| 110m Hurdles | | Date: 2022.08.20 | Wind: 0.3 m/s | | | | | | | | | | FINAL | | | | |
|----------------------------------|---------------|------------------|---------------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
| Crittenden, Freddie (USA) (1994) | time | 2.43 | 3.45 | 4.44 | 5.43 | 6.40 | 7.40 | 8.40 | 9.43 | 10.47 | 11.52 | 13.00 | 13.00 | 4 / 1 | | | |
| | reaction time | | | | | | | | | | | | | | 3.00 | 2.97 | 3.12 |
| | interval | 1.02 | 0.99 | 0.99 | 0.97 | 1.00 | 1.00 | 1.03 | 1.04 | 1.05 | 1.48 | PB | | | 9.14 | 9.23 | 8.79 |
| | velocity | 5.65 | 8.96 | 9.23 | 9.23 | 9.42 | 9.14 | 9.14 | 8.87 | 8.79 | 8.70 | 9.47 | 8.46 | | | | |
| Britt, Jamal (USA) (1998) | time | 2.48 | 3.53 | 4.53 | 5.55 | 6.55 | 7.55 | 8.57 | 9.60 | 10.62 | 11.67 | 13.08 | 13.08 | 7 / 2 | | | |
| | reaction time | | | | | | | | | | | | | | 3.07 | 3.02 | 3.10 |
| | interval | 1.05 | 1.00 | 1.02 | 1.00 | 1.00 | 1.02 | 1.03 | 1.02 | 1.05 | 1.41 | PB | | | 8.93 | 9.08 | 8.85 |
| | velocity | 5.53 | 8.70 | 9.14 | 8.96 | 9.14 | 9.14 | 8.96 | 8.87 | 8.96 | 8.70 | 9.94 | 8.41 | | | | |
| Bennett, Orlando (JAM) (1999) | time | 2.47 | 3.53 | 4.56 | 5.55 | 6.55 | 7.55 | 8.57 | 9.62 | 10.64 | 11.69 | 13.18 | 13.18 | 6 / 3 | | | |
| | reaction time | | | | | | | | | | | | | | 3.08 | 3.02 | 3.12 |
| | interval | 1.06 | 1.03 | 0.99 | 1.00 | 1.00 | 1.02 | 1.05 | 1.02 | 1.05 | 1.49 | PB | | | 8.90 | 9.08 | 8.79 |
| | velocity | 5.55 | 8.62 | 8.87 | 9.23 | 9.14 | 9.14 | 8.96 | 8.70 | 8.96 | 8.70 | 9.41 | 8.35 | | | | |
| Brathwaite, Shane (BAR) (1990) | time | 2.50 | 3.56 | 4.56 | 5.57 | 6.60 | 7.60 | 8.63 | 9.70 | 10.76 | 11.83 | 13.42 | 13.42 | 5 / 4 | | | |
| | reaction time | | | | | | | | | | | | | | 3.07 | 3.06 | 3.20 |
| | interval | 1.06 | 1.00 | 1.01 | 1.03 | 1.00 | 1.03 | 1.07 | 1.06 | 1.07 | 1.59 | | | | 8.93 | 8.96 | 8.57 |
| | velocity | 5.49 | 8.62 | 9.14 | 9.05 | 8.87 | 9.14 | 8.87 | 8.54 | 8.62 | 8.54 | 8.82 | 8.20 | | | | |



ISTAF
 Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=TKknO2ZvdM>

NACAC
 Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=8841evFexT8>

2022 Athletissima (Lausanne, SUI) (TV Analysis)

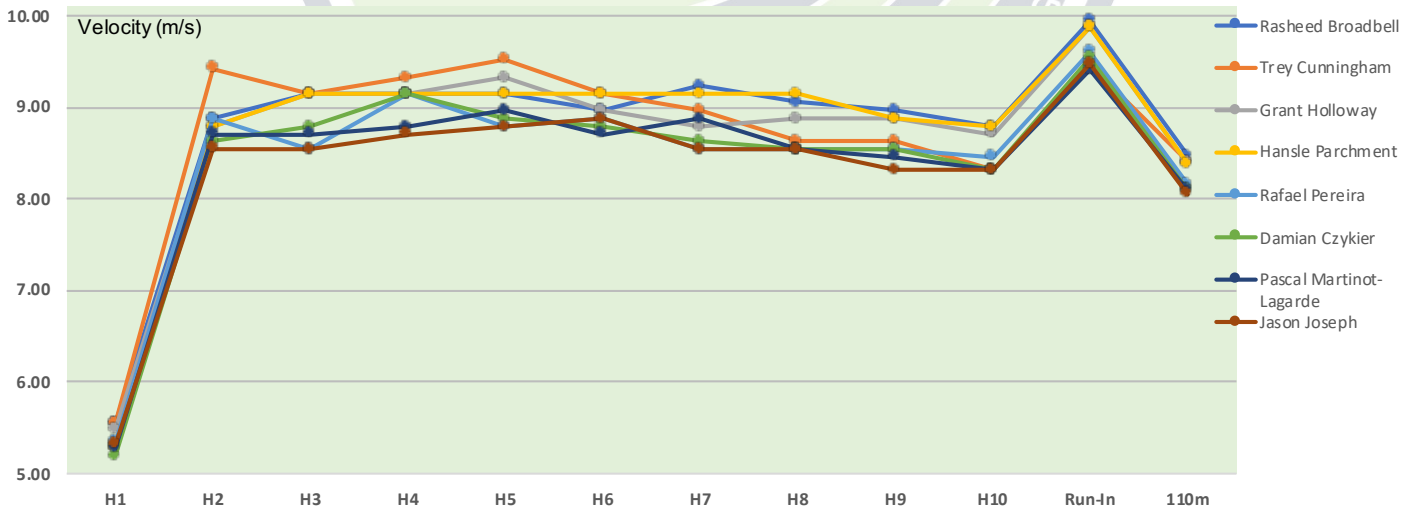
110m Hurdles

Date: 2022.08.26

Wind: 0.0 m/s

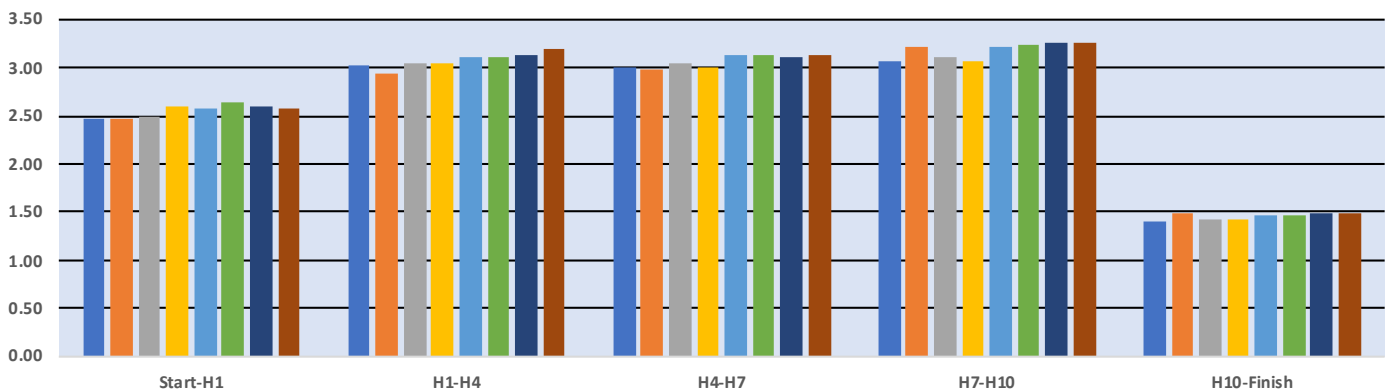
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|-------------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Broadbell, Rasheed (JAM) (2000) | time | 2.47 | 3.50 | 4.50 | 5.50 | 6.50 | 7.52 | 8.51 | 9.52 | 10.54 | 11.58 | 12.99 | | 5 / 1 | | | |
| | reaction time | 0.142 | | | | | | | | | | | | | 3.03 | 3.01 | 3.07 |
| | interval velocity | 7 steps | 1.03 | 1.00 | 1.00 | 1.00 | 1.02 | 0.99 | 1.01 | 1.02 | 1.04 | 1.41 | PB | | 9.05 | 9.11 | 8.93 |
| Cunningham, Trey (USA) (1998) | time | 2.47 | 3.44 | 4.44 | 5.42 | 6.38 | 7.38 | 8.40 | 9.46 | 10.52 | 11.62 | | 13.10 | 3 / 2 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 2.95 | 2.98 | 3.22 |
| | interval velocity | 7 steps | 0.97 | 1.00 | 0.98 | 0.96 | 1.00 | 1.02 | 1.06 | 1.06 | 1.10 | 1.48 | | | 9.29 | 9.20 | 8.52 |
| Holloway, Grant (USA) (1997) | time | 2.50 | 3.54 | 4.54 | 5.54 | 6.52 | 7.54 | 8.58 | 9.61 | 10.64 | 11.69 | | 13.11 | 6 / 3 | | | |
| | reaction time | 0.122 | | | | | | | | | | | | | 3.04 | 3.04 | 3.11 |
| | interval velocity | 7 steps | 1.04 | 1.00 | 1.00 | 0.98 | 1.02 | 1.04 | 1.03 | 1.03 | 1.05 | 1.42 | | | 9.02 | 9.02 | 8.82 |
| Parchment, Hansle (JAM) (1990) | time | 2.60 | 3.64 | 4.64 | 5.64 | 6.64 | 7.64 | 8.64 | 9.64 | 10.67 | 11.71 | | 13.13 | 4 / 4 | | | |
| | reaction time | 0.151 | | | | | | | | | | | | | 3.04 | 3.00 | 3.07 |
| | interval velocity | 7 steps | 1.04 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.42 | | | 9.02 | 9.14 | 8.93 |
| Pereira, Rafael (BRA) (1997) | time | 2.57 | 3.60 | 4.67 | 5.67 | 6.71 | 7.74 | 8.81 | 9.88 | 10.95 | 12.03 | | 13.49 | 1 / 5 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 3.10 | 3.14 | 3.22 |
| | interval velocity | | 1.03 | 1.07 | 1.00 | 1.04 | 1.03 | 1.07 | 1.07 | 1.07 | 1.08 | 1.46 | | | 8.85 | 8.73 | 8.52 |
| Czykier, Damian (POL) (1992) | time | 2.64 | 3.70 | 4.74 | 5.74 | 6.77 | 7.81 | 8.87 | 9.94 | 11.01 | 12.11 | | 13.58 | 8 / 6 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | 3.10 | 3.13 | 3.24 |
| | interval velocity | 7 steps | 1.06 | 1.04 | 1.00 | 1.03 | 1.04 | 1.06 | 1.07 | 1.10 | 1.10 | 1.47 | | | 8.85 | 8.76 | 8.46 |
| Martinot-Lagarde, Pascal (FRA) (1991) | time | 2.60 | 3.65 | 4.70 | 5.74 | 6.76 | 7.81 | 8.84 | 9.91 | 10.99 | 12.09 | | 13.58 | 7 / 7 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | 3.14 | 3.10 | 3.25 |
| | interval velocity | 7 steps | 1.05 | 1.05 | 1.04 | 1.02 | 1.05 | 1.03 | 1.07 | 1.07 | 1.08 | 1.49 | | | 8.73 | 8.85 | 8.44 |
| Joseph, Jason (SUI) (1998) | time | 2.58 | 3.65 | 4.72 | 5.77 | 6.81 | 7.84 | 8.91 | 9.98 | 11.08 | 12.18 | | 13.66 | 2 / 8 | | | |
| | reaction time | 0.158 | | | | | | | | | | | | | 3.19 | 3.14 | 3.27 |
| | interval velocity | 7 steps | 1.07 | 1.07 | 1.05 | 1.04 | 1.03 | 1.07 | 1.07 | 1.10 | 1.10 | 1.48 | | | 8.60 | 8.73 | 8.39 |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: Gun Flash
 Source: https://www.youtube.com/watch?v=DqURil_g8aGk

2022 European Athletics Championships (Munich, GER) (TV Analysis)

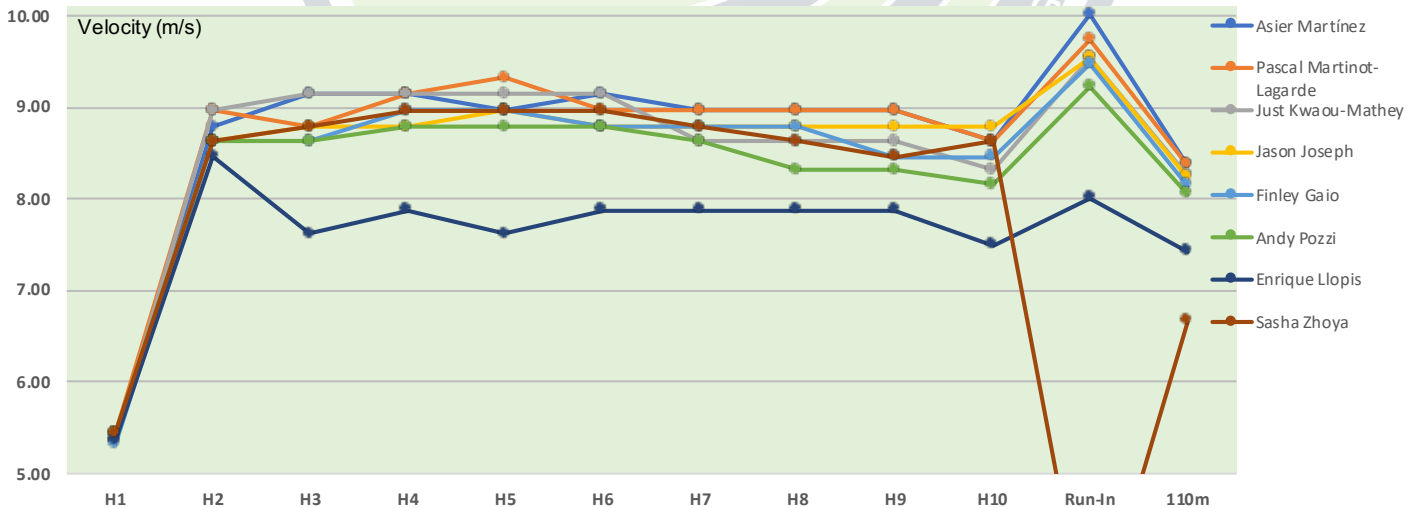
110m Hurdles

Date: 2022.08.17

Wind: -0.2 m/s

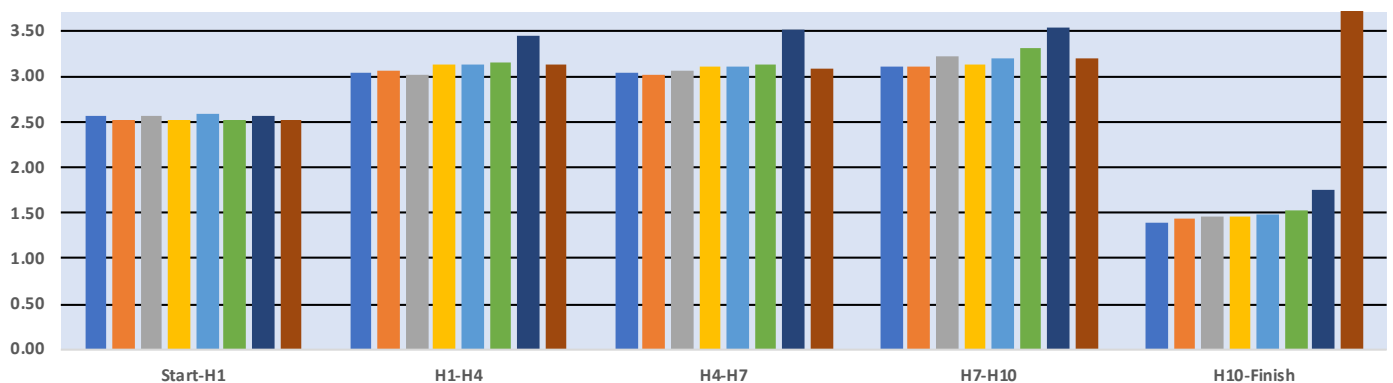
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|---------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Martínez, Asier (ESP) (2000) | time | 2.56 | 3.60 | 4.60 | 5.60 | 6.62 | 7.62 | 8.64 | 9.66 | 10.68 | 11.74 | 13.14 | 13.14 | 4 / 1 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.04 | 1.00 | 1.00 | 1.02 | 1.00 | 1.02 | 1.02 | 1.02 | 1.02 | 1.06 | 1.40 | PB | 3.04 | 3.04 | 3.10 |
| | velocity | 5.36 | 8.79 | 9.14 | 9.14 | 8.96 | 9.14 | 8.96 | 8.96 | 8.96 | 8.62 | 10.01 | 8.37 | | 9.02 | 9.02 | 8.85 |
| Martínot-Lagarde, Pascal (FRA) (1991) | time | 2.52 | 3.54 | 4.58 | 5.58 | 6.56 | 7.58 | 8.60 | 9.62 | 10.64 | 11.70 | 13.14 | 13.14 | 5 / 2 | | | |
| | reaction time | 0.167 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.02 | 1.04 | 1.00 | 0.98 | 1.02 | 1.02 | 1.02 | 1.02 | 1.06 | 1.44 | 1.44 | | 3.06 | 3.02 | 3.10 |
| | velocity | 5.44 | 8.96 | 8.79 | 9.14 | 9.33 | 8.96 | 8.96 | 8.96 | 8.96 | 8.62 | 9.74 | 8.37 | | 8.96 | 9.08 | 8.85 |
| Kwaou-Mathey, Just (FRA) (1999) | time | 2.56 | 3.58 | 4.58 | 5.58 | 6.58 | 7.58 | 8.64 | 9.70 | 10.76 | 11.86 | 13.33 | 13.33 | 3 / 3 | | | |
| | reaction time | 0.178 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.02 | 1.00 | 1.00 | 1.00 | 1.00 | 1.06 | 1.06 | 1.06 | 1.10 | 1.47 | 1.47 | | 3.02 | 3.06 | 3.22 |
| | velocity | 5.36 | 8.96 | 9.14 | 9.14 | 9.14 | 9.14 | 8.62 | 8.62 | 8.62 | 8.31 | 9.54 | 8.25 | | 9.08 | 8.96 | 8.52 |
| Joseph, Jason (SUI) (1998) | time | 2.52 | 3.58 | 4.62 | 5.66 | 6.68 | 7.72 | 8.76 | 9.80 | 10.84 | 11.88 | 13.35 | 13.35 | 8 / 4 | | | |
| | reaction time | 0.169 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.06 | 1.04 | 1.04 | 1.02 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 | 1.47 | 1.47 | | 3.14 | 3.10 | 3.12 |
| | velocity | 5.44 | 8.62 | 8.79 | 8.79 | 8.96 | 8.79 | 8.79 | 8.79 | 8.79 | 8.79 | 9.54 | 8.24 | | 8.73 | 8.85 | 8.79 |
| Gaio, Finley (SUI) (1999) | time | 2.58 | 3.64 | 4.70 | 5.72 | 6.74 | 7.78 | 8.82 | 9.86 | 10.94 | 12.02 | 13.50 | 13.50 | 2 / 5 | | | |
| | reaction time | 0.172 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.06 | 1.06 | 1.02 | 1.02 | 1.04 | 1.04 | 1.04 | 1.08 | 1.08 | 1.48 | 1.48 | | 3.14 | 3.10 | 3.20 |
| | velocity | 5.32 | 8.62 | 8.62 | 8.96 | 8.96 | 8.79 | 8.79 | 8.79 | 8.46 | 8.46 | 9.47 | 8.15 | | 8.73 | 8.85 | 8.57 |
| Pozzi, Andy (GBR) (1992) | time | 2.52 | 3.58 | 4.64 | 5.68 | 6.72 | 7.76 | 8.82 | 9.92 | 11.02 | 12.14 | 13.66 | 13.66 | 1 / 6 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.06 | 1.06 | 1.04 | 1.04 | 1.04 | 1.06 | 1.10 | 1.10 | 1.12 | 1.52 | 1.52 | | 3.16 | 3.14 | 3.32 |
| | velocity | 5.44 | 8.62 | 8.62 | 8.79 | 8.79 | 8.79 | 8.62 | 8.31 | 8.31 | 8.16 | 9.22 | 8.05 | | 8.68 | 8.73 | 8.26 |
| Llopis, Enrique (ESP) (2000) | time | 2.56 | 3.64 | 4.84 | 6.00 | 7.20 | 8.36 | 9.52 | 10.68 | 11.84 | 13.06 | 14.81 | 14.81 | 6 / 7 | | | |
| | reaction time | 0.145 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.08 | 1.20 | 1.16 | 1.20 | 1.16 | 1.16 | 1.16 | 1.16 | 1.22 | 1.75 | 1.75 | | 3.44 | 3.52 | 3.54 |
| | velocity | 5.36 | 8.46 | 7.62 | 7.88 | 7.62 | 7.88 | 7.88 | 7.88 | 7.88 | 7.49 | 8.01 | 7.43 | | 7.97 | 7.79 | 7.75 |
| Zhoya, Sasha (FRA) (2002) | time | 2.52 | 3.58 | 4.62 | 5.64 | 6.66 | 7.68 | 8.72 | 9.78 | 10.86 | 11.92 | 16.51 | 16.51 | 7 / 8 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.06 | 1.04 | 1.02 | 1.02 | 1.02 | 1.04 | 1.06 | 1.08 | 1.06 | 4.59 | 4.59 | | 3.12 | 3.08 | 3.20 |
| | velocity | 5.44 | 8.62 | 8.79 | 8.96 | 8.96 | 8.96 | 8.79 | 8.62 | 8.46 | 8.62 | 3.05 | 6.66 | | 8.79 | 8.90 | 8.57 |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=XCF8uTtT68>

2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis)

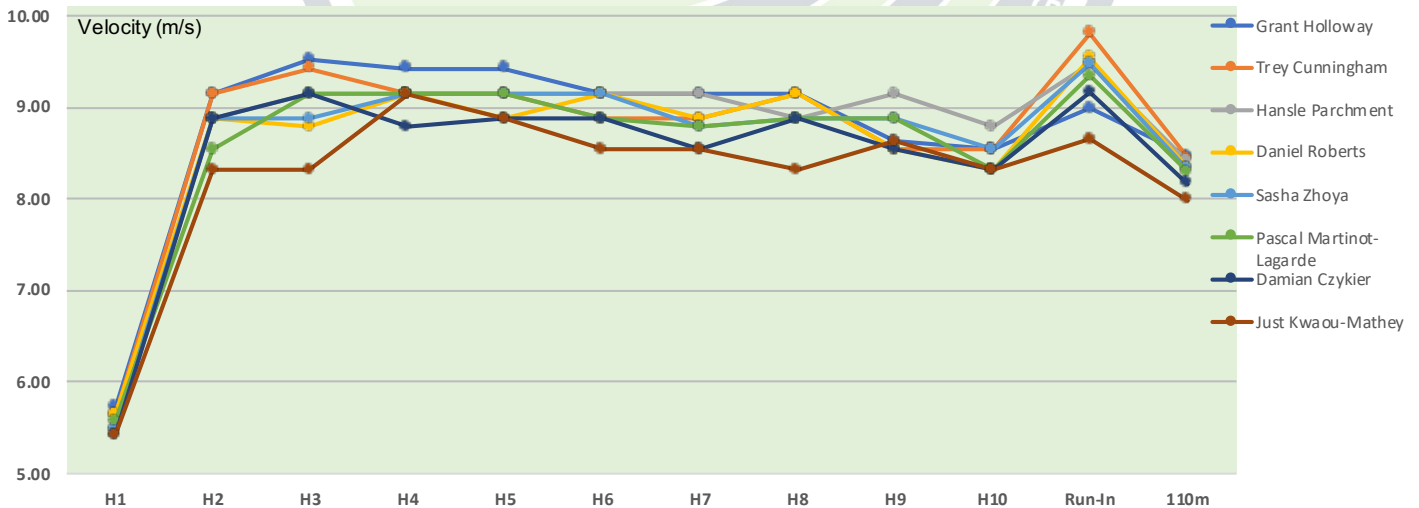
110m Hurdles

Date: 2022.08.10

Wind: 0.6 m/s

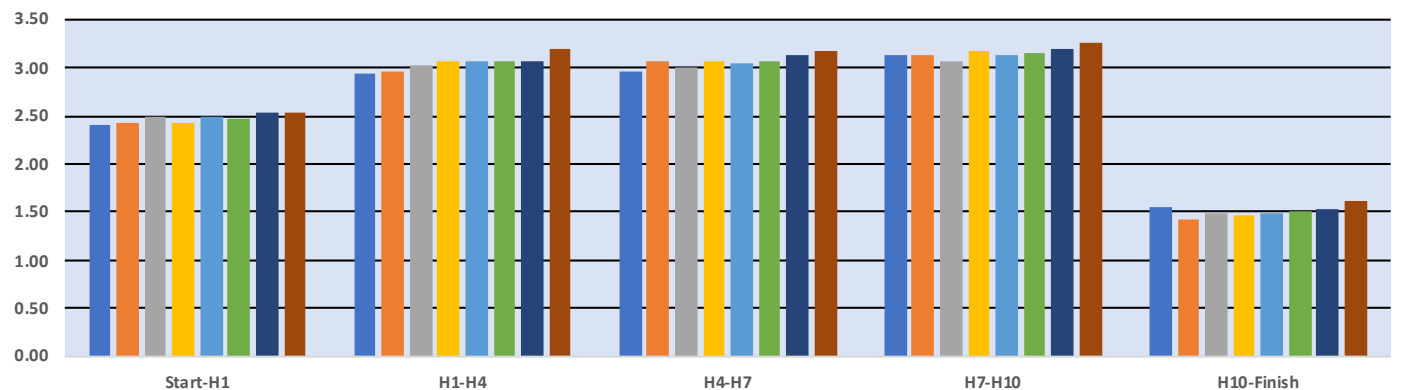
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|---------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Holloway, Grant (USA) (1997) | time | 2.40 | 3.40 | 4.36 | 5.33 | 6.30 | 7.30 | 8.30 | 9.30 | 10.36 | 11.43 | 12.99 | 13.20 | 6 / 1 | 2.93 | 2.97 | 3.13 |
| | reaction time | 0.148 | | | | | | | | | | | | | 9.36 | 9.23 | 8.76 |
| | interval | 7 steps | 1.00 | 0.96 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 1.06 | 1.07 | 1.56 | | | | | |
| | velocity | 5.72 | 9.14 | 9.52 | 9.42 | 9.42 | 9.14 | 9.14 | 9.14 | 8.62 | 8.54 | 8.99 | 8.47 | | | | |
| Cunningham, Trey (USA) (1998) | time | 2.43 | 3.43 | 4.40 | 5.40 | 6.40 | 7.43 | 8.46 | 9.46 | 10.53 | 11.60 | 13.03 | 13.03 | 4 / 2 | 2.97 | 3.06 | 3.14 |
| | reaction time | 0.141 | | | | | | | | | | | | | 9.23 | 8.96 | 8.73 |
| | interval | 7 steps | 1.00 | 0.97 | 1.00 | 1.00 | 1.03 | 1.03 | 1.00 | 1.07 | 1.07 | 1.43 | | | | | |
| | velocity | 5.65 | 9.14 | 9.42 | 9.14 | 9.14 | 8.87 | 8.87 | 9.14 | 8.54 | 8.54 | 9.80 | 8.44 | | | | |
| Parchment, Hansle (JAM) (1990) | time | 2.50 | 3.53 | 4.53 | 5.53 | 6.53 | 7.53 | 8.53 | 9.56 | 10.56 | 11.60 | 13.08 | 13.08 | 5 / 3 | 3.03 | 3.00 | 3.07 |
| | reaction time | 0.128 | | | | | | | | | | | | | 9.05 | 9.14 | 8.93 |
| | interval | 7 steps | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.00 | 1.04 | 1.48 | | | | | |
| | velocity | 5.49 | 8.87 | 9.14 | 9.14 | 9.14 | 9.14 | 9.14 | 8.87 | 9.14 | 8.79 | 9.47 | 8.41 | | | | |
| Roberts, Daniel (USA) (1998) | time | 2.43 | 3.46 | 4.50 | 5.50 | 6.53 | 7.53 | 8.56 | 9.56 | 10.63 | 11.73 | 13.20 | 13.20 | 3 / 4 | 3.07 | 3.06 | 3.17 |
| | reaction time | 0.157 | | | | | | | | | | | | | 8.93 | 8.96 | 8.65 |
| | interval | 7 steps | 1.03 | 1.04 | 1.00 | 1.03 | 1.00 | 1.03 | 1.00 | 1.07 | 1.10 | 1.47 | | | | | |
| | velocity | 5.65 | 8.87 | 8.79 | 9.14 | 8.87 | 9.14 | 8.87 | 9.14 | 8.54 | 8.31 | 9.54 | 8.33 | | | | |
| Zhoya, Sasha (FRA) (2002) | time | 2.50 | 3.53 | 4.56 | 5.56 | 6.56 | 7.56 | 8.60 | 9.63 | 10.66 | 11.73 | 13.21 | 13.21 | 2 / 5 | 3.06 | 3.04 | 3.13 |
| | reaction time | 0.138 | | | | | | | | | | | | | 8.96 | 9.02 | 8.76 |
| | interval | 7 steps | 1.03 | 1.03 | 1.00 | 1.00 | 1.00 | 1.04 | 1.03 | 1.03 | 1.07 | 1.48 | | | | | |
| | velocity | 5.49 | 8.87 | 8.87 | 9.14 | 9.14 | 9.14 | 8.79 | 8.87 | 8.87 | 8.54 | 9.47 | 8.33 | | | | |
| Martinot-Lagarde, Pascal (FRA) (1991) | time | 2.46 | 3.53 | 4.53 | 5.53 | 6.53 | 7.56 | 8.60 | 9.63 | 10.66 | 11.76 | 13.26 | 13.26 | 8 / 6 | 3.07 | 3.07 | 3.16 |
| | reaction time | 0.137 | | | | | | | | | | | | | 8.93 | 8.93 | 8.68 |
| | interval | 7 steps | 1.07 | 1.00 | 1.00 | 1.00 | 1.03 | 1.04 | 1.03 | 1.03 | 1.10 | 1.50 | | | | | |
| | velocity | 5.58 | 8.54 | 9.14 | 9.14 | 9.14 | 8.87 | 8.79 | 8.87 | 8.87 | 8.31 | 9.35 | 8.30 | | | | |
| Czykier, Damian (POL) (1992) | time | 2.53 | 3.56 | 4.56 | 5.60 | 6.63 | 7.66 | 8.73 | 9.76 | 10.83 | 11.93 | 13.46 | 13.46 | 7 / 7 | 3.07 | 3.13 | 3.20 |
| | reaction time | 0.156 | | | | | | | | | | | | | 8.93 | 8.76 | 8.57 |
| | interval | 7 steps | 1.03 | 1.00 | 1.04 | 1.03 | 1.03 | 1.07 | 1.03 | 1.07 | 1.10 | 1.53 | | | | | |
| | velocity | 5.42 | 8.87 | 9.14 | 8.79 | 8.87 | 8.87 | 8.54 | 8.87 | 8.54 | 8.31 | 9.16 | 8.17 | | | | |
| Kwaou-Mathey, Just (FRA) (1999) | time | 2.53 | 3.63 | 4.73 | 5.73 | 6.76 | 7.83 | 8.90 | 10.00 | 11.06 | 12.16 | 13.78 | 13.78 | 1 / 8 | 3.20 | 3.17 | 3.26 |
| | reaction time | 0.144 | | | | | | | | | | | | | 8.57 | 8.65 | 8.41 |
| | interval | 7 steps | 1.10 | 1.10 | 1.00 | 1.03 | 1.07 | 1.07 | 1.10 | 1.06 | 1.10 | 1.62 | | | | | |
| | velocity | 5.42 | 8.31 | 8.31 | 9.14 | 8.87 | 8.54 | 8.54 | 8.31 | 8.62 | 8.31 | 8.65 | 7.98 | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=gPZE18RRJgI>

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

Decathlon - 110m Hurdles

Date: 2022.07.24

Wind: 1.1 m/s

Heat 3

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|-----------------------------------|---------------|---------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| LePage, Pierce (CAN) (1996) | time | 2.66 | 3.76 | 4.82 | 5.86 | 6.92 | 8.00 | 9.05 | 10.15 | 11.22 | 12.35 | | 13.78 | 5 / 1 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | 3.20 | 3.19 | 3.30 |
| | interval | 7 steps | 1.10 | 1.06 | 1.04 | 1.06 | 1.08 | 1.05 | 1.10 | 1.07 | 1.13 | 1.43 | PB | | 8.57 | 8.60 | 8.31 |
| Owens-Delerme, Ayden (PUR) (2000) | time | 2.60 | 3.73 | 4.78 | 5.83 | 6.92 | 7.98 | 9.05 | 10.20 | 11.26 | 12.40 | | 13.88 | 7 / 2 | | | |
| | reaction time | 0.133 | | | | | | | | | | | | | 3.23 | 3.22 | 3.35 |
| | interval | 7 steps | 1.13 | 1.05 | 1.05 | 1.09 | 1.06 | 1.07 | 1.15 | 1.06 | 1.14 | 1.48 | | | 8.49 | 8.52 | 8.19 |
| Golubovic, Daniel (AUS) (1993) | time | 2.66 | 3.76 | 4.83 | 5.93 | 6.96 | 8.03 | 9.12 | 10.20 | 11.26 | 12.40 | | 13.92 | 6 / 3 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | 3.27 | 3.19 | 3.28 |
| | interval | 7 steps | 1.10 | 1.07 | 1.10 | 1.03 | 1.07 | 1.09 | 1.08 | 1.06 | 1.14 | 1.52 | PB | | 8.39 | 8.60 | 8.36 |

Date: 2022.07.24

Wind: 0.4 m/s

Heat 2

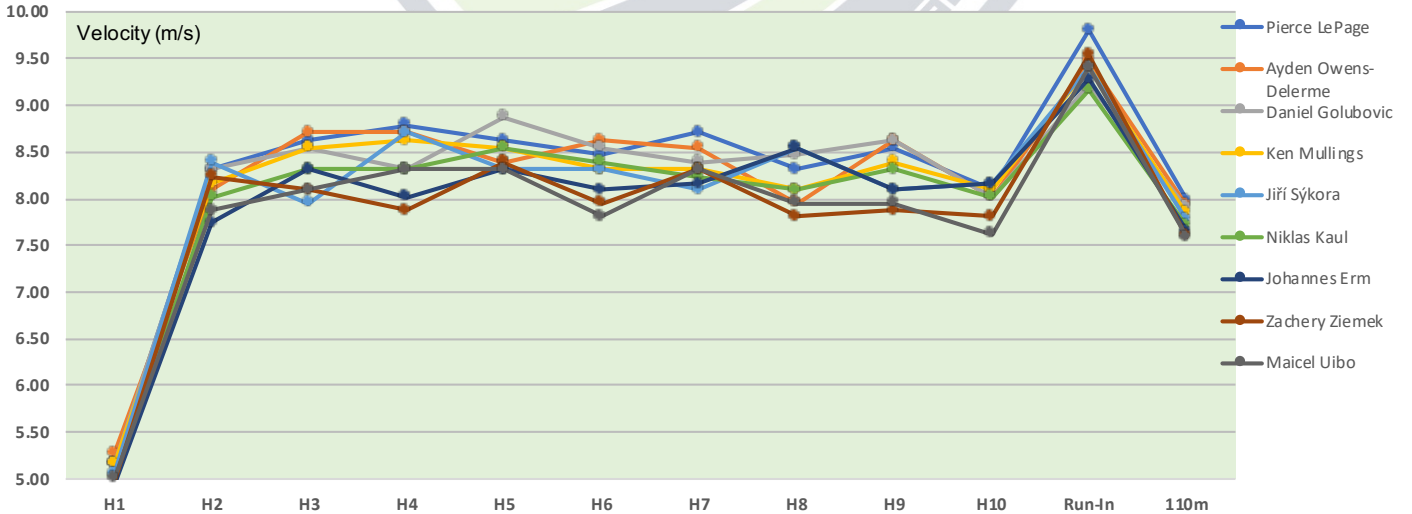
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|----------------------------|---------------|---------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Mullings, Ken (BAH) (1997) | time | 2.66 | 3.78 | 4.85 | 5.91 | 6.98 | 8.08 | 9.18 | 10.31 | 11.40 | 12.53 | | 14.02 | 4 / 1 | | | |
| | reaction time | 0.117 | | | | | | | | | | | | | 3.25 | 3.27 | 3.35 |
| | interval | 7 steps | 1.12 | 1.07 | 1.06 | 1.07 | 1.10 | 1.10 | 1.13 | 1.09 | 1.13 | 1.49 | PB | | 8.44 | 8.39 | 8.19 |
| Sýkora, Jiří (CZE) (1995) | time | 2.71 | 3.80 | 4.95 | 6.00 | 7.10 | 8.20 | 9.33 | 10.40 | 11.53 | 12.65 | | 14.14 | 7 / 2 | | | |
| | reaction time | 0.126 | | | | | | | | | | | | | 3.29 | 3.33 | 3.32 |
| | interval | 7 steps | 1.09 | 1.15 | 1.05 | 1.10 | 1.10 | 1.13 | 1.07 | 1.13 | 1.12 | 1.49 | | | 8.33 | 8.23 | 8.26 |
| Kaul, Niklas (GER) (1998) | time | 2.76 | 3.90 | 5.00 | 6.10 | 7.17 | 8.26 | 9.37 | 10.50 | 11.60 | 12.74 | | 14.27 | 8 / 3 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | 3.34 | 3.27 | 3.37 |
| | interval | 7 steps | 1.14 | 1.10 | 1.10 | 1.07 | 1.09 | 1.11 | 1.13 | 1.10 | 1.14 | 1.53 | PB | | 8.21 | 8.39 | 8.14 |

Date: 2022.07.24

Wind: 1.5 m/s

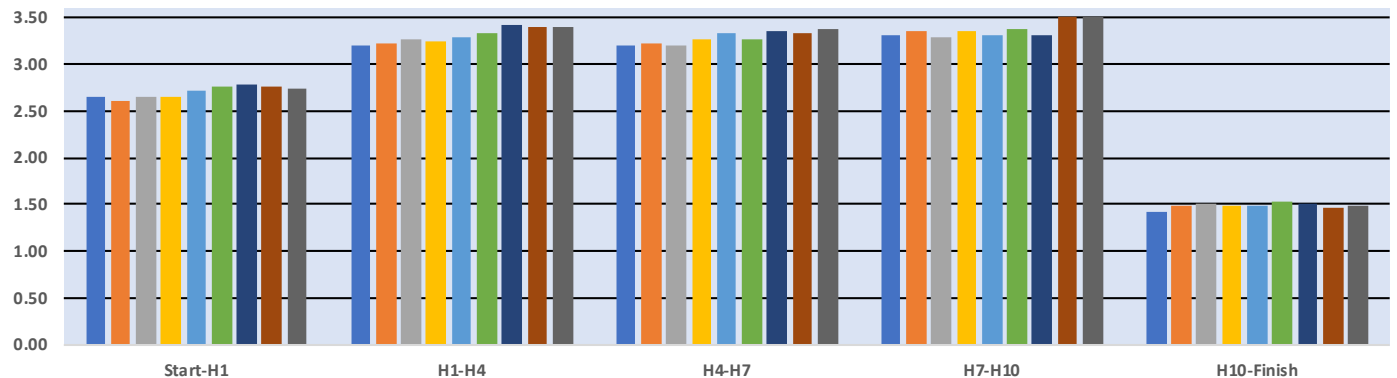
Heat 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|------------------------------|---------------|---------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Erm, Johannes (EST) (1998) | time | 2.78 | 3.96 | 5.06 | 6.20 | 7.30 | 8.43 | 9.55 | 10.62 | 11.75 | 12.87 | | 14.38 | 6 / 1 | | | |
| | reaction time | 0.171 | | | | | | | | | | | | | 3.42 | 3.35 | 3.32 |
| | interval | 7 steps | 1.18 | 1.10 | 1.14 | 1.10 | 1.13 | 1.12 | 1.07 | 1.13 | 1.12 | 1.51 | | | 8.02 | 8.19 | 8.26 |
| Ziemek, Zachery (USA) (1993) | time | 2.76 | 3.87 | 5.00 | 6.16 | 7.25 | 8.40 | 9.50 | 10.67 | 11.83 | 13.00 | | 14.47 | 3 / 2 | | | |
| | reaction time | 0.116 | | | | | | | | | | | | | 3.40 | 3.34 | 3.50 |
| | interval | 7 steps | 1.11 | 1.13 | 1.16 | 1.09 | 1.15 | 1.10 | 1.17 | 1.16 | 1.17 | 1.47 | | | 8.06 | 8.21 | 7.83 |
| Uibo, Maicel (EST) (1992) | time | 2.74 | 3.90 | 5.03 | 6.13 | 7.23 | 8.40 | 9.50 | 10.65 | 11.80 | 13.00 | | 14.49 | 2 / 3 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | 3.39 | 3.37 | 3.50 |
| | interval | 7 steps | 1.16 | 1.13 | 1.10 | 1.10 | 1.17 | 1.10 | 1.15 | 1.15 | 1.20 | 1.49 | | | 8.09 | 8.14 | 7.83 |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30ps

Timing From: First Movement

Source: <https://www.youtube.com/watch?v=x.lzXxcuoNaw&list=PL-z-gY4so8kYmaYY5iANqk0HOYKY-NhzB&index=6&pp=iAQB>

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

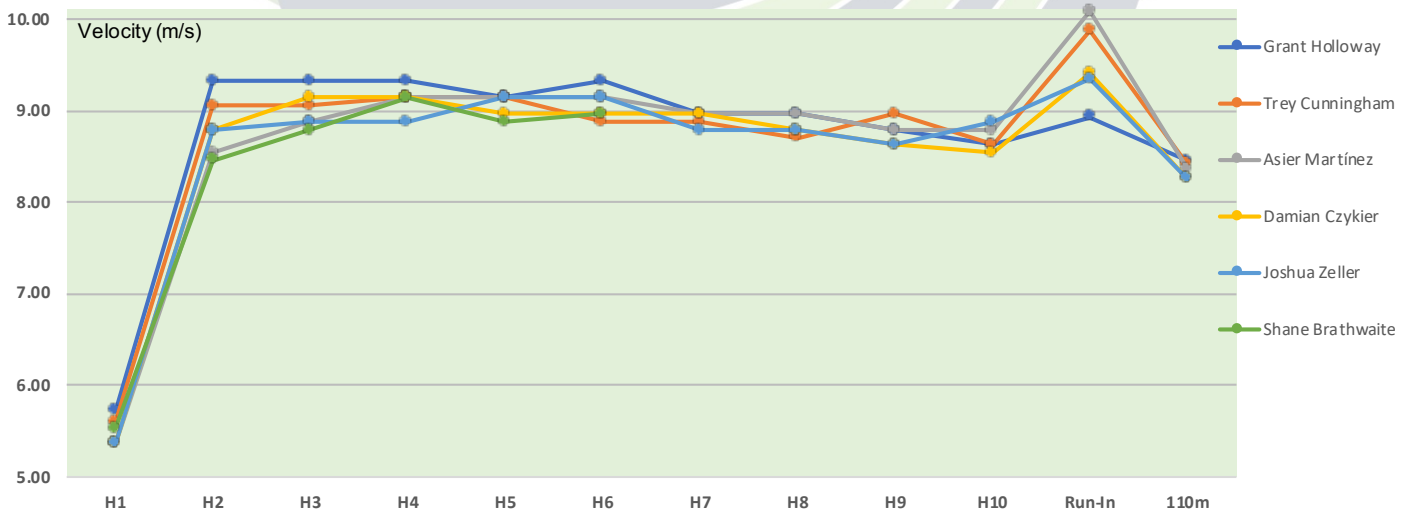
110m Hurdles

Date: 2022.07.17

Wind: 1.2 m/s

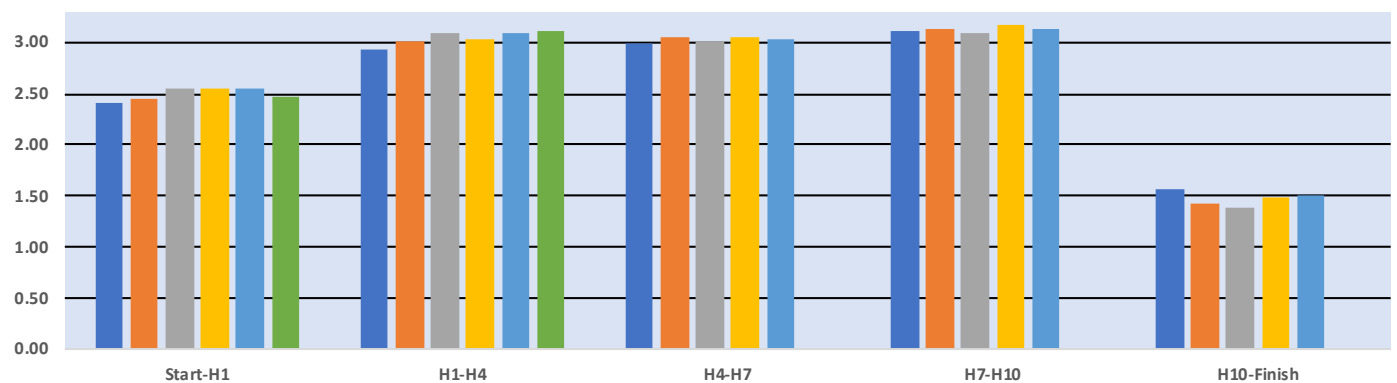
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------|---------------|---------|-------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Holloway, Grant (USA) (1997) | time | 2.40 | 3.38 | 4.36 | 5.34 | 6.34 | 7.32 | 8.34 | 9.36 | 10.40 | 11.46 | | 13.03 | 4 / 1 | | | |
| | reaction time | 0.124 | | | | | | | | | | | | | 2.94 | 3.00 | 3.12 |
| | interval | 7 steps | 0.98 | 0.98 | 0.98 | 1.00 | 0.98 | 1.02 | 1.02 | 1.04 | 1.06 | 1.57 | | | 9.33 | 9.14 | 8.79 |
| | velocity | 5.72 | 9.33 | 9.33 | 9.33 | 9.14 | 9.33 | 8.96 | 8.96 | 8.79 | 8.62 | 8.93 | 8.44 | | | | |
| Cunningham, Trey (USA) (1998) | time | 2.45 | 3.46 | 4.47 | 5.47 | 6.47 | 7.50 | 8.53 | 9.58 | 10.60 | 11.66 | | 13.08 | 6 / 2 | | | |
| | reaction time | 0.109 | | | | | | | | | | | | | 3.02 | 3.06 | 3.13 |
| | interval | 7 steps | 1.01 | 1.01 | 1.00 | 1.00 | 1.03 | 1.03 | 1.05 | 1.02 | 1.06 | 1.42 | | | 9.08 | 8.96 | 8.76 |
| | velocity | 5.60 | 9.05 | 9.05 | 9.14 | 9.14 | 8.87 | 8.87 | 8.70 | 8.96 | 8.62 | 9.87 | 8.41 | | | | |
| Martínez, Asier (ESP) (2000) | time | 2.56 | 3.63 | 4.66 | 5.66 | 6.66 | 7.66 | 8.68 | 9.70 | 10.74 | 11.78 | | 13.17 | 8 / 3 | | | |
| | reaction time | 0.126 | | | | | | | | | | | | | 3.10 | 3.02 | 3.10 |
| | interval | 7 steps | 1.07 | 1.03 | 1.00 | 1.00 | 1.00 | 1.02 | 1.02 | 1.04 | 1.04 | 1.39 | PB | | 8.85 | 9.08 | 8.85 |
| | velocity | 5.36 | 8.54 | 8.87 | 9.14 | 9.14 | 9.14 | 8.96 | 8.96 | 8.79 | 8.79 | 10.09 | 8.35 | | | | |
| Czykier, Damian (POL) (1992) | time | 2.56 | 3.60 | 4.60 | 5.60 | 6.62 | 7.64 | 8.66 | 9.70 | 10.76 | 11.83 | | 13.32 | 2 / 4 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 3.04 | 3.06 | 3.17 |
| | interval | 7 steps | 1.04 | 1.00 | 1.00 | 1.02 | 1.02 | 1.02 | 1.04 | 1.06 | 1.07 | 1.49 | | | 9.02 | 8.96 | 8.65 |
| | velocity | 5.36 | 8.79 | 9.14 | 9.14 | 8.96 | 8.96 | 8.96 | 8.79 | 8.62 | 8.54 | 9.41 | 8.26 | | | | |
| Zeller, Joshua (GBR) (2000) | time | 2.56 | 3.60 | 4.63 | 5.66 | 6.66 | 7.66 | 8.70 | 9.74 | 10.80 | 11.83 | | 13.33 | 7 / 5 | | | |
| | reaction time | 0.145 | | | | | | | | | | | | | 3.10 | 3.04 | 3.13 |
| | interval | 7 steps | 1.04 | 1.03 | 1.03 | 1.00 | 1.00 | 1.04 | 1.04 | 1.06 | 1.03 | 1.50 | | | 8.85 | 9.02 | 8.76 |
| | velocity | 5.36 | 8.79 | 8.87 | 8.87 | 9.14 | 9.14 | 8.79 | 8.79 | 8.62 | 8.87 | 9.35 | 8.25 | | | | |
| Brathwaite, Shane (BAR) (1990) | time | 2.48 | 3.56 | 4.60 | 5.60 | 6.63 | 7.65 | | | | | | dnf | 1 / -- | | | |
| reaction time | 0.108 | | | | | | | | | | | | DQ | | 3.12 | | |
| | interval | 7 steps | 1.08 | 1.04 | 1.00 | 1.03 | 1.02 | | | | | | | | 8.79 | | |
| | velocity | 5.53 | 8.46 | 8.79 | 9.14 | 8.87 | 8.96 | | | | | | | | | | |
| Allen, Devon (USA) (1994) | reaction time | | 0.099 | | | | | | | | | | | DQ | | | |
| Parchment, Hansle (JAM) (1990) | | | | | | | | | | | | | | dns | | | |
| | | | | | | | | | | | | | | | | | |



Time Intervals (s)

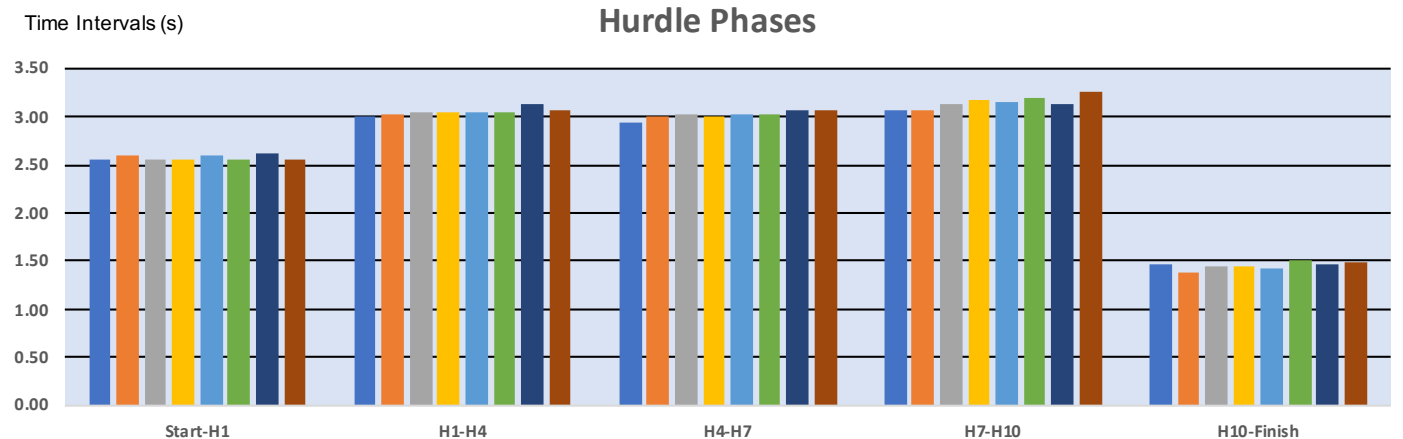
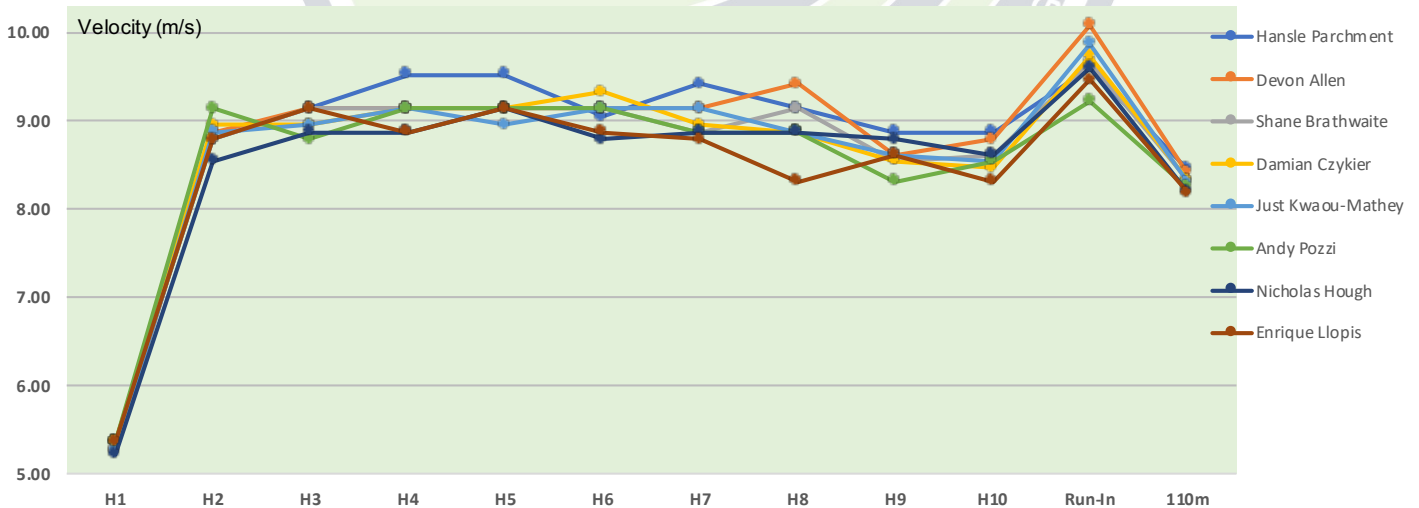
Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=lu7cOzY50p8>

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

| 110m Hurdles | | Date: 2022.07.17 | Wind: 2.5 m/s | | | | | | | | | | Semi-Final 3 | | | | |
|---------------------------------|---------------|------------------|---------------|------|------|------|------|------|------|-------|-------|--------|--------------|------------|-------|-------|--------|
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
| Parchment, Hansle (JAM) (1990) | time | 2.56 | 3.60 | 4.60 | 5.56 | 6.52 | 7.53 | 8.50 | 9.50 | 10.53 | 11.56 | 13.02 | 13.02 | 3 / 1 | | | |
| | reaction time | 0.128 | | | | | | | | | | | | | 3.00 | 2.94 | 3.06 |
| | interval | 7 steps | 1.04 | 1.00 | 0.96 | 0.96 | 1.01 | 0.97 | 1.00 | 1.03 | 1.03 | 1.46 | | | 9.14 | 9.33 | 8.96 |
| | velocity | 5.36 | 8.79 | 9.14 | 9.52 | 9.52 | 9.05 | 9.42 | 9.14 | 8.87 | 8.87 | 9.60 | 8.45 | | | | |
| Allen, Devon (USA) (1994) | time | 2.60 | 3.63 | 4.63 | 5.63 | 6.63 | 7.63 | 8.63 | 9.60 | 10.66 | 11.70 | 13.09 | 13.09 | 5 / 2 | | | |
| | reaction time | 0.101 | | | | | | | | | | | | | 3.03 | 3.00 | 3.07 |
| | interval | 7 steps | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 1.06 | 1.04 | 1.39 | | | 9.05 | 9.14 | 8.93 |
| | velocity | 5.28 | 8.87 | 9.14 | 9.14 | 9.14 | 9.14 | 9.14 | 9.42 | 8.62 | 8.79 | 10.09 | 8.40 | | | | |
| Brathwaite, Shane (BAR) (1990) | time | 2.56 | 3.60 | 4.60 | 5.60 | 6.60 | 7.60 | 8.63 | 9.63 | 10.70 | 11.76 | 13.21 | 13.21 | 8 / 3 | | | |
| | reaction time | 0.115 | | | | | | | | | | | | | 3.04 | 3.03 | 3.13 |
| | interval | 7 steps | 1.04 | 1.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.00 | 1.07 | 1.06 | 1.45 | | | 9.02 | 9.05 | 8.76 |
| | velocity | 5.36 | 8.79 | 9.14 | 9.14 | 9.14 | 9.14 | 8.87 | 9.14 | 8.54 | 8.62 | 9.67 | 8.33 | | | | |
| Czykier, Damian (POL) (1992) | time | 2.56 | 3.58 | 4.60 | 5.60 | 6.60 | 7.58 | 8.60 | 9.63 | 10.70 | 11.78 | 13.22 | 13.22 | 6 / 4 | | | |
| | reaction time | 0.135 | | | | | | | | | | | | | 3.04 | 3.00 | 3.18 |
| | interval | 7 steps | 1.02 | 1.02 | 1.00 | 1.00 | 0.98 | 1.02 | 1.03 | 1.07 | 1.08 | 1.44 | | | 9.02 | 9.14 | 8.62 |
| | velocity | 5.36 | 8.96 | 8.96 | 9.14 | 9.14 | 9.33 | 8.96 | 8.87 | 8.54 | 8.46 | 9.74 | 8.32 | | | | |
| Kwaou-Mathey, Just (FRA) (1999) | time | 2.60 | 3.63 | 4.65 | 5.65 | 6.67 | 7.67 | 8.67 | 9.70 | 10.76 | 11.83 | 13.25 | 13.25 | 4 / 5 | | | |
| | reaction time | 0.148 | | | | | | | | | | | | | 3.05 | 3.02 | 3.16 |
| | interval | 7 steps | 1.03 | 1.02 | 1.00 | 1.02 | 1.00 | 1.00 | 1.03 | 1.06 | 1.07 | 1.42 | | | 8.99 | 9.08 | 8.68 |
| | velocity | 5.28 | 8.96 | 8.96 | 9.14 | 8.96 | 9.14 | 9.14 | 8.87 | 8.62 | 8.54 | 9.87 | 8.30 | | | | |
| Pozzi, Andy (GBR) (1992) | time | 2.56 | 3.56 | 4.60 | 5.60 | 6.60 | 7.60 | 8.63 | 9.66 | 10.76 | 11.83 | 13.35 | 13.35 | 7 / 6 | | | |
| | reaction time | 0.141 | | | | | | | | | | | | | 3.04 | 3.03 | 3.20 |
| | interval | 7 steps | 1.00 | 1.04 | 1.00 | 1.00 | 1.00 | 1.03 | 1.03 | 1.10 | 1.07 | 1.52 | | | 9.02 | 9.05 | 8.57 |
| | velocity | 5.36 | 9.14 | 8.79 | 9.14 | 9.14 | 9.14 | 8.87 | 8.87 | 8.31 | 8.54 | 9.22 | 8.24 | | | | |
| Hough, Nicholas (AUS) (1993) | time | 2.63 | 3.70 | 4.73 | 5.76 | 6.76 | 7.80 | 8.83 | 9.86 | 10.90 | 11.96 | 13.42 | 13.42 | 1 / 7 | | | |
| | reaction time | 0.131 | | | | | | | | | | | | | 3.13 | 3.07 | 3.13 |
| | interval | 7 steps | 1.07 | 1.03 | 1.03 | 1.00 | 1.04 | 1.03 | 1.03 | 1.04 | 1.06 | 1.46 | | | 8.76 | 8.93 | 8.76 |
| | velocity | 5.22 | 8.54 | 8.87 | 8.87 | 9.14 | 8.79 | 8.87 | 8.87 | 8.79 | 8.62 | 9.60 | 8.20 | | | | |
| Llopis, Enrique (ESP) (2000) | time | 2.56 | 3.60 | 4.60 | 5.63 | 6.63 | 7.66 | 8.70 | 9.80 | 10.86 | 11.96 | 13.44 | 13.44 | 2 / 8 | | | |
| | reaction time | 0.113 | | | | | | | | | | | | | 3.07 | 3.07 | 3.26 |
| | interval | 7 steps | 1.04 | 1.00 | 1.03 | 1.00 | 1.03 | 1.04 | 1.10 | 1.06 | 1.10 | 1.48 | | | 8.93 | 8.93 | 8.41 |
| | velocity | 5.36 | 8.79 | 9.14 | 8.87 | 9.14 | 8.87 | 8.79 | 8.31 | 8.62 | 8.31 | 9.47 | 8.18 | | | | |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=lt7cOzY50p8>

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

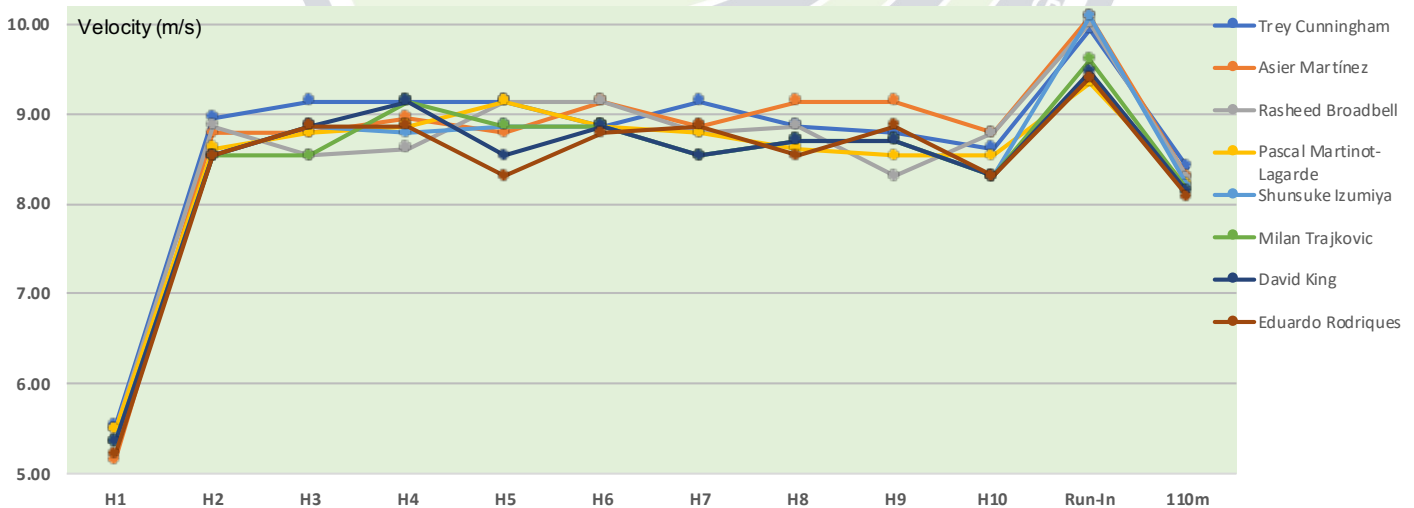
110m Hurdles

Date: 2022.07.17

Wind: 0.3 m/s

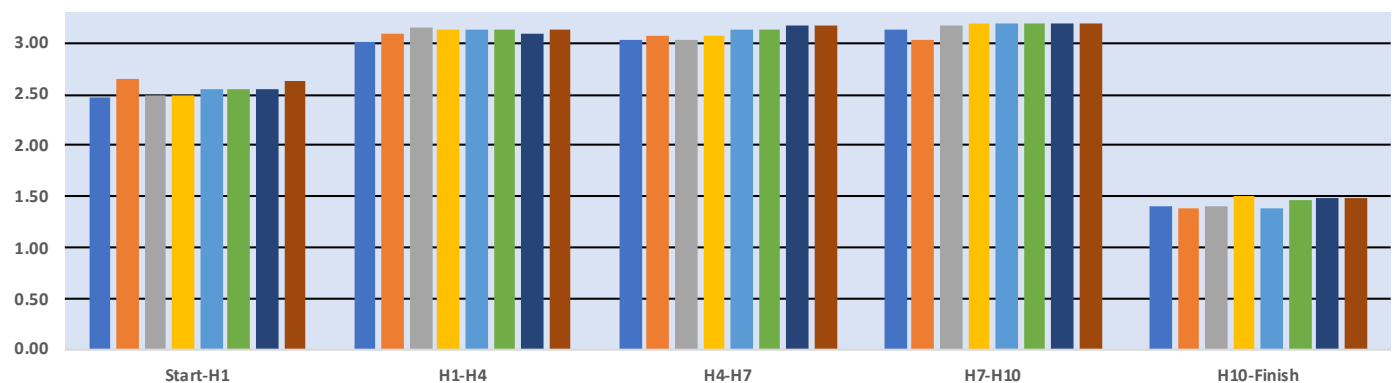
Semi-Final 2

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|---------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Cunningham, Trey (USA) (1998) | time | 2.48 | 3.50 | 4.50 | 5.50 | 6.50 | 7.53 | 8.53 | 9.56 | 10.60 | 11.66 | 13.07 | 13.07 | 3 / 1 | | | |
| | reaction time | 0.120 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.02 | 1.00 | 1.00 | 1.00 | 1.03 | 1.00 | 1.03 | 1.04 | 1.06 | 1.41 | | | 3.02 | 3.03 | 3.13 |
| | velocity | 5.53 | 8.96 | 9.14 | 9.14 | 9.14 | 8.87 | 9.14 | 8.87 | 8.79 | 8.62 | 9.94 | 8.42 | | 9.08 | 9.05 | 8.76 |
| Martinez, Asier (ESP) (2000) | time | 2.66 | 3.70 | 4.74 | 5.76 | 6.80 | 7.80 | 8.83 | 9.83 | 10.83 | 11.87 | 13.26 | 13.26 | 6 / 2 | | | |
| | reaction time | 0.141 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.04 | 1.04 | 1.02 | 1.04 | 1.00 | 1.03 | 1.00 | 1.00 | 1.04 | 1.39 | | | 3.10 | 3.07 | 3.04 |
| | velocity | 5.16 | 8.79 | 8.79 | 8.96 | 8.79 | 9.14 | 8.87 | 9.14 | 9.14 | 8.79 | 10.09 | 8.30 | | 8.85 | 8.93 | 9.02 |
| Broadbell, Rasheed (JAM) (2000) | time | 2.50 | 3.53 | 4.60 | 5.66 | 6.66 | 7.66 | 8.70 | 9.73 | 10.83 | 11.87 | 13.27 | 13.27 | 4 / 3 | | | |
| | reaction time | 0.129 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.03 | 1.07 | 1.06 | 1.00 | 1.00 | 1.04 | 1.03 | 1.10 | 1.04 | 1.40 | | | 3.16 | 3.04 | 3.17 |
| | velocity | 5.49 | 8.87 | 8.54 | 8.62 | 9.14 | 9.14 | 8.79 | 8.87 | 8.31 | 8.79 | 10.01 | 8.29 | | 8.68 | 9.02 | 8.65 |
| Martinot-Lagarde, Pascal (FRA) (1991) | time | 2.50 | 3.56 | 4.60 | 5.63 | 6.63 | 7.66 | 8.70 | 9.76 | 10.83 | 11.90 | 13.40 | 13.40 | 1 / 4 | | | |
| | reaction time | 0.129 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.06 | 1.04 | 1.03 | 1.00 | 1.03 | 1.04 | 1.06 | 1.07 | 1.07 | 1.50 | | | 3.13 | 3.07 | 3.20 |
| | velocity | 5.49 | 8.62 | 8.79 | 8.87 | 9.14 | 8.87 | 8.79 | 8.62 | 8.54 | 8.54 | 9.35 | 8.21 | | 8.76 | 8.93 | 8.57 |
| Izumiya, Shunsuke (JPN) (2000) | time | 2.56 | 3.63 | 4.66 | 5.70 | 6.73 | 7.76 | 8.83 | 9.88 | 10.93 | 12.03 | 13.42 | 13.42 | 8 / 5 | | | |
| | reaction time | 0.112 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.07 | 1.03 | 1.04 | 1.03 | 1.03 | 1.07 | 1.05 | 1.05 | 1.10 | 1.39 | | | 3.14 | 3.13 | 3.20 |
| | velocity | 5.36 | 8.54 | 8.87 | 8.79 | 8.87 | 8.87 | 8.54 | 8.70 | 8.70 | 8.31 | 10.09 | 8.20 | | 8.73 | 8.76 | 8.57 |
| Trajkovic, Milan (CYP) (1992) | time | 2.56 | 3.63 | 4.70 | 5.70 | 6.73 | 7.76 | 8.83 | 9.88 | 10.93 | 12.03 | 13.49 | 13.49 | 5 / 6 | | | |
| | reaction time | 0.142 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.07 | 1.07 | 1.00 | 1.03 | 1.03 | 1.07 | 1.05 | 1.05 | 1.10 | 1.46 | | | 3.14 | 3.13 | 3.20 |
| | velocity | 5.36 | 8.54 | 8.54 | 9.14 | 8.87 | 8.87 | 8.54 | 8.70 | 8.70 | 8.31 | 9.60 | 8.15 | | 8.73 | 8.76 | 8.57 |
| King, David (GBR) (1994) | time | 2.56 | 3.63 | 4.66 | 5.66 | 6.73 | 7.76 | 8.83 | 9.88 | 10.93 | 12.03 | 13.51 | 13.51 | 2 / 7 | | | |
| | reaction time | 0.120 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.07 | 1.03 | 1.00 | 1.07 | 1.03 | 1.07 | 1.05 | 1.05 | 1.10 | 1.48 | | | 3.10 | 3.17 | 3.20 |
| | velocity | 5.36 | 8.54 | 8.87 | 9.14 | 8.54 | 8.87 | 8.54 | 8.70 | 8.70 | 8.31 | 9.47 | 8.14 | | 8.85 | 8.65 | 8.57 |
| Rodrigues, Eduardo (BRA) (1995) | time | 2.63 | 3.70 | 4.73 | 5.76 | 6.86 | 7.90 | 8.93 | 10.00 | 11.03 | 12.13 | 13.62 | 13.62 | 7 / 8 | | | |
| | reaction time | 0.130 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.07 | 1.03 | 1.03 | 1.10 | 1.04 | 1.03 | 1.07 | 1.03 | 1.10 | 1.49 | | | 3.13 | 3.17 | 3.20 |
| | velocity | 5.22 | 8.54 | 8.87 | 8.87 | 8.31 | 8.79 | 8.87 | 8.54 | 8.87 | 8.31 | 9.41 | 8.08 | | 8.76 | 8.65 | 8.57 |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=lt7cOzY50p8>

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

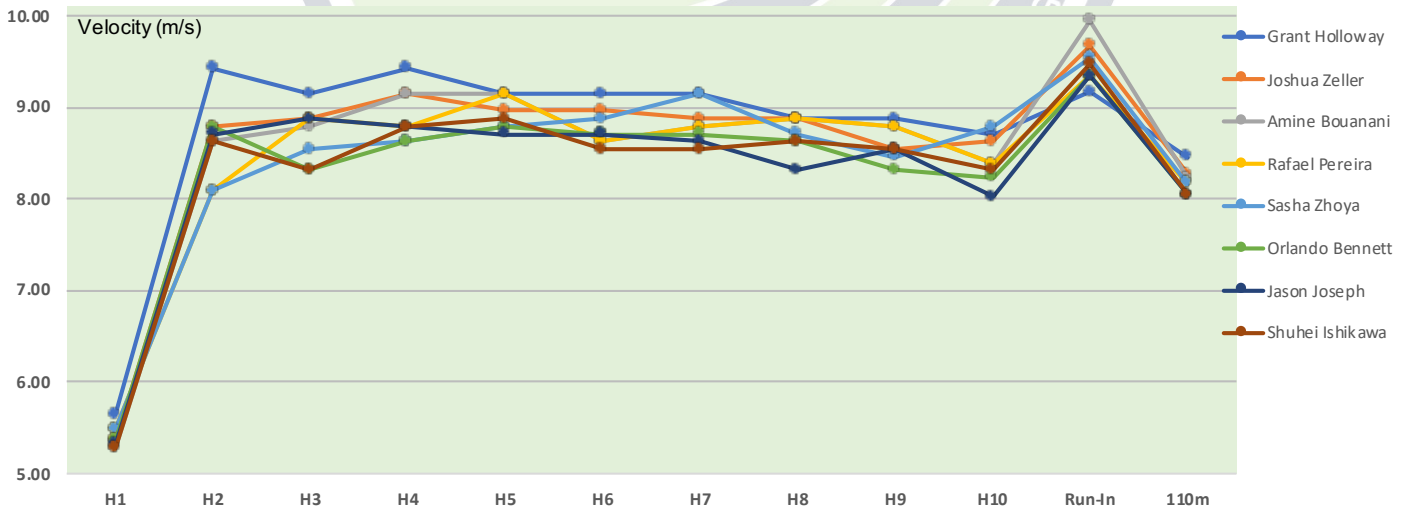
110m Hurdles

Date: 2022.07.17

Wind: -0.6 m/s

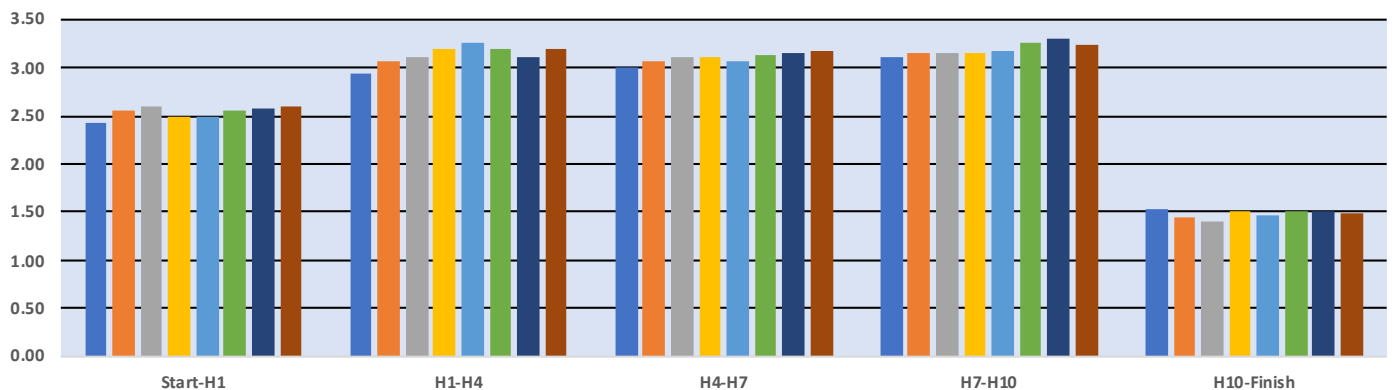
Semi-Final 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------------|---------------|---------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Holloway, Grant (USA) (1997) | time | 2.43 | 3.40 | 4.40 | 5.37 | 6.37 | 7.37 | 8.37 | 9.40 | 10.43 | 11.48 | 13.01 | 13.01 | 6 / 1 | | | |
| | reaction time | 0.128 | | | | | | | | | | | | | 2.94 | 3.00 | 3.11 |
| | interval | 7 steps | 0.97 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.03 | 1.03 | 1.05 | 1.53 | | | 9.33 | 9.14 | 8.82 |
| | velocity | 5.65 | 9.42 | 9.14 | 9.42 | 9.14 | 9.14 | 9.14 | 8.87 | 8.87 | 8.70 | 9.16 | 8.46 | | | | |
| Zeller, Joshua (GBR) (2000) | time | 2.56 | 3.60 | 4.63 | 5.63 | 6.65 | 7.67 | 8.70 | 9.73 | 10.80 | 11.86 | 13.31 | 13.31 | 5 / 2 | | | |
| | reaction time | 0.124 | | | | | | | | | | | | | 3.07 | 3.07 | 3.16 |
| | interval | | 1.04 | 1.03 | 1.00 | 1.02 | 1.02 | 1.03 | 1.03 | 1.07 | 1.06 | 1.45 | | | 8.93 | 8.93 | 8.68 |
| | velocity | 5.36 | 8.79 | 8.87 | 9.14 | 8.96 | 8.96 | 8.87 | 8.87 | 8.54 | 8.62 | 9.67 | 8.26 | | | | |
| Bouanani, Amine (ALG) (1997) | time | 2.60 | 3.66 | 4.70 | 5.70 | 6.70 | 7.76 | 8.80 | 9.83 | 10.87 | 11.96 | 13.37 | 13.37 | 3 / 3 | | | |
| | reaction time | 0.130 | | | | | | | | | | | | | 3.10 | 3.10 | 3.16 |
| | interval | 7 steps | 1.06 | 1.04 | 1.00 | 1.00 | 1.06 | 1.04 | 1.03 | 1.04 | 1.09 | 1.41 | NR PB | | 8.85 | 8.85 | 8.68 |
| | velocity | 5.28 | 8.62 | 8.79 | 9.14 | 9.14 | 8.62 | 8.79 | 8.87 | 8.79 | 8.39 | 9.94 | 8.23 | | | | |
| Pereira, Rafael (BRA) (1997) | time | 2.50 | 3.63 | 4.66 | 5.70 | 6.70 | 7.76 | 8.80 | 9.83 | 10.87 | 11.96 | 13.46 | 13.46 | 4 / 4 | | | |
| | reaction time | 0.125 | | | | | | | | | | | | | 3.20 | 3.10 | 3.16 |
| | interval | | 1.13 | 1.03 | 1.04 | 1.00 | 1.06 | 1.04 | 1.03 | 1.04 | 1.09 | 1.50 | | | 8.57 | 8.85 | 8.68 |
| | velocity | 5.49 | 8.09 | 8.87 | 8.79 | 9.14 | 8.62 | 8.79 | 8.87 | 8.79 | 8.39 | 9.35 | 8.17 | | | | |
| Zhoya, Sasha (FRA) (2002) | time | 2.50 | 3.63 | 4.70 | 5.76 | 6.80 | 7.83 | 8.83 | 9.88 | 10.96 | 12.00 | 13.47 | 13.47 | 8 / 5 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | 3.26 | 3.07 | 3.17 |
| | interval | 7 steps | 1.13 | 1.07 | 1.06 | 1.04 | 1.03 | 1.00 | 1.05 | 1.08 | 1.04 | 1.47 | | | 8.41 | 8.93 | 8.65 |
| | velocity | 5.49 | 8.09 | 8.54 | 8.62 | 8.79 | 8.87 | 9.14 | 8.70 | 8.46 | 8.79 | 9.54 | 8.17 | | | | |
| Bennett, Orlando (JAM) (1999) | time | 2.56 | 3.60 | 4.70 | 5.76 | 6.80 | 7.85 | 8.90 | 9.96 | 11.06 | 12.17 | 13.67 | 13.67 | 2 / 6 | | | |
| | reaction time | 0.139 | | | | | | | | | | | | | 3.20 | 3.14 | 3.27 |
| | interval | | 1.04 | 1.10 | 1.06 | 1.04 | 1.05 | 1.05 | 1.06 | 1.10 | 1.11 | 1.50 | | | 8.57 | 8.73 | 8.39 |
| | velocity | 5.36 | 8.79 | 8.31 | 8.62 | 8.79 | 8.70 | 8.70 | 8.62 | 8.31 | 8.23 | 9.35 | 8.05 | | | | |
| Joseph, Jason (SUI) (1998) | time | 2.58 | 3.63 | 4.66 | 5.70 | 6.75 | 7.80 | 8.86 | 9.96 | 11.03 | 12.17 | 13.67 | 13.67 | 7 / 7 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | 3.12 | 3.16 | 3.31 |
| | interval | 7 steps | 1.05 | 1.03 | 1.04 | 1.05 | 1.05 | 1.06 | 1.10 | 1.07 | 1.14 | 1.50 | | | 8.79 | 8.68 | 8.28 |
| | velocity | 5.32 | 8.70 | 8.87 | 8.79 | 8.70 | 8.70 | 8.62 | 8.31 | 8.54 | 8.02 | 9.35 | 8.05 | | | | |
| Ishikawa, Shuhei (JPN) (1995) | time | 2.60 | 3.66 | 4.76 | 5.80 | 6.83 | 7.90 | 8.97 | 10.03 | 11.10 | 12.20 | 13.68 | 13.68 | 1 / 8 | | | |
| | reaction time | 0.144 | | | | | | | | | | | | | 3.20 | 3.17 | 3.23 |
| | interval | 7 steps | 1.06 | 1.10 | 1.04 | 1.03 | 1.07 | 1.07 | 1.06 | 1.07 | 1.10 | 1.48 | | | 8.57 | 8.65 | 8.49 |
| | velocity | 5.28 | 8.62 | 8.31 | 8.79 | 8.87 | 8.54 | 8.54 | 8.62 | 8.54 | 8.31 | 9.47 | 8.04 | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=lt7cOzY50p8>

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

110m Hurdles

Date: 2022.07.16 Wind: 0.4 m/s

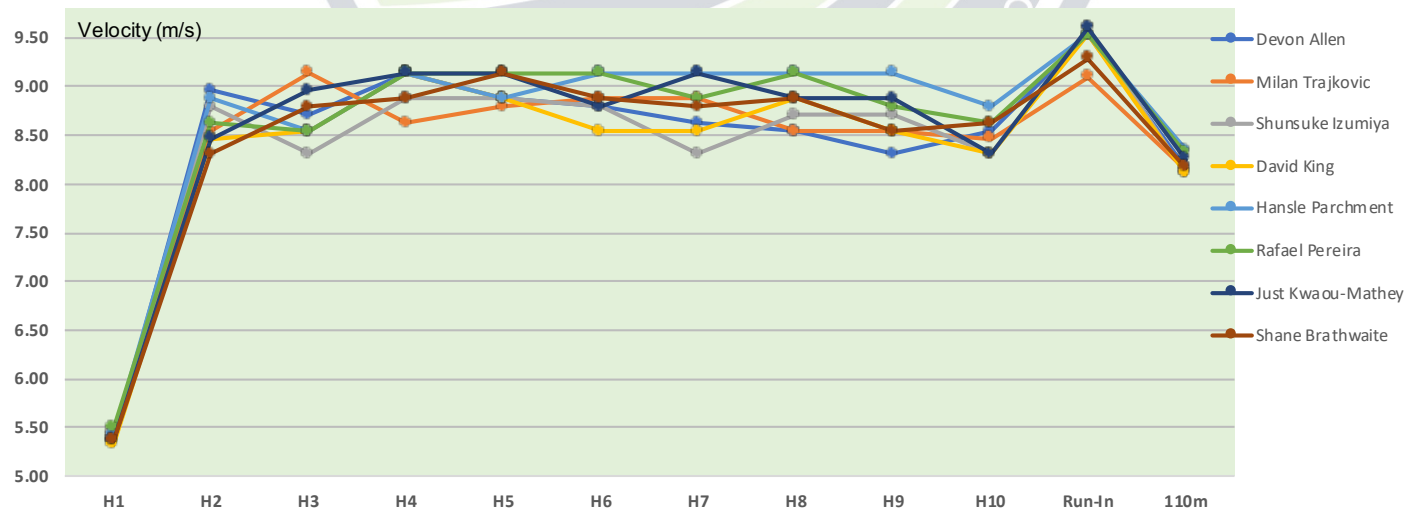
Heat 5

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------|---------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Allen, Devon (USA) (1994) | time | 2.56 | 3.58 | 4.63 | 5.63 | 6.66 | 7.70 | 8.76 | 9.83 | 10.93 | 12.00 | | 13.47 | 3 / 1 | | | |
| | reaction time | 0.123 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.02 | 1.05 | 1.00 | 1.03 | 1.04 | 1.06 | 1.07 | 1.10 | 1.07 | 1.47 | | | 3.07 | 3.13 | 3.24 |
| | velocity | 5.36 | 8.96 | 8.70 | 9.14 | 8.87 | 8.79 | 8.62 | 8.54 | 8.31 | 8.54 | 9.54 | 8.17 | | 8.93 | 8.76 | 8.46 |
| Trajkovic, Milan (CYP) (1992) | time | 2.53 | 3.60 | 4.60 | 5.66 | 6.70 | 7.73 | 8.76 | 9.83 | 10.90 | 11.98 | | 13.52 | 4 / 2 | | | |
| | reaction time | 0.133 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.07 | 1.00 | 1.06 | 1.04 | 1.03 | 1.03 | 1.07 | 1.07 | 1.08 | 1.54 | | | 3.13 | 3.10 | 3.22 |
| | velocity | 5.42 | 8.54 | 9.14 | 8.62 | 8.79 | 8.87 | 8.87 | 8.54 | 8.54 | 8.46 | 9.10 | 8.14 | | 8.76 | 8.85 | 8.52 |
| Izumiya, Shunsuke (JPN) (2000) | time | 2.56 | 3.60 | 4.70 | 5.73 | 6.76 | 7.80 | 8.90 | 9.95 | 11.00 | 12.10 | | 13.56 | 1 / 3 | | | |
| | reaction time | 0.128 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.04 | 1.10 | 1.03 | 1.03 | 1.04 | 1.10 | 1.05 | 1.05 | 1.10 | 1.46 | | | 3.17 | 3.17 | 3.20 |
| | velocity | 5.36 | 8.79 | 8.31 | 8.87 | 8.87 | 8.79 | 8.31 | 8.70 | 8.70 | 8.31 | 9.60 | 8.11 | | 8.65 | 8.65 | 8.57 |
| King, David (GBR) (1994) | time | 2.58 | 3.66 | 4.73 | 5.73 | 6.76 | 7.83 | 8.90 | 9.93 | 11.00 | 12.10 | | 13.57 | 5 / 4 | | | |
| | reaction time | 0.117 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.08 | 1.07 | 1.00 | 1.03 | 1.07 | 1.07 | 1.03 | 1.07 | 1.10 | 1.47 | | | 3.15 | 3.17 | 3.20 |
| | velocity | 5.32 | 8.46 | 8.54 | 9.14 | 8.87 | 8.54 | 8.54 | 8.87 | 8.54 | 8.31 | 9.54 | 8.11 | | 8.70 | 8.65 | 8.57 |

Date: 2022.07.16 Wind: 0.2 m/s

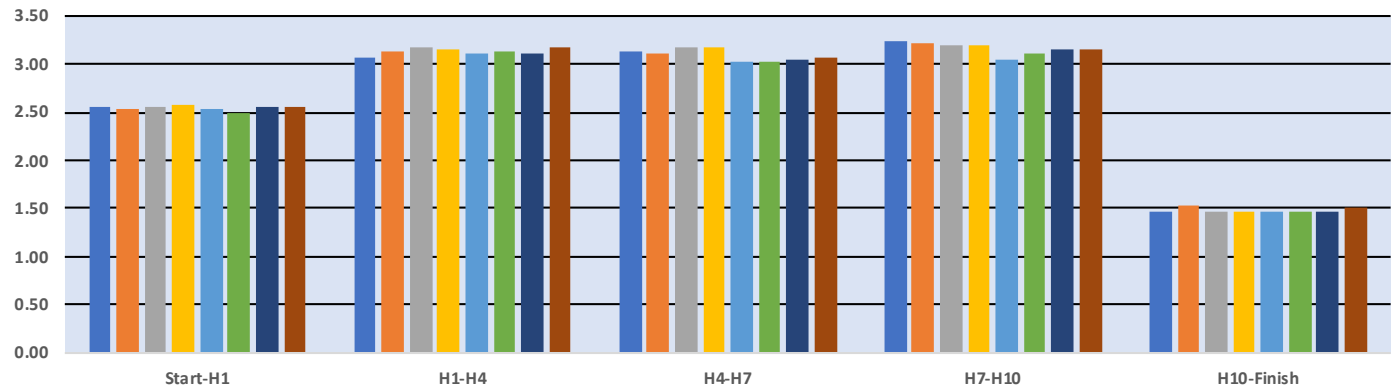
Heat 4

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---------------------------------|---------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Parchment, Hansle (JAM) (1990) | time | 2.53 | 3.56 | 4.63 | 5.63 | 6.66 | 7.66 | 8.66 | 9.66 | 10.66 | 11.70 | | 13.17 | 4 / 1 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.03 | 1.07 | 1.00 | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.04 | 1.47 | | | 3.10 | 3.03 | 3.04 |
| | velocity | 5.42 | 8.87 | 8.54 | 9.14 | 8.87 | 9.14 | 9.14 | 9.14 | 9.14 | 8.79 | 9.54 | 8.35 | | 8.85 | 9.05 | 9.02 |
| Pereira, Rafael (BRA) (1997) | time | 2.50 | 3.56 | 4.63 | 5.63 | 6.63 | 7.63 | 8.66 | 9.66 | 10.70 | 11.76 | | 13.23 | 6 / 2 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.06 | 1.07 | 1.00 | 1.00 | 1.00 | 1.03 | 1.00 | 1.04 | 1.06 | 1.47 | | | 3.13 | 3.03 | 3.10 |
| | velocity | 5.49 | 8.62 | 8.54 | 9.14 | 9.14 | 9.14 | 8.87 | 9.14 | 8.79 | 8.62 | 9.54 | 8.31 | | 8.76 | 9.05 | 8.85 |
| Kwaou-Mathey, Just (FRA) (1999) | time | 2.56 | 3.64 | 4.66 | 5.66 | 6.66 | 7.70 | 8.70 | 9.73 | 10.76 | 11.86 | | 13.32 | 2 / 3 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.08 | 1.02 | 1.00 | 1.00 | 1.04 | 1.00 | 1.03 | 1.03 | 1.10 | 1.46 | | | 3.10 | 3.04 | 3.16 |
| | velocity | 5.36 | 8.46 | 8.96 | 9.14 | 9.14 | 8.79 | 9.14 | 8.87 | 8.87 | 8.31 | 9.60 | 8.26 | | 8.85 | 9.02 | 8.68 |
| Brathwaite, Shane (BAR) (1990) | time | 2.56 | 3.66 | 4.70 | 5.73 | 6.73 | 7.76 | 8.80 | 9.83 | 10.90 | 11.96 | | 13.47 | 3 / 4 | | | |
| | reaction time | 0.134 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.10 | 1.04 | 1.03 | 1.00 | 1.03 | 1.04 | 1.03 | 1.03 | 1.07 | 1.06 | 1.51 | | 3.17 | 3.07 | 3.16 |
| | velocity | 5.36 | 8.31 | 8.79 | 8.87 | 9.14 | 8.87 | 8.79 | 8.87 | 8.54 | 8.62 | 9.28 | 8.17 | | 8.65 | 8.93 | 8.68 |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: https://www.youtube.com/watch?v=v2XCv1nM_xY&t=9s

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

110m Hurdles

Date: 2022.07.16

Wind: -0.3 m/s

Heat 3

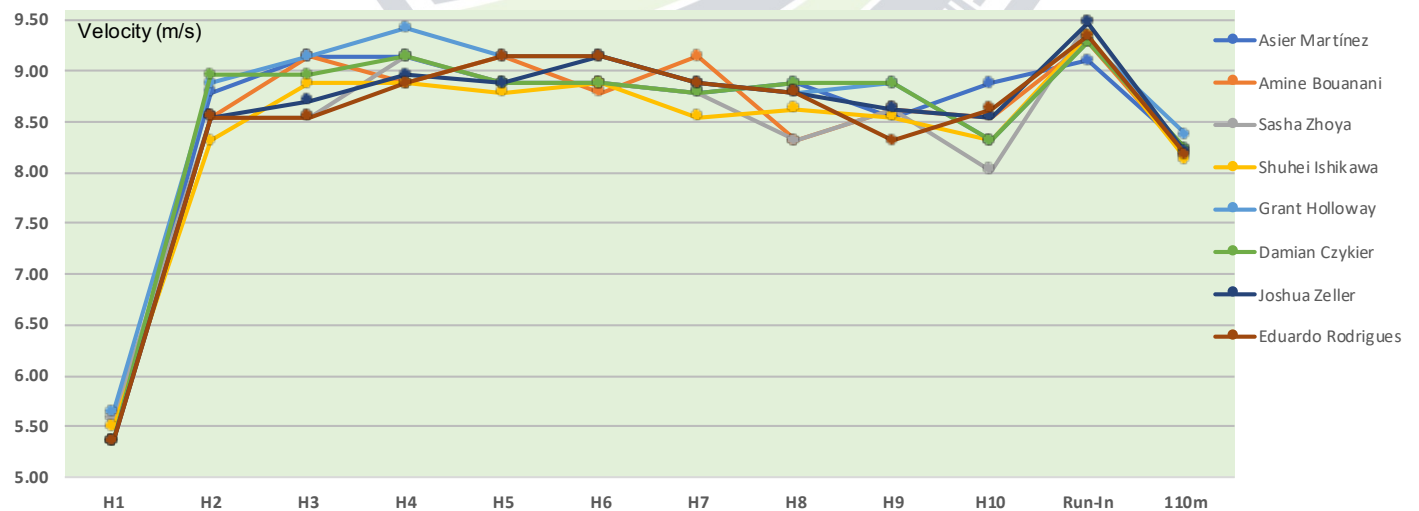
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 | |
|--------------------------------------|---------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|--------|-------|--------|--|
| Martínez, Asier (ESP) (2000) | time | 2.56 | 3.60 | 4.60 | 5.60 | 6.63 | 7.66 | 8.70 | 9.73 | 10.80 | 11.83 | | 13.37 | 2 / 1 | | | | |
| | reaction time | 0.137 | | | | | | | | | | | | | 3.04 | 3.10 | 3.13 | |
| | interval | 7 steps | 1.04 | 1.00 | 1.00 | 1.03 | 1.03 | 1.04 | 1.03 | 1.07 | 1.03 | 1.54 | | | 9.02 | 8.85 | 8.76 | |
| | velocity | 5.36 | 8.79 | 9.14 | 9.14 | 8.87 | 8.87 | 8.79 | 8.87 | 8.54 | 8.87 | 9.10 | 8.23 | | | | | |
| Bouanani, Amine (ALG) (1997) | time | 2.56 | 3.63 | 4.63 | 5.66 | 6.66 | 7.70 | 8.70 | 9.80 | 10.86 | 11.93 | | 13.44 | 1 / 2 | | | | |
| | reaction time | 0.134 | | | | | | | | | | | | | 3.10 | 3.04 | 3.23 | |
| | interval | 7 steps | 1.07 | 1.00 | 1.03 | 1.00 | 1.04 | 1.00 | 1.10 | 1.06 | 1.07 | 1.51 | | | 8.85 | 9.02 | 8.49 | |
| | velocity | 5.36 | 8.54 | 9.14 | 8.87 | 9.14 | 8.79 | 9.14 | 8.31 | 8.62 | 8.54 | 9.28 | 8.18 | | | | | |
| Zhoya, Sasha (FRA) (2002) | time | 2.46 | 3.53 | 4.60 | 5.60 | 6.63 | 7.66 | 8.70 | 9.80 | 10.86 | 12.00 | | 13.48 | 6 / 3 | | | | |
| | reaction time | 0.132 | | | | | | | | | | | | | 3.14 | 3.10 | 3.30 | |
| | interval | 7 steps | 1.07 | 1.07 | 1.00 | 1.03 | 1.03 | 1.04 | 1.10 | 1.06 | 1.14 | 1.48 | | | 8.73 | 8.85 | 8.31 | |
| | velocity | 5.58 | 8.54 | 8.54 | 9.14 | 8.87 | 8.87 | 8.79 | 8.31 | 8.62 | 8.02 | 9.47 | 8.16 | | | | | |
| Ishikawa, Shuhei (JPN) (1995) | time | 2.50 | 3.60 | 4.63 | 5.66 | 6.70 | 7.73 | 8.80 | 9.86 | 10.93 | 12.03 | | 13.53 | 3 / 4 | | | | |
| | reaction time | 0.144 | | | | | | | | | | | | | 3.16 | 3.14 | 3.23 | |
| | interval | 7 steps | 1.10 | 1.03 | 1.03 | 1.04 | 1.03 | 1.07 | 1.06 | 1.07 | 1.10 | 1.50 | | | 8.68 | 8.73 | 8.49 | |
| | velocity | 5.49 | 8.31 | 8.87 | 8.87 | 8.79 | 8.87 | 8.54 | 8.62 | 8.54 | 8.31 | 9.35 | 8.13 | | | | | |
| Roberts, Daniel (USA) (1998) | time | 2.50 | 3.50 | 4.50 | 5.50 | 6.53 | 7.56 | 8.60 | | | | | | dnf | 4 / -- | | | |
| | reaction time | 0.179 | | | | | | | | | | | | | 3.00 | 3.10 | | |
| | interval | DQ | 1.00 | 1.00 | 1.00 | 1.03 | 1.03 | 1.04 | | | | | | | 9.14 | 8.85 | | |
| | velocity | 5.49 | 9.14 | 9.14 | 9.14 | 8.87 | 8.87 | 8.79 | | | | | | | | | | |

Date: 2022.07.16

Wind: 0.4 m/s

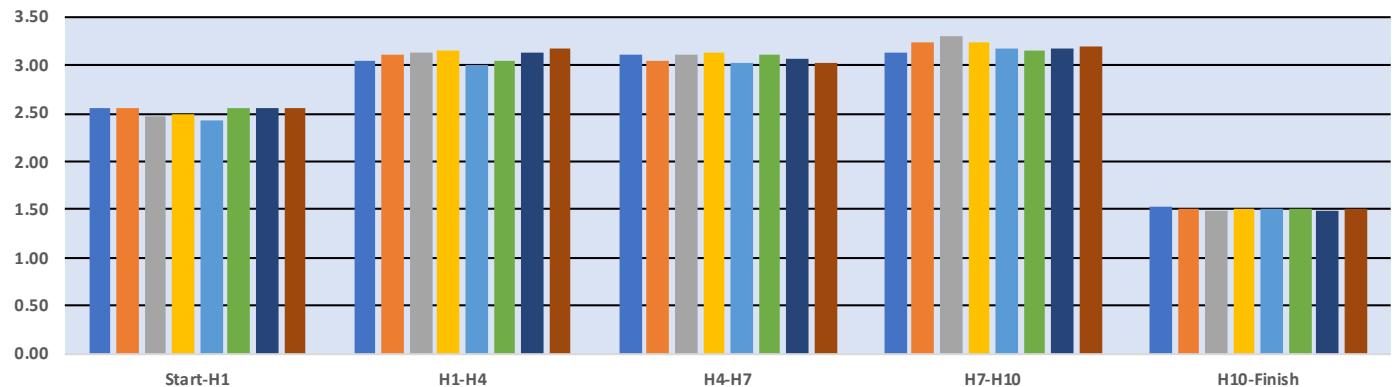
Heat 2

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Holloway, Grant (USA) (1997) | time | 2.43 | 3.46 | 4.46 | 5.43 | 6.43 | 7.43 | 8.46 | 9.50 | 10.53 | 11.63 | | 13.14 | 1 / 1 | | | |
| | reaction time | 0.147 | | | | | | | | | | | | | 3.00 | 3.03 | 3.17 |
| | interval | 7 steps | 1.03 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 1.03 | 1.04 | 1.03 | 1.10 | 1.51 | | 9.14 | 9.05 | 8.65 |
| | velocity | 5.65 | 8.87 | 9.14 | 9.42 | 9.14 | 9.14 | 8.87 | 8.79 | 8.87 | 8.87 | 8.31 | 9.28 | 8.37 | | | |
| Czykier, Damian (POL) (1992) | time | 2.56 | 3.58 | 4.60 | 5.60 | 6.63 | 7.66 | 8.70 | 9.73 | 10.76 | 11.86 | | 13.37 | 3 / 2 | | | |
| | reaction time | 0.146 | | | | | | | | | | | | | 3.04 | 3.10 | 3.16 |
| | interval | 7 steps | 1.02 | 1.02 | 1.00 | 1.03 | 1.03 | 1.04 | 1.03 | 1.03 | 1.10 | 1.51 | | | 9.02 | 8.85 | 8.68 |
| | velocity | 5.36 | 8.96 | 8.96 | 9.14 | 8.87 | 8.87 | 8.79 | 8.87 | 8.87 | 8.31 | 9.28 | 8.23 | | | | |
| Zeller, Joshua (GBR) (2000) | time | 2.56 | 3.63 | 4.68 | 5.70 | 6.73 | 7.73 | 8.76 | 9.80 | 10.86 | 11.93 | | 13.41 | 5 / 3 | | | |
| | reaction time | 0.126 | | | | | | | | | | | | | 3.14 | 3.06 | 3.17 |
| | interval | 7 steps | 1.07 | 1.05 | 1.02 | 1.03 | 1.00 | 1.03 | 1.04 | 1.06 | 1.07 | 1.48 | | | 8.73 | 8.96 | 8.65 |
| | velocity | 5.36 | 8.54 | 8.70 | 8.96 | 8.87 | 9.14 | 8.87 | 8.79 | 8.62 | 8.54 | 9.47 | 8.20 | | | | |
| Rodrigues, Eduardo (BRA) (1995) | time | 2.56 | 3.63 | 4.70 | 5.73 | 6.73 | 7.73 | 8.76 | 9.80 | 10.90 | 11.96 | | 13.46 | 8 / 4 | | | |
| | reaction time | 0.134 | | | | | | | | | | | | | 3.17 | 3.03 | 3.20 |
| | interval | 7 steps | 1.07 | 1.07 | 1.03 | 1.00 | 1.00 | 1.03 | 1.04 | 1.10 | 1.06 | 1.50 | | | 8.65 | 9.05 | 8.57 |
| | velocity | 5.36 | 8.54 | 8.54 | 8.87 | 9.14 | 9.14 | 8.87 | 8.79 | 8.31 | 8.62 | 9.35 | 8.17 | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: https://www.youtube.com/watch?v=v2XCv1nM_xY&t=9s

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

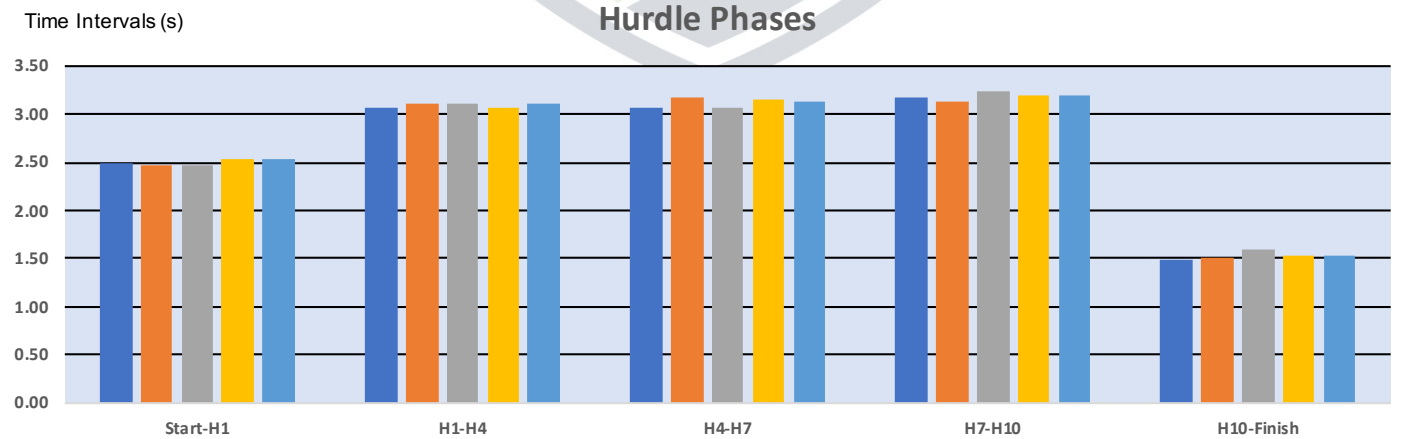
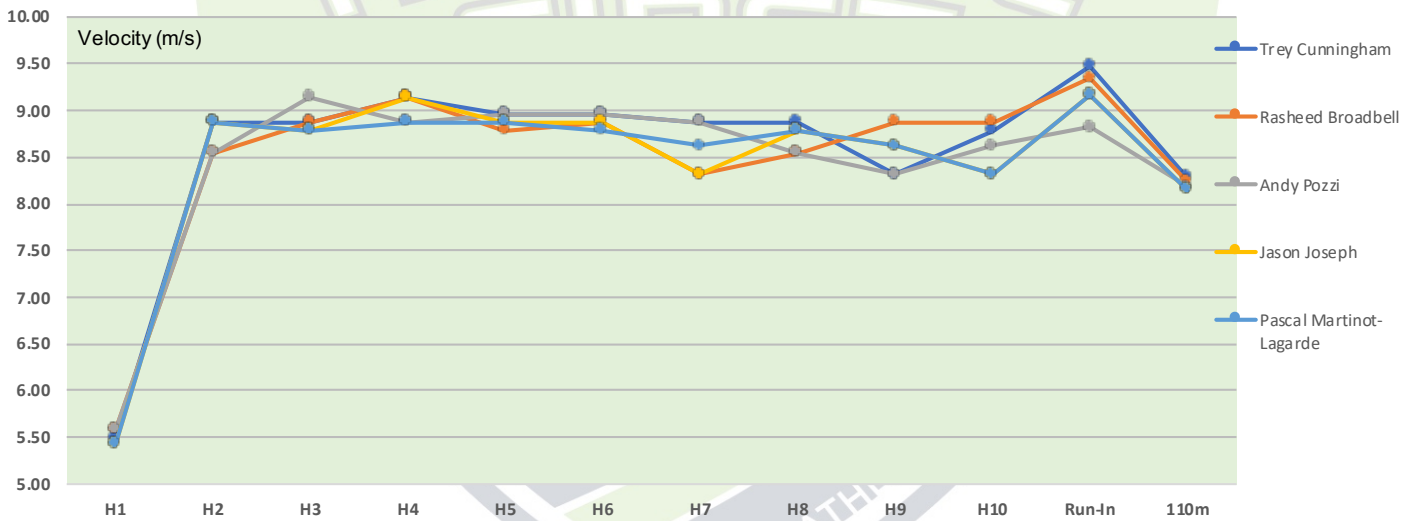
110m Hurdles

Date: 2022.07.16

Wind: -0.5 m/s

Heat 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Cunningham, Trey (USA) (1998) | time | 2.50 | 3.53 | 4.56 | 5.56 | 6.58 | 7.60 | 8.63 | 9.66 | 10.76 | 11.80 | | 13.28 | 4 / 1 | | | |
| | reaction time | 0.115 | | | | | | | | | | | | | 3.06 | 3.07 | 3.17 |
| | interval | 7 steps | 1.03 | 1.03 | 1.00 | 1.02 | 1.02 | 1.03 | 1.03 | 1.10 | 1.04 | 1.48 | | | 8.96 | 8.93 | 8.65 |
| | velocity | 5.49 | 8.87 | 8.87 | 9.14 | 8.96 | 8.96 | 8.87 | 8.87 | 8.31 | 8.79 | 9.47 | 8.28 | | | | |
| Broadbell, Rasheed (JAM) (2000) | time | 2.46 | 3.53 | 4.56 | 5.56 | 6.60 | 7.63 | 8.73 | 9.80 | 10.83 | 11.86 | | 13.36 | 8 / 2 | | | |
| | reaction time | 0.139 | | | | | | | | | | | | | 3.10 | 3.17 | 3.13 |
| | interval | 7 steps | 1.07 | 1.03 | 1.00 | 1.04 | 1.03 | 1.10 | 1.07 | 1.03 | 1.03 | 1.50 | | | 8.85 | 8.65 | 8.76 |
| | velocity | 5.58 | 8.54 | 8.87 | 9.14 | 8.79 | 8.87 | 8.31 | 8.54 | 8.87 | 8.87 | 9.35 | 8.23 | | | | |
| Pozzi, Andy (GBR) (1992) | time | 2.46 | 3.53 | 4.53 | 5.56 | 6.58 | 7.60 | 8.63 | 9.70 | 10.80 | 11.86 | | 13.45 | 2 / 3 | | | |
| | reaction time | 0.120 | | | | | | | | | | | | | 3.10 | 3.07 | 3.23 |
| | interval | 7 steps | 1.07 | 1.00 | 1.03 | 1.02 | 1.02 | 1.03 | 1.07 | 1.10 | 1.06 | 1.59 | | | 8.85 | 8.93 | 8.49 |
| | velocity | 5.58 | 8.54 | 9.14 | 8.87 | 8.96 | 8.96 | 8.87 | 8.54 | 8.31 | 8.62 | 8.82 | 8.18 | | | | |
| Joseph, Jason (SUI) (1998) | time | 2.53 | 3.56 | 4.60 | 5.60 | 6.63 | 7.66 | 8.76 | 9.80 | 10.86 | 11.96 | | 13.49 | 7 / 4 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 3.07 | 3.16 | 3.20 |
| | interval | 7 steps | 1.03 | 1.04 | 1.00 | 1.03 | 1.03 | 1.10 | 1.04 | 1.06 | 1.10 | 1.53 | | | 8.93 | 8.68 | 8.57 |
| | velocity | 5.42 | 8.87 | 8.79 | 9.14 | 8.87 | 8.87 | 8.31 | 8.79 | 8.62 | 8.31 | 9.16 | 8.15 | | | | |
| Martinot-Lagarde, Pascal (FRA) (1991) | time | 2.53 | 3.56 | 4.60 | 5.63 | 6.66 | 7.70 | 8.76 | 9.80 | 10.86 | 11.96 | | 13.49 | 1 / 5 | | | |
| | reaction time | 0.134 | | | | | | | | | | | | | 3.10 | 3.13 | 3.20 |
| | interval | 7 steps | 1.03 | 1.04 | 1.03 | 1.03 | 1.04 | 1.06 | 1.04 | 1.06 | 1.10 | 1.53 | | | 8.85 | 8.76 | 8.57 |
| | velocity | 5.42 | 8.87 | 8.79 | 8.87 | 8.87 | 8.79 | 8.62 | 8.79 | 8.62 | 8.31 | 9.16 | 8.15 | | | | |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30ps
 Timing From: First Movement
 Source: https://www.youtube.com/watch?v=v2XCv1nM_xY&t=9s

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

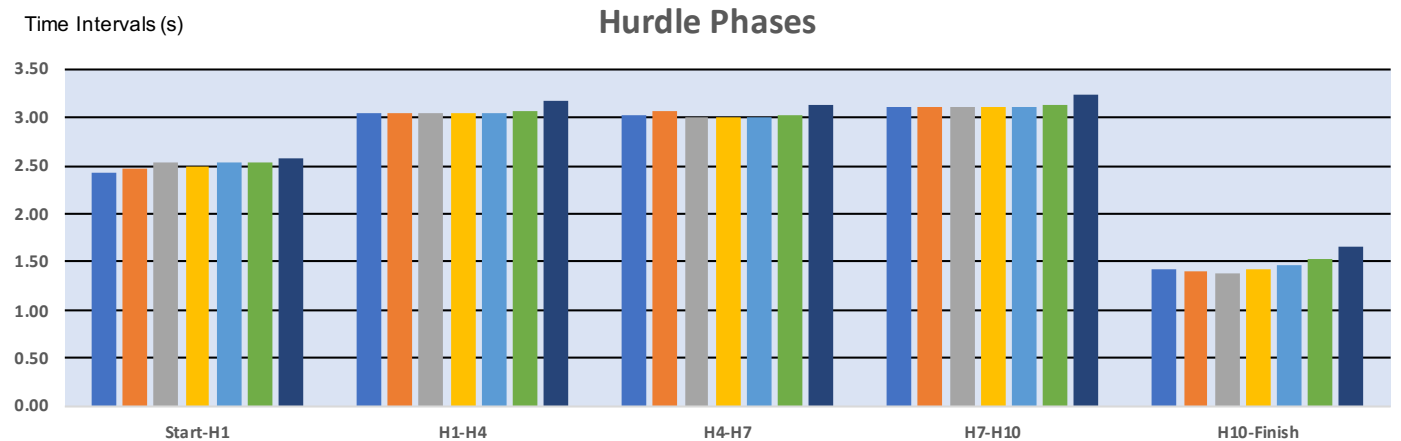
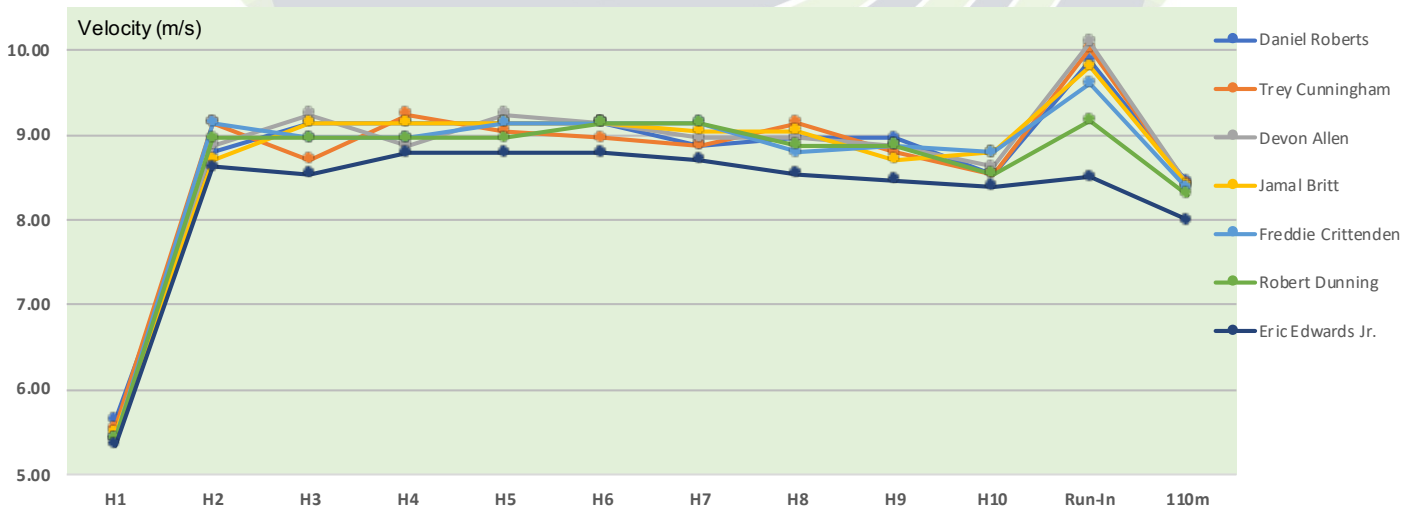
110m Hurdles

Date: 2022.06.26

Wind: 1.2 m/s

FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|----------------------------------|---------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Roberts, Daniel (USA) (1998) | time | 2.43 | 3.47 | 4.47 | 5.47 | 6.47 | 7.47 | 8.50 | 9.52 | 10.54 | 11.61 | | 13.03 | 7 / 1 | | | |
| | reaction time | | | | | | | | | | | | | | 3.04 | 3.03 | 3.11 |
| | interval | | 1.04 | 1.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.02 | 1.02 | 1.07 | 1.42 | | | 9.02 | 9.05 | 8.82 |
| | velocity | 5.65 | 8.79 | 9.14 | 9.14 | 9.14 | 9.14 | 8.87 | 8.96 | 8.96 | 8.54 | 9.87 | 8.44 | | | | |
| Cunningham, Trey (USA) (1998) | time | 2.47 | 3.47 | 4.52 | 5.51 | 6.52 | 7.54 | 8.57 | 9.57 | 10.61 | 11.68 | | 13.08 | 5 / 2 | | | |
| | reaction time | | | | | | | | | | | | | | 3.04 | 3.06 | 3.11 |
| | interval | 7 steps | 1.00 | 1.05 | 0.99 | 1.01 | 1.02 | 1.03 | 1.00 | 1.04 | 1.07 | 1.40 | | | 9.02 | 8.96 | 8.82 |
| | velocity | 5.55 | 9.14 | 8.70 | 9.23 | 9.05 | 8.96 | 8.87 | 9.14 | 8.79 | 8.54 | 10.01 | 8.41 | | | | |
| Allen, Devon (USA) (1994) | time | 2.53 | 3.56 | 4.55 | 5.58 | 6.57 | 7.57 | 8.59 | 9.61 | 10.64 | 11.70 | | 13.09 | 4 / 3 | | | |
| | reaction time | | | | | | | | | | | | | | 3.05 | 3.01 | 3.11 |
| | interval | 7 steps | 1.03 | 0.99 | 1.03 | 0.99 | 1.00 | 1.02 | 1.02 | 1.03 | 1.06 | 1.39 | | | 8.99 | 9.11 | 8.82 |
| | velocity | 5.42 | 8.87 | 9.23 | 8.87 | 9.23 | 9.14 | 8.96 | 8.96 | 8.87 | 8.62 | 10.09 | 8.40 | | | | |
| Britt, Jamal (USA) (1998) | time | 2.50 | 3.55 | 4.55 | 5.55 | 6.55 | 7.55 | 8.56 | 9.57 | 10.62 | 11.66 | | 13.09 | 3 / 4 | | | |
| | reaction time | | | | | | | | | | | | | | 3.05 | 3.01 | 3.10 |
| | interval | 7 steps | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.01 | 1.01 | 1.05 | 1.04 | 1.43 | PB | | 8.99 | 9.11 | 8.85 |
| | velocity | 5.49 | 8.70 | 9.14 | 9.14 | 9.14 | 9.14 | 9.05 | 9.05 | 8.70 | 8.79 | 9.80 | 8.40 | | | | |
| Crittenden, Freddie (USA) (1994) | time | 2.53 | 3.53 | 4.55 | 5.57 | 6.57 | 7.57 | 8.57 | 9.61 | 10.64 | 11.68 | | 13.14 | 2 / 5 | | | |
| | reaction time | | | | | | | | | | | | | | 3.04 | 3.00 | 3.11 |
| | interval | | 1.00 | 1.02 | 1.02 | 1.00 | 1.00 | 1.00 | 1.04 | 1.03 | 1.04 | 1.46 | PB | | 9.02 | 9.14 | 8.82 |
| | velocity | 5.42 | 9.14 | 8.96 | 8.96 | 9.14 | 9.14 | 9.14 | 8.79 | 8.87 | 8.79 | 9.60 | 8.37 | | | | |
| Dunning, Robert (USA) (1997) | time | 2.53 | 3.55 | 4.57 | 5.59 | 6.61 | 7.61 | 8.61 | 9.64 | 10.67 | 11.74 | | 13.27 | 9 / 6 | | | |
| | reaction time | | | | | | | | | | | | | | 3.06 | 3.02 | 3.13 |
| | interval | 7 steps | 1.02 | 1.02 | 1.02 | 1.02 | 1.00 | 1.00 | 1.03 | 1.03 | 1.07 | 1.53 | | | 8.96 | 9.08 | 8.76 |
| | velocity | 5.42 | 8.96 | 8.96 | 8.96 | 8.96 | 9.14 | 9.14 | 8.87 | 8.87 | 8.54 | 9.16 | 8.29 | | | | |
| Edwards Jr., Eric (USA) (2000) | time | 2.57 | 3.63 | 4.70 | 5.74 | 6.78 | 7.82 | 8.87 | 9.94 | 11.02 | 12.11 | | 13.76 | 8 / 7 | | | |
| | reaction time | | | | | | | | | | | | | | 3.17 | 3.13 | 3.24 |
| | interval | | 1.06 | 1.07 | 1.04 | 1.04 | 1.04 | 1.05 | 1.07 | 1.08 | 1.09 | 1.65 | | | 8.65 | 8.76 | 8.46 |
| | velocity | 5.34 | 8.62 | 8.54 | 8.79 | 8.79 | 8.79 | 8.70 | 8.54 | 8.46 | 8.39 | 8.50 | 7.99 | | | | |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1280 x 720 @ 50fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=0Onww33Czs>

2022 USATF National Championships (Eugene, OR)

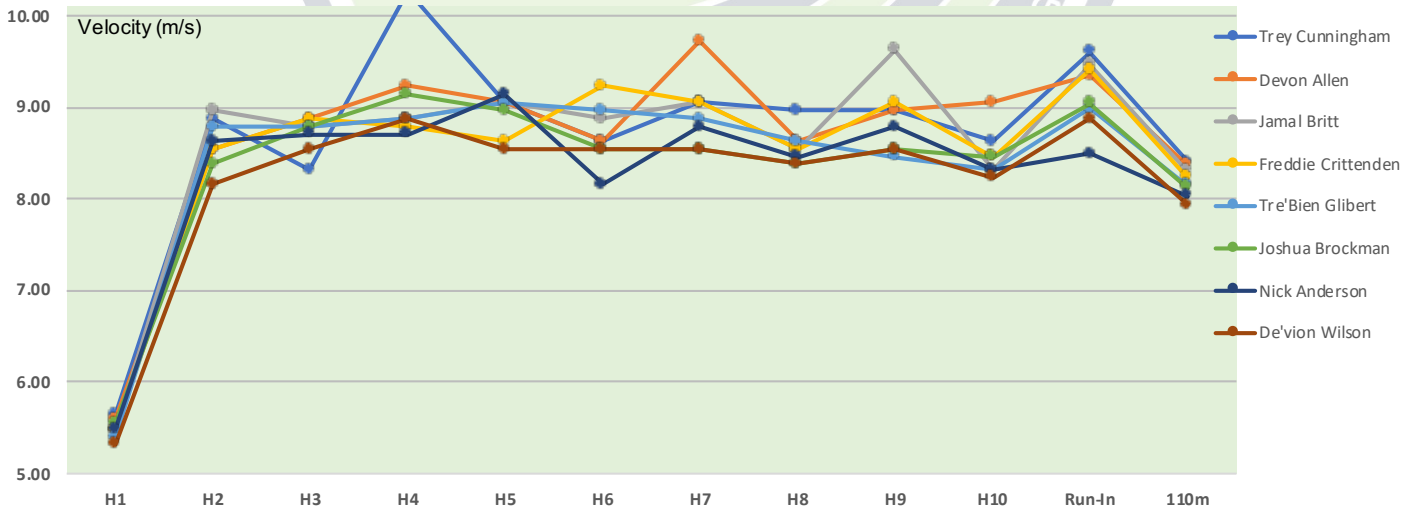
110m Hurdles

Date: 2022.06.26

Wind: 0.1 m/s

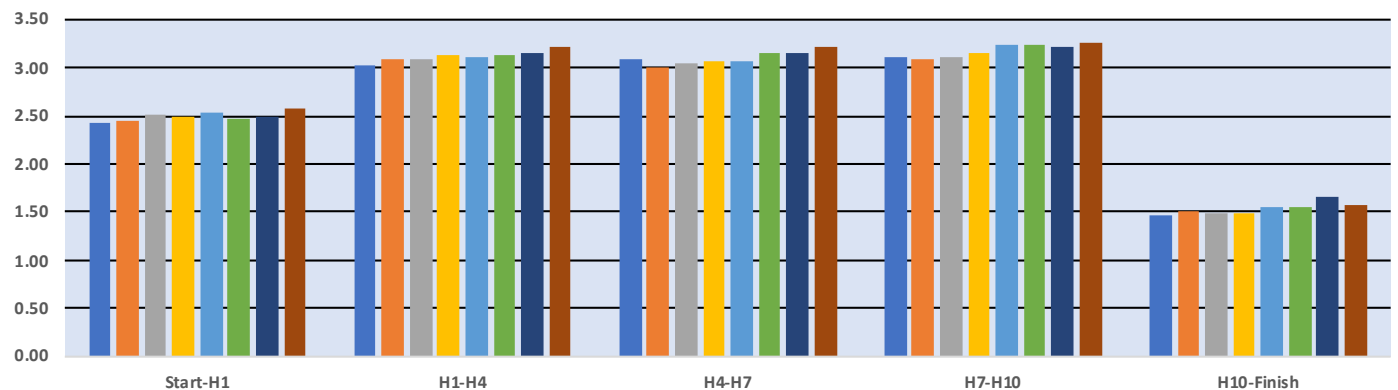
Semi-Final 2

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|----------------------------------|---------------|---------|------|------|-------|------|------|------|-------|-------|-------|--------|-----------|------------|-------|-------|--------|
| Cunningham, Trey (USA) (1998) | time | 2.43 | 3.46 | 4.56 | 5.45 | 6.46 | 7.52 | 8.53 | 9.55 | 10.57 | 11.63 | 13.09 | 13.09 | 6 / 1 | | | |
| | reaction time | | | | | | | | | | | | | | 3.02 | 3.08 | 3.10 |
| | interval | 7 steps | 1.03 | 1.10 | 0.89 | 1.01 | 1.06 | 1.01 | 1.02 | 1.02 | 1.06 | 1.46 | | | 9.08 | 8.90 | 8.85 |
| | velocity | 5.65 | 8.87 | 8.31 | 10.27 | 9.05 | 8.62 | 9.05 | 8.96 | 8.96 | 8.62 | 9.60 | 8.40 | | | | |
| Allen, Devon (USA) (1994) | time | 2.45 | 3.52 | 4.55 | 5.54 | 6.55 | 7.61 | 8.55 | 9.61 | 10.63 | 11.64 | 13.14 | 13.14 | 5 / 2 | | | |
| | reaction time | | | | | | | | | | | | | | 3.09 | 3.01 | 3.09 |
| | interval | 7 steps | 1.07 | 1.03 | 0.99 | 1.01 | 1.06 | 0.94 | 1.06 | 1.02 | 1.01 | 1.50 | | | 8.87 | 9.11 | 8.87 |
| | velocity | 5.60 | 8.54 | 8.87 | 9.23 | 9.05 | 8.62 | 9.72 | 8.62 | 8.96 | 9.05 | 9.35 | 8.37 | | | | |
| Britt, Jamal (USA) (1998) | time | 2.51 | 3.53 | 4.57 | 5.60 | 6.61 | 7.64 | 8.65 | 9.72 | 10.67 | 11.77 | 13.25 | 13.25 | 7 / 3 | | | |
| | reaction time | | | | | | | | | | | | | | 3.09 | 3.05 | 3.12 |
| | interval | 7 steps | 1.02 | 1.04 | 1.03 | 1.01 | 1.03 | 1.01 | 1.07 | 0.95 | 1.10 | 1.48 | | | 8.87 | 8.99 | 8.79 |
| | velocity | 5.47 | 8.96 | 8.79 | 8.87 | 9.05 | 8.87 | 9.05 | 8.54 | 9.62 | 8.31 | 9.47 | 8.30 | | | | |
| Crittenden, Freddie (USA) (1994) | time | 2.50 | 3.57 | 4.60 | 5.64 | 6.70 | 7.69 | 8.70 | 9.77 | 10.78 | 11.86 | 13.35 | 13.35 | 4 / 4 | | | |
| | reaction time | | | | | | | | | | | | | | 3.14 | 3.06 | 3.16 |
| | interval | | 1.07 | 1.03 | 1.04 | 1.06 | 0.99 | 1.01 | 1.07 | 1.01 | 1.08 | 1.49 | | | 8.73 | 8.96 | 8.68 |
| | velocity | 5.49 | 8.54 | 8.87 | 8.79 | 8.79 | 9.23 | 9.05 | 8.54 | 9.05 | 8.46 | 9.41 | 8.24 | | | | |
| Gilbert, Tre'Bien (USA) (1999) | time | 2.54 | 3.58 | 4.62 | 5.65 | 6.66 | 7.68 | 8.71 | 9.77 | 10.85 | 11.95 | 13.51 | 13.51 | 8 / 5 | | | |
| | reaction time | | | | | | | | | | | | | | 3.11 | 3.06 | 3.24 |
| | interval | | 1.04 | 1.04 | 1.03 | 1.01 | 1.02 | 1.03 | 1.06 | 1.08 | 1.10 | 1.56 | | | 8.82 | 8.96 | 8.46 |
| | velocity | 5.40 | 8.79 | 8.79 | 8.87 | 9.05 | 8.96 | 8.87 | 8.62 | 8.46 | 8.31 | 8.99 | 8.14 | | | | |
| Brockman, Joshua (USA) (2001) | time | 2.47 | 3.56 | 4.60 | 5.60 | 6.62 | 7.69 | 8.76 | 9.85 | 10.92 | 12.00 | 13.55 | 13.55 | 2 / 6 | | | |
| | reaction time | | | | | | | | | | | | | | 3.13 | 3.16 | 3.24 |
| | interval | | 1.09 | 1.04 | 1.00 | 1.02 | 1.07 | 1.07 | 1.09 | 1.07 | 1.08 | 1.55 | PB | | 8.76 | 8.68 | 8.46 |
| | velocity | 5.55 | 8.39 | 8.79 | 9.14 | 8.96 | 8.54 | 8.54 | 8.39 | 8.54 | 8.46 | 9.05 | 8.12 | | | | |
| Anderson, Nick (USA) (1995) | time | 2.50 | 3.56 | 4.61 | 5.66 | 6.66 | 7.78 | 8.82 | 9.90 | 10.94 | 12.04 | 13.69 | 13.69 | 3 / 7 | | | |
| | reaction time | | | | | | | | | | | | | | 3.16 | 3.16 | 3.22 |
| | interval | | 1.06 | 1.05 | 1.05 | 1.00 | 1.12 | 1.04 | 1.08 | 1.04 | 1.10 | 1.65 | | | 8.68 | 8.68 | 8.52 |
| | velocity | 5.49 | 8.62 | 8.70 | 8.70 | 9.14 | 8.16 | 8.79 | 8.46 | 8.79 | 8.31 | 8.50 | 8.04 | | | | |
| Wilson, De'vion (USA) (2000) | time | 2.58 | 3.70 | 4.77 | 5.80 | 6.87 | 7.94 | 9.01 | 10.10 | 11.17 | 12.28 | 13.86 | 13.86 | 9 / 8 | | | |
| | reaction time | | | | | | | | | | | | | | 3.22 | 3.21 | 3.27 |
| | interval | | 1.12 | 1.07 | 1.03 | 1.07 | 1.07 | 1.07 | 1.09 | 1.07 | 1.11 | 1.58 | | | 8.52 | 8.54 | 8.39 |
| | velocity | 5.32 | 8.16 | 8.54 | 8.87 | 8.54 | 8.54 | 8.54 | 8.39 | 8.54 | 8.23 | 8.87 | 7.94 | | | | |



Time Intervals (s)

Hurdle Phases



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

Video: [No Video Found](#)

2022 USATF National Championships (Eugene, OR)

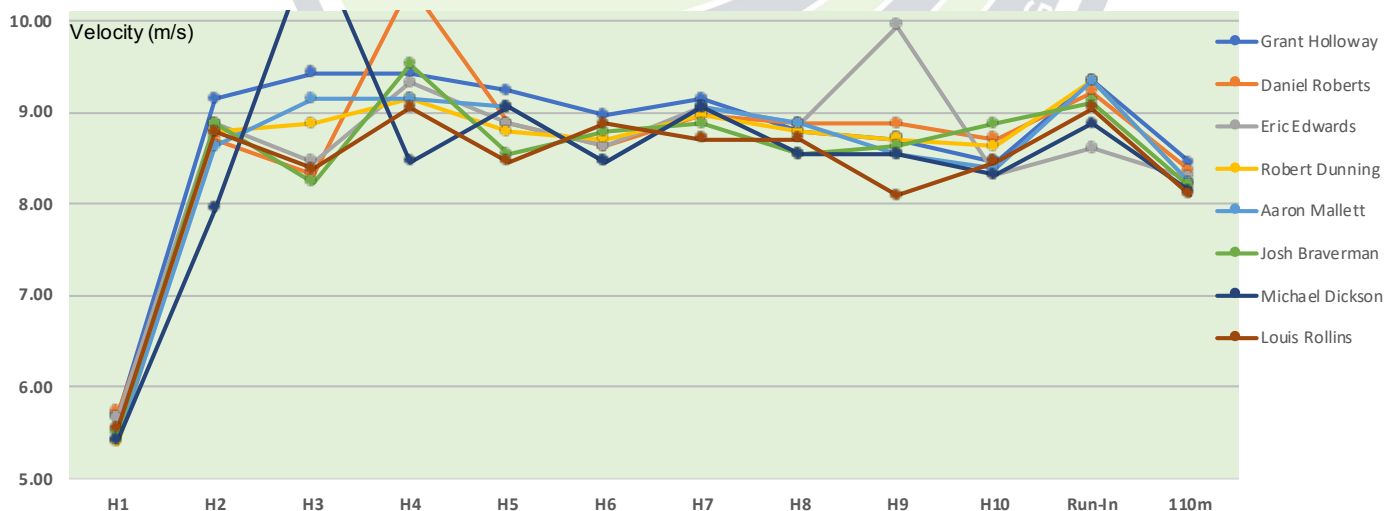
110m Hurdles

Date: 2022.06.26

Wind: 0.4 m/s

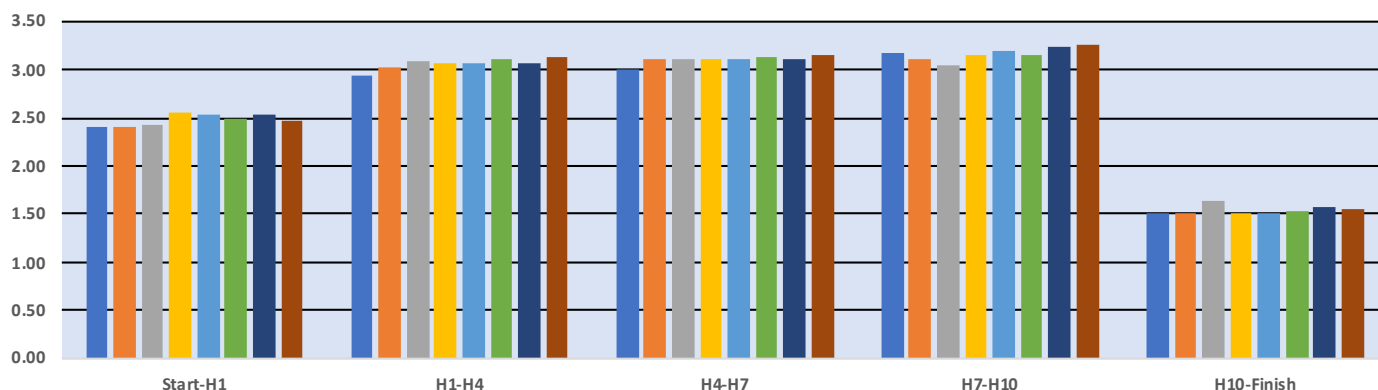
Semi-Final 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------|---------------|---------|------|-------|-------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Holloway, Grant (USA) (1997) | time | 2.41 | 3.41 | 4.38 | 5.35 | 6.34 | 7.36 | 8.36 | 9.40 | 10.45 | 11.53 | 13.03 | 13.03 | 4 / 1 | | | |
| | reaction time | | | | | | | | | | | | | | 2.94 | 3.01 | 3.17 |
| | interval | 7 steps | 1.00 | 0.97 | 0.97 | 0.99 | 1.02 | 1.00 | 1.04 | 1.05 | 1.08 | 1.50 | | | 9.33 | 9.11 | 8.65 |
| | velocity | 5.69 | 9.14 | 9.42 | 9.42 | 9.23 | 8.96 | 9.14 | 8.79 | 8.70 | 8.46 | 9.35 | 8.44 | | | | |
| Roberts, Daniel (USA) (1998) | time | 2.40 | 3.45 | 4.55 | 5.43 | 6.46 | 7.52 | 8.54 | 9.57 | 10.60 | 11.65 | 13.17 | 13.17 | 6 / 2 | | | |
| | reaction time | | | | | | | | | | | | | | 3.03 | 3.11 | 3.11 |
| | interval | | 1.05 | 1.10 | 0.88 | 1.03 | 1.06 | 1.02 | 1.03 | 1.03 | 1.05 | 1.52 | | | 9.05 | 8.82 | 8.82 |
| | velocity | 5.72 | 8.70 | 8.31 | 10.39 | 8.87 | 8.62 | 8.96 | 8.87 | 8.87 | 8.70 | 9.22 | 8.35 | | | | |
| Edwards Jr., Eric (USA) (2000) | time | 2.42 | 3.45 | 4.53 | 5.51 | 6.54 | 7.60 | 8.61 | 9.64 | 10.56 | 11.66 | 13.29 | 13.29 | 5 / 3 | | | |
| | reaction time | | | | | | | | | | | | | | 3.09 | 3.10 | 3.05 |
| | interval | | 1.03 | 1.08 | 0.98 | 1.03 | 1.06 | 1.01 | 1.03 | 0.92 | 1.10 | 1.63 | | | 8.87 | 8.85 | 8.99 |
| | velocity | 5.67 | 8.87 | 8.46 | 9.33 | 8.87 | 8.62 | 9.05 | 8.87 | 9.93 | 8.31 | 8.60 | 8.28 | | | | |
| Dunning, Robert (USA) (1997) | time | 2.55 | 3.59 | 4.62 | 5.62 | 6.66 | 7.71 | 8.73 | 9.77 | 10.82 | 11.88 | 13.38 | 13.38 | 2 / 4 | | | |
| | reaction time | | | | | | | | | | | | | | 3.07 | 3.11 | 3.15 |
| | interval | | 1.04 | 1.03 | 1.00 | 1.04 | 1.05 | 1.02 | 1.04 | 1.05 | 1.06 | 1.50 | | | 8.93 | 8.82 | 8.70 |
| | velocity | 5.38 | 8.79 | 8.87 | 9.14 | 8.79 | 8.70 | 8.96 | 8.79 | 8.70 | 8.62 | 9.35 | 8.22 | | | | |
| Mallett, Aaron (USA) (1994) | time | 2.53 | 3.59 | 4.59 | 5.59 | 6.60 | 7.68 | 8.69 | 9.72 | 10.79 | 11.88 | 13.38 | 13.38 | 7 / 5 | | | |
| | reaction time | | | | | | | | | | | | | | 3.06 | 3.10 | 3.19 |
| | interval | | 1.06 | 1.00 | 1.00 | 1.01 | 1.08 | 1.01 | 1.03 | 1.07 | 1.09 | 1.50 | | | 8.96 | 8.85 | 8.60 |
| | velocity | 5.42 | 8.62 | 9.14 | 9.14 | 9.05 | 8.46 | 9.05 | 8.87 | 8.54 | 8.39 | 9.35 | 8.22 | | | | |
| Braverman, Josh (USA) (1998) | time | 2.49 | 3.52 | 4.63 | 5.59 | 6.66 | 7.70 | 8.73 | 9.80 | 10.86 | 11.89 | 13.43 | 13.43 | 8 / 6 | | | |
| | reaction time | | | | | | | | | | | | | | 3.10 | 3.14 | 3.16 |
| | interval | | 1.03 | 1.11 | 0.96 | 1.07 | 1.04 | 1.03 | 1.07 | 1.06 | 1.03 | 1.54 | | | 8.85 | 8.73 | 8.68 |
| | velocity | 5.51 | 8.87 | 8.23 | 9.52 | 8.54 | 8.79 | 8.87 | 8.54 | 8.62 | 8.87 | 9.10 | 8.19 | | | | |
| Dickson, Michael (USA) (1997) | time | 2.53 | 3.68 | 4.52 | 5.60 | 6.61 | 7.69 | 8.70 | 9.77 | 10.84 | 11.94 | 13.52 | 13.52 | 3 / 7 | | | |
| | reaction time | | | | | | | | | | | | | | 3.07 | 3.10 | 3.24 |
| | interval | | 1.15 | 0.84 | 1.08 | 1.01 | 1.08 | 1.01 | 1.07 | 1.07 | 1.10 | 1.58 | | | 8.93 | 8.85 | 8.46 |
| | velocity | 5.42 | 7.95 | 10.88 | 8.46 | 9.05 | 8.46 | 9.05 | 8.54 | 8.54 | 8.31 | 8.87 | 8.14 | | | | |
| Rollins, Louis (USA) (1996) | time | 2.47 | 3.51 | 4.60 | 5.61 | 6.69 | 7.72 | 8.77 | 9.82 | 10.95 | 12.03 | 13.58 | 13.58 | 9 / 8 | | | |
| | reaction time | | | | | | | | | | | | | | 3.14 | 3.16 | 3.26 |
| | interval | | 1.04 | 1.09 | 1.01 | 1.08 | 1.03 | 1.05 | 1.05 | 1.13 | 1.08 | 1.55 | | | 8.73 | 8.68 | 8.41 |
| | velocity | 5.55 | 8.79 | 8.39 | 9.05 | 8.46 | 8.87 | 8.70 | 8.70 | 8.09 | 8.46 | 9.05 | 8.10 | | | | |



Time Intervals (s)

Hurdle Phases

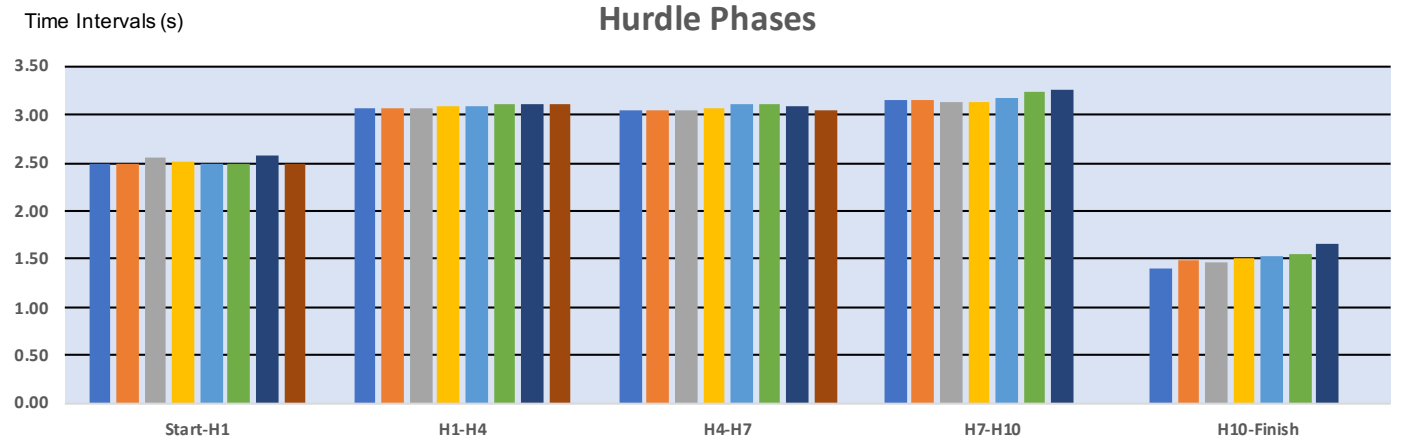
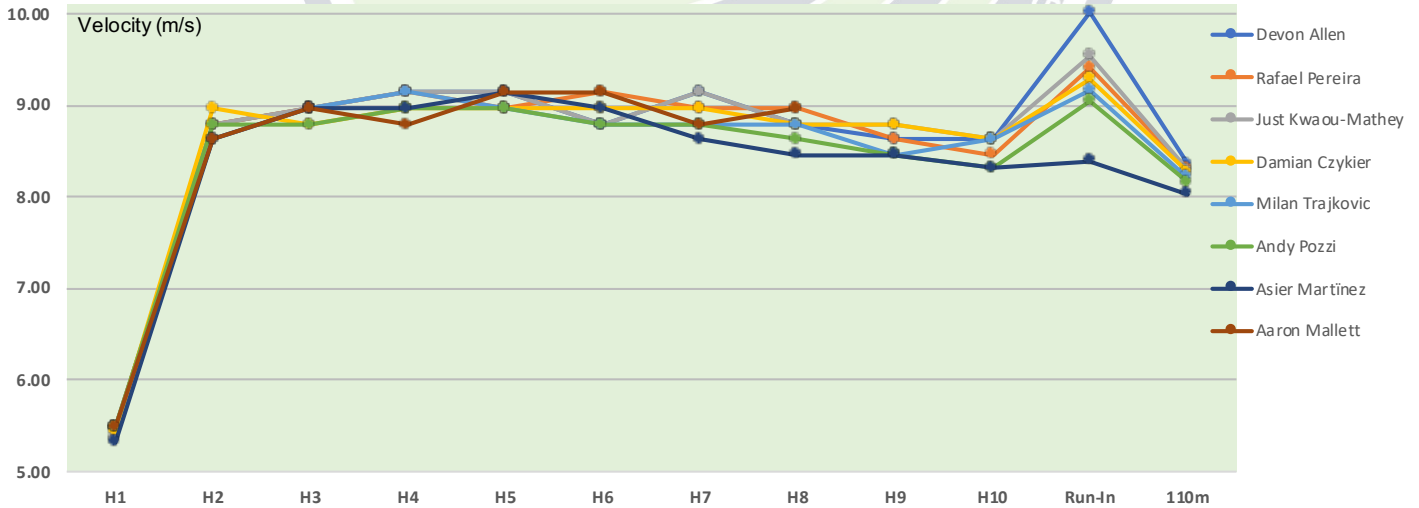


Source: USATF (2022) - Results powered by Karmarush.com. Retrieved from <https://results.usatf.org/2022Outdoors/>
 Times taken at the exact hurdle distances, the athlete is on top of the hurdle

Video: No Video Found

2022 Meeting de Paris (Paris, FRA) (TV Analysis)

| 110m Hurdles | | Date: 2022.06.18 | Wind: -0.2 m/s | | | | | | | | | | FINAL | | | | |
|---------------------------------|---------------|------------------|----------------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
| Allen, Devon (USA) (1994) | time | 2.50 | 3.54 | 4.56 | 5.56 | 6.56 | 7.60 | 8.60 | 9.64 | 10.70 | 11.76 | 13.16 | | 5 / 1 | | | |
| | reaction time | 0.138 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.04 | 1.02 | 1.00 | 1.00 | 1.04 | 1.00 | 1.04 | 1.06 | 1.06 | 1.40 | | | 3.06 | 3.04 | 3.16 |
| | velocity | 5.49 | 8.79 | 8.96 | 9.14 | 9.14 | 8.79 | 9.14 | 8.79 | 8.62 | 8.62 | 10.01 | 8.36 | | 8.96 | 9.02 | 8.68 |
| Pereira, Rafael (BRA) (1997) | time | 2.50 | 3.54 | 4.56 | 5.56 | 6.58 | 7.58 | 8.60 | 9.62 | 10.68 | 11.76 | 13.25 | | 4 / 2 | | | |
| | reaction time | 0.141 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.04 | 1.02 | 1.00 | 1.02 | 1.00 | 1.02 | 1.02 | 1.06 | 1.08 | 1.49 | =PB | | 3.06 | 3.04 | 3.16 |
| | velocity | 5.49 | 8.79 | 8.96 | 9.14 | 8.96 | 9.14 | 8.96 | 8.96 | 8.62 | 8.46 | 9.41 | 8.30 | | 8.96 | 9.02 | 8.68 |
| Kwaou-Mathey, Just (FRA) (1999) | time | 2.56 | 3.60 | 4.62 | 5.62 | 6.62 | 7.66 | 8.66 | 9.70 | 10.74 | 11.80 | 13.27 | | 2 / 3 | | | |
| | reaction time | 0.169 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.04 | 1.02 | 1.00 | 1.00 | 1.04 | 1.00 | 1.04 | 1.04 | 1.06 | 1.47 | PB | | 3.06 | 3.04 | 3.14 |
| | velocity | 5.36 | 8.79 | 8.96 | 9.14 | 9.14 | 8.79 | 9.14 | 8.79 | 8.79 | 8.62 | 9.54 | 8.29 | | 8.96 | 9.02 | 8.73 |
| Czykier, Damian (POL) (1992) | time | 2.52 | 3.54 | 4.58 | 5.60 | 6.62 | 7.64 | 8.66 | 9.70 | 10.74 | 11.80 | 13.31 | | 7 / 4 | | | |
| | reaction time | 0.144 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.02 | 1.04 | 1.02 | 1.02 | 1.02 | 1.02 | 1.04 | 1.04 | 1.06 | 1.51 | | | 3.08 | 3.06 | 3.14 |
| | velocity | 5.44 | 8.96 | 8.79 | 8.96 | 8.96 | 8.96 | 8.96 | 8.79 | 8.79 | 8.62 | 9.28 | 8.26 | | 8.90 | 8.96 | 8.73 |
| Trajkovic, Milan (CYP) (1992) | time | 2.50 | 3.56 | 4.58 | 5.58 | 6.60 | 7.64 | 8.68 | 9.72 | 10.80 | 11.86 | 13.39 | | 8 / 5 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.06 | 1.02 | 1.00 | 1.02 | 1.04 | 1.04 | 1.04 | 1.08 | 1.06 | 1.53 | | | 3.08 | 3.10 | 3.18 |
| | velocity | 5.49 | 8.62 | 8.96 | 9.14 | 8.96 | 8.79 | 8.79 | 8.79 | 8.46 | 8.62 | 9.16 | 8.22 | | 8.90 | 8.85 | 8.62 |
| Pozzi, Andy (GBR) (1992) | time | 2.50 | 3.54 | 4.58 | 5.60 | 6.62 | 7.66 | 8.70 | 9.76 | 10.84 | 11.94 | 13.49 | | 1 / 6 | | | |
| | reaction time | 0.126 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.04 | 1.04 | 1.02 | 1.02 | 1.04 | 1.04 | 1.06 | 1.08 | 1.10 | 1.55 | | | 3.10 | 3.10 | 3.24 |
| | velocity | 5.49 | 8.79 | 8.79 | 8.96 | 8.96 | 8.79 | 8.62 | 8.46 | 8.31 | 9.05 | 8.15 | | | 8.85 | 8.85 | 8.46 |
| Martínez, Asier (ESP) (2000) | time | 2.58 | 3.64 | 4.66 | 5.68 | 6.68 | 7.70 | 8.76 | 9.84 | 10.92 | 12.02 | 13.69 | | 6 / 7 | | | |
| | reaction time | 0.161 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.06 | 1.02 | 1.02 | 1.00 | 1.02 | 1.06 | 1.08 | 1.08 | 1.10 | 1.67 | | | 3.10 | 3.08 | 3.26 |
| | velocity | 5.32 | 8.62 | 8.96 | 8.96 | 9.14 | 8.96 | 8.62 | 8.46 | 8.46 | 8.31 | 8.40 | 8.04 | | 8.85 | 8.90 | 8.41 |
| Mallett, Aaron (USA) (1994) | time | 2.50 | 3.56 | 4.58 | 5.62 | 6.62 | 7.62 | 8.66 | 9.68 | | | | | 3 / -- | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | | | |
| | interval | 7 steps | 1.06 | 1.02 | 1.04 | 1.00 | 1.00 | 1.04 | 1.02 | | | | | DQ | 3.12 | 3.04 | |
| | velocity | 5.49 | 8.62 | 8.96 | 8.79 | 9.14 | 9.14 | 8.79 | 8.96 | | | | | | 8.79 | 9.02 | |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1280 x 720 @ 50fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=0Onvw33Czs>

2022 Bislett Games (Oslo, NOR) (TV Analysis)

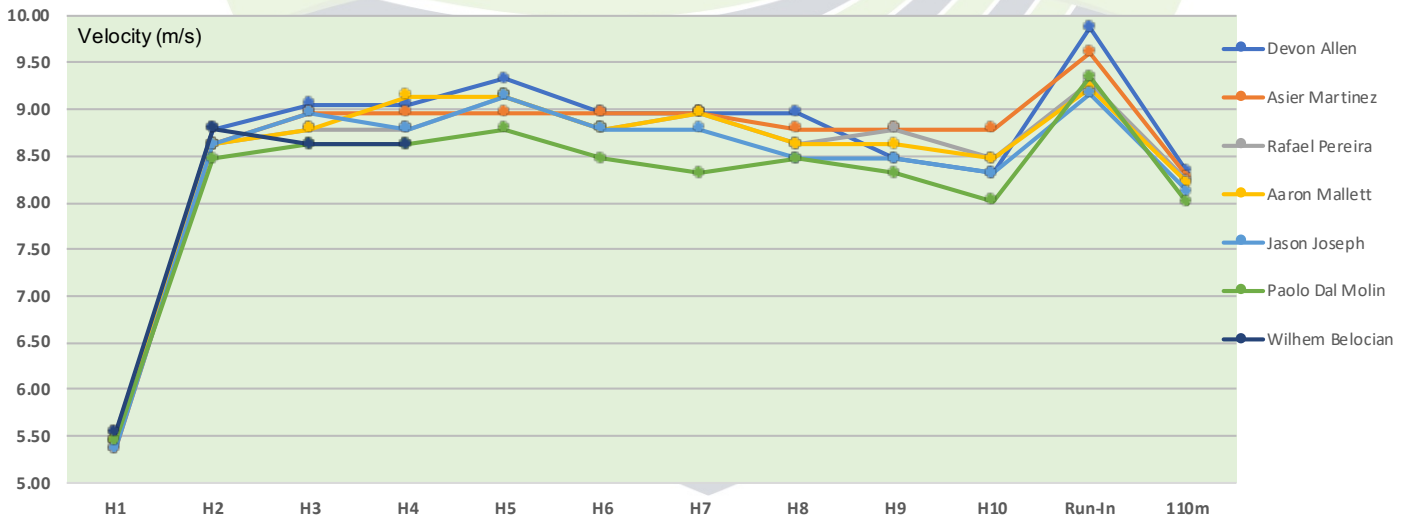
110m Hurdles

Date: 2022.06.16

Wind: -1.2 m/s

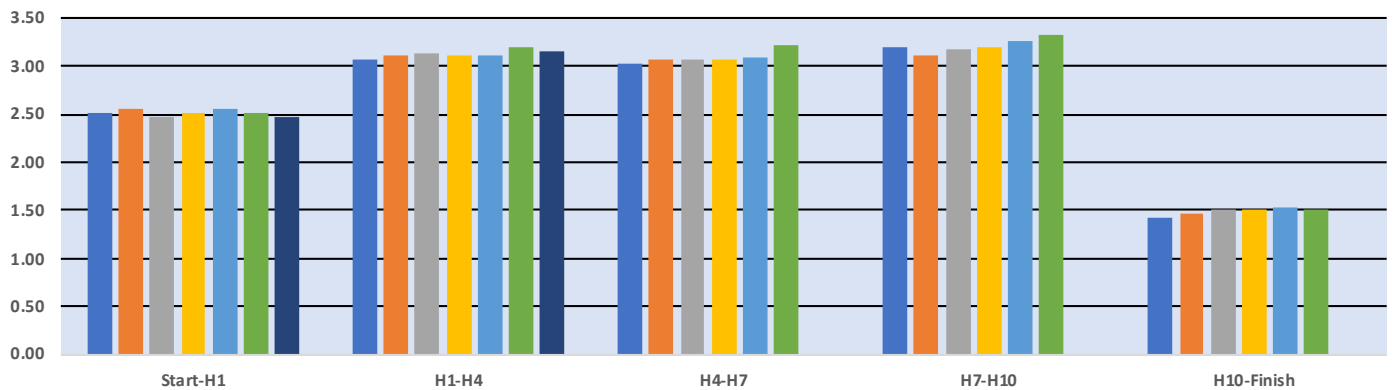
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------------|---------------|---------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Allen, Devon (USA) (1994) | time | 2.52 | 3.56 | 4.57 | 5.58 | 6.56 | 7.58 | 8.60 | 9.62 | 10.70 | 11.80 | | 13.22 | 5 / 1 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 3.06 | 3.02 | 3.20 |
| | interval | 7 steps | 1.04 | 1.01 | 1.01 | 0.98 | 1.02 | 1.02 | 1.02 | 1.08 | 1.10 | 1.42 | | | 8.96 | 9.08 | 8.57 |
| | velocity | 5.44 | 8.79 | 9.05 | 9.05 | 9.33 | 8.96 | 8.96 | 8.96 | 8.46 | 8.31 | 9.87 | 8.32 | | | | |
| Martinez, Asier (ESP) (2000) | time | 2.56 | 3.62 | 4.64 | 5.66 | 6.68 | 7.70 | 8.72 | 9.76 | 10.80 | 11.84 | | 13.30 | 6 / 2 | | | |
| | reaction time | 0.137 | | | | | | | | | | | | | 3.10 | 3.06 | 3.12 |
| | interval | 7 steps | 1.06 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.04 | 1.04 | 1.04 | 1.46 | | | 8.85 | 8.96 | 8.79 |
| | velocity | 5.36 | 8.62 | 8.96 | 8.96 | 8.96 | 8.96 | 8.96 | 8.79 | 8.79 | 8.79 | 9.60 | 8.27 | | | | |
| Pereira, Rafael (BRA) (1997) | time | 2.48 | 3.54 | 4.58 | 5.62 | 6.62 | 7.66 | 8.68 | 9.74 | 10.78 | 11.86 | | 13.37 | 3 / 3 | | | |
| | reaction time | 0.137 | | | | | | | | | | | | | 3.14 | 3.06 | 3.18 |
| | interval | | 1.06 | 1.04 | 1.04 | 1.00 | 1.04 | 1.02 | 1.06 | 1.04 | 1.08 | 1.51 | | | 8.73 | 8.96 | 8.62 |
| | velocity | 5.53 | 8.62 | 8.79 | 8.79 | 9.14 | 8.79 | 8.96 | 8.62 | 8.79 | 8.46 | 9.28 | 8.23 | | | | |
| Mallett, Aaron (USA) (1994) | time | 2.52 | 3.58 | 4.62 | 5.62 | 6.62 | 7.66 | 8.68 | 9.74 | 10.80 | 11.88 | | 13.40 | 1 / 4 | | | |
| | reaction time | 0.173 | | | | | | | | | | | | | 3.10 | 3.06 | 3.20 |
| | interval | 7 steps | 1.06 | 1.04 | 1.00 | 1.00 | 1.04 | 1.02 | 1.06 | 1.06 | 1.08 | 1.52 | | | 8.85 | 8.96 | 8.57 |
| | velocity | 5.44 | 8.62 | 8.79 | 9.14 | 9.14 | 8.79 | 8.96 | 8.62 | 8.62 | 8.46 | 9.22 | 8.21 | | | | |
| Joseph, Jason (SUI) (1998) | time | 2.56 | 3.62 | 4.64 | 5.68 | 6.68 | 7.72 | 8.76 | 9.84 | 10.92 | 12.02 | | 13.55 | 7 / 5 | | | |
| | reaction time | 0.159 | | | | | | | | | | | | | 3.12 | 3.08 | 3.26 |
| | interval | 7 steps | 1.06 | 1.02 | 1.04 | 1.00 | 1.04 | 1.04 | 1.08 | 1.08 | 1.10 | 1.53 | | | 8.79 | 8.90 | 8.41 |
| | velocity | 5.36 | 8.62 | 8.96 | 8.79 | 9.14 | 8.79 | 8.79 | 8.46 | 8.46 | 8.31 | 9.16 | 8.12 | | | | |
| Dal Molin, Paolo (ITA) (1987) | time | 2.52 | 3.60 | 4.66 | 5.72 | 6.76 | 7.84 | 8.94 | 10.02 | 11.12 | 12.26 | | 13.76 | 8 / 6 | | | |
| | reaction time | 0.122 | | | | | | | | | | | | | 3.20 | 3.22 | 3.32 |
| | interval | 7 steps | 1.08 | 1.06 | 1.06 | 1.04 | 1.08 | 1.10 | 1.08 | 1.10 | 1.14 | 1.50 | | | 8.57 | 8.52 | 8.26 |
| | velocity | 5.44 | 8.46 | 8.62 | 8.62 | 8.79 | 8.46 | 8.31 | 8.46 | 8.31 | 8.02 | 9.35 | 7.99 | | | | |
| Belocian, Wilhem (FRA) (1995) | time | 2.48 | 3.52 | 4.58 | 5.64 | | | | | | | | dnf | 1 / -- | | | |
| | reaction time | 0.111 | | | | | | | | | | | | | 3.16 | | |
| | interval | 7 steps | 1.04 | 1.06 | 1.06 | | | | | | | | | | 8.68 | | |
| | velocity | 5.53 | 8.79 | 8.62 | 8.62 | | | | | | | | | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 50ps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=2GibBmvX0uQ>

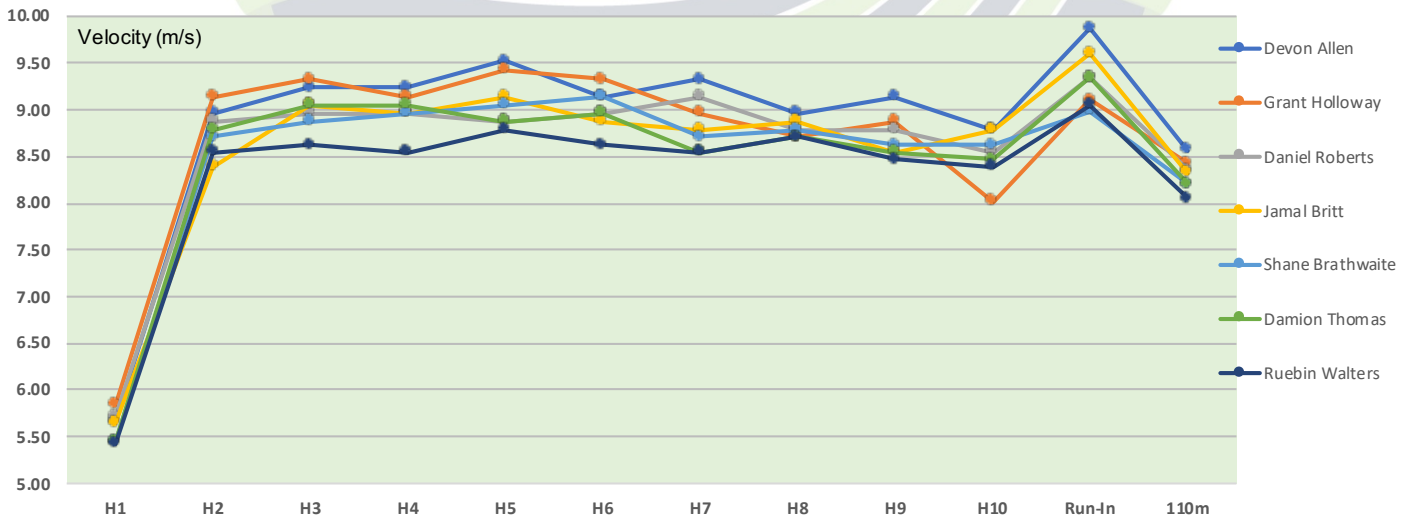
2022 New York Grand Prix (New York, NY) (TV Analysis)

110m Hurdles

Date: 2022.06.12 Wind: 1.6 m/s

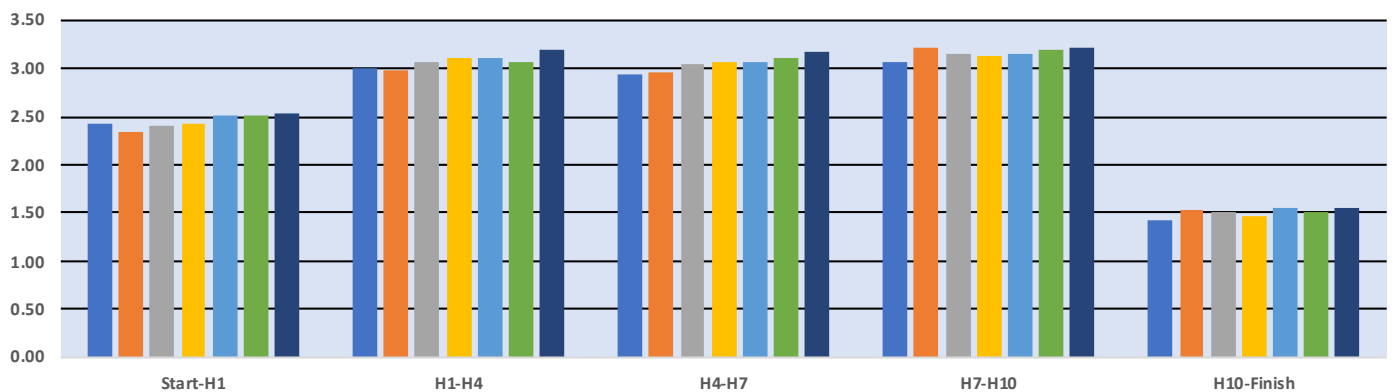
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------|---------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Allen, Devon (USA) (1994) | time | 2.42 | 3.44 | 4.43 | 5.42 | 6.38 | 7.38 | 8.36 | 9.38 | 10.38 | 11.42 | 12.84 | 13.17 | 5 / 1 | 3.00 | 2.94 | 3.06 |
| | reaction time | 0.128 | | | | | | | | | | | | | 9.14 | 9.33 | 8.96 |
| | interval | 7 steps | 1.02 | 0.99 | 0.99 | 0.96 | 1.00 | 0.98 | 1.02 | 1.00 | 1.04 | 1.42 | PB | | | | |
| | velocity | 5.67 | 8.96 | 9.23 | 9.23 | 9.52 | 9.14 | 9.33 | 8.96 | 9.14 | 8.79 | 9.87 | 8.57 | | | | |
| Holloway, Grant (USA) (1997) | time | 2.35 | 3.35 | 4.33 | 5.33 | 6.30 | 7.28 | 8.30 | 9.35 | 10.38 | 11.52 | | 13.06 | 6 / 2 | 2.98 | 2.97 | 3.22 |
| | reaction time | 0.116 | | | | | | | | | | | | | 9.20 | 9.23 | 8.52 |
| | interval | 7 steps | 1.00 | 0.98 | 1.00 | 0.97 | 0.98 | 1.02 | 1.05 | 1.03 | 1.14 | 1.54 | | | | | |
| | velocity | 5.84 | 9.14 | 9.33 | 9.14 | 9.42 | 9.33 | 8.96 | 8.70 | 8.87 | 8.02 | 9.10 | 8.42 | | | | |
| Roberts, Daniel (USA) (1997) | time | 2.40 | 3.43 | 4.45 | 5.47 | 6.50 | 7.52 | 8.52 | 9.56 | 10.60 | 11.67 | | 13.17 | 4 / 3 | 3.07 | 3.05 | 3.15 |
| | reaction time | 0.156 | | | | | | | | | | | | | 8.93 | 8.99 | 8.70 |
| | interval | | 1.03 | 1.02 | 1.02 | 1.03 | 1.02 | 1.00 | 1.04 | 1.04 | 1.07 | 1.50 | PB | | | | |
| | velocity | 5.72 | 8.87 | 8.96 | 8.96 | 8.87 | 8.96 | 9.14 | 8.79 | 8.79 | 8.54 | 9.35 | 8.35 | | | | |
| Britt, Jamal (USA) (1998) | time | 2.43 | 3.52 | 4.53 | 5.55 | 6.55 | 7.58 | 8.62 | 9.65 | 10.72 | 11.76 | | 13.22 | 3 / 4 | 3.12 | 3.07 | 3.14 |
| | reaction time | 0.139 | | | | | | | | | | | | | 8.79 | 8.93 | 8.73 |
| | interval | 7 steps | 1.09 | 1.01 | 1.02 | 1.00 | 1.03 | 1.04 | 1.03 | 1.07 | 1.04 | 1.46 | PB | | | | |
| | velocity | 5.65 | 8.39 | 9.05 | 8.96 | 9.14 | 8.87 | 8.79 | 8.87 | 8.54 | 8.79 | 9.60 | 8.32 | | | | |
| Brathwaite, Shane (BAR) (1990) | time | 2.52 | 3.57 | 4.60 | 5.62 | 6.63 | 7.63 | 8.68 | 9.72 | 10.78 | 11.84 | | 13.40 | 8 / 5 | 3.10 | 3.06 | 3.16 |
| | reaction time | 0.133 | | | | | | | | | | | | | 8.85 | 8.96 | 8.68 |
| | interval | | 1.05 | 1.03 | 1.02 | 1.01 | 1.00 | 1.05 | 1.04 | 1.06 | 1.06 | 1.56 | | | | | |
| | velocity | 5.44 | 8.70 | 8.87 | 8.96 | 9.05 | 9.14 | 8.70 | 8.79 | 8.62 | 8.62 | 8.99 | 8.21 | | | | |
| Thomas, Damion (JAM) (1999) | time | 2.52 | 3.56 | 4.57 | 5.58 | 6.61 | 7.63 | 8.70 | 9.75 | 10.82 | 11.90 | | 13.40 | 7 / 6 | 3.06 | 3.12 | 3.20 |
| | reaction time | 0.149 | | | | | | | | | | | | | 8.96 | 8.79 | 8.57 |
| | interval | 7 steps | 1.04 | 1.01 | 1.01 | 1.03 | 1.02 | 1.07 | 1.05 | 1.07 | 1.08 | 1.50 | | | | | |
| | velocity | 5.44 | 8.79 | 9.05 | 8.87 | 8.96 | 8.54 | 8.70 | 8.54 | 8.46 | 8.46 | 9.35 | 8.21 | | | | |
| Walters, Ruebin (TTO) (1995) | time | 2.53 | 3.60 | 4.66 | 5.73 | 6.77 | 7.83 | 8.90 | 9.95 | 11.03 | 12.12 | | 13.67 | 2 / 7 | 3.20 | 3.17 | 3.22 |
| | reaction time | 0.139 | | | | | | | | | | | | | 8.57 | 8.65 | 8.52 |
| | interval | | 1.07 | 1.06 | 1.07 | 1.04 | 1.06 | 1.07 | 1.05 | 1.08 | 1.09 | 1.55 | | | | | |
| | velocity | 5.42 | 8.54 | 8.62 | 8.54 | 8.79 | 8.62 | 8.54 | 8.70 | 8.46 | 8.39 | 9.05 | 8.05 | | | | |



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=9PMsox9_mYA&t=20s

2022 NCAA Championships (Eugene, OR) (TV Analysis)

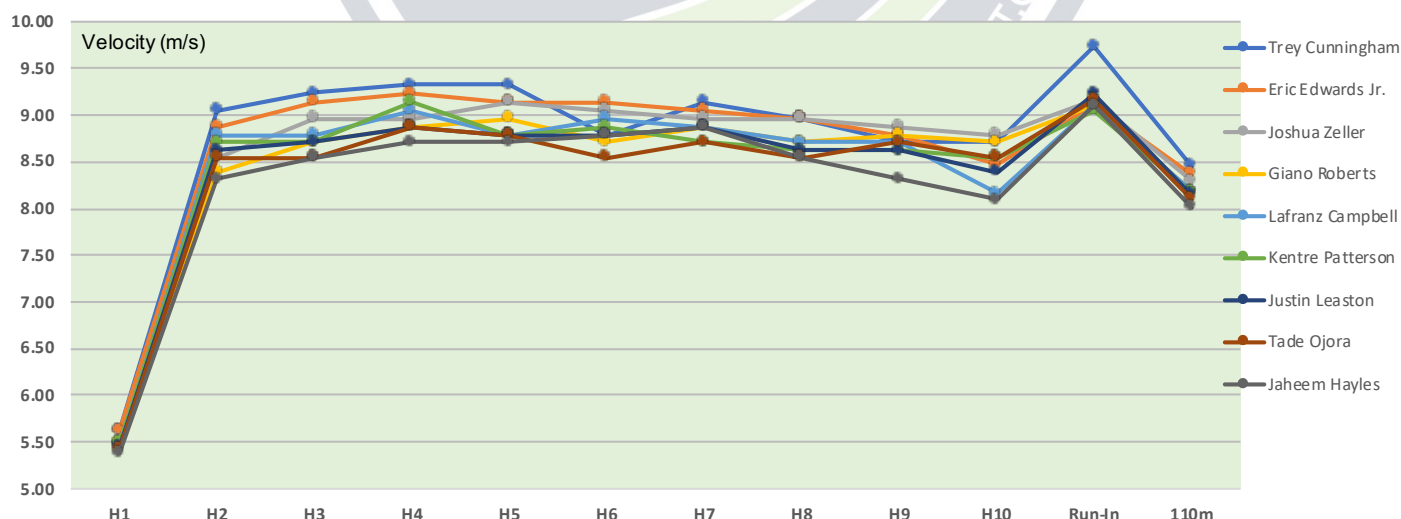
110m Hurdles

Date: 2022.06.10

Wind: 0.0 m/s

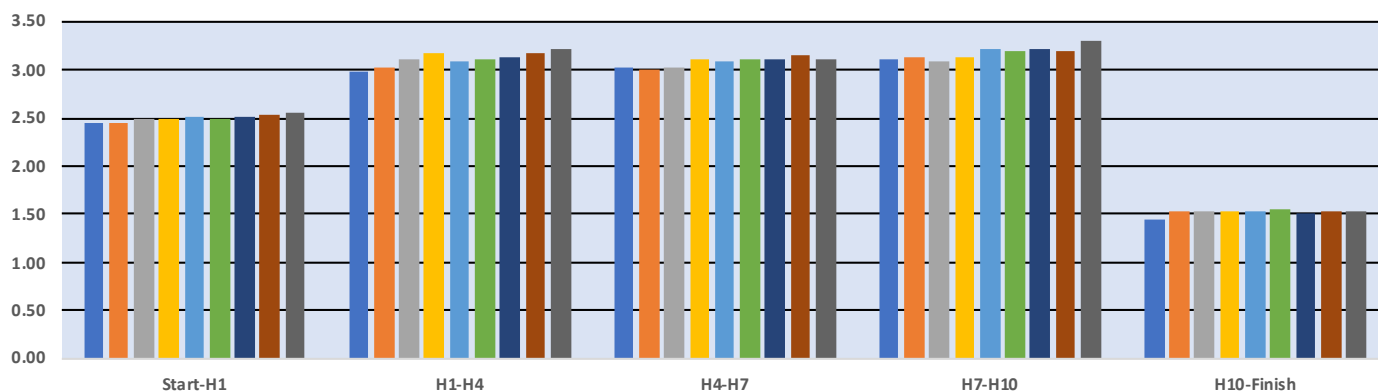
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------|---------------|---------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Cunningham, Trey (USA) (1998) | time | 2.44 | 3.45 | 4.44 | 5.42 | 6.40 | 7.44 | 8.44 | 9.46 | 10.51 | 11.56 | | 13.00 | 5 / 1 | | | |
| | reaction time | | | | | | | | | | | | | | 2.98 | 3.02 | 3.12 |
| | interval | 7 steps | 1.01 | 0.99 | 0.98 | 0.98 | 1.04 | 1.00 | 1.02 | 1.05 | 1.05 | 1.44 | PB | | 9.20 | 9.08 | 8.79 |
| | velocity | 5.62 | 9.05 | 9.23 | 9.33 | 9.33 | 8.79 | 9.14 | 8.96 | 8.70 | 8.70 | 9.74 | 8.46 | | | | |
| Edwards Jr., Eric (USA) (2000) | time | 2.44 | 3.47 | 4.47 | 5.46 | 6.46 | 7.46 | 8.47 | 9.49 | 10.53 | 11.61 | | 13.15 | 6 / 2 | | | |
| | reaction time | | | | | | | | | | | | | | 3.02 | 3.01 | 3.14 |
| | interval | | 1.03 | 1.00 | 0.99 | 1.00 | 1.00 | 1.01 | 1.02 | 1.04 | 1.08 | 1.54 | PB | | 9.08 | 9.11 | 8.73 |
| | velocity | 5.62 | 8.87 | 9.14 | 9.23 | 9.14 | 9.14 | 9.05 | 8.96 | 8.79 | 8.46 | 9.10 | 8.37 | | | | |
| Zeller, Joshua (GBR) (2000) | time | 2.50 | 3.57 | 4.59 | 5.61 | 6.61 | 7.62 | 8.64 | 9.66 | 10.69 | 11.73 | | 13.26 | 7 / 3 | | | |
| | reaction time | | | | | | | | | | | | | | 3.11 | 3.03 | 3.09 |
| | interval | | 1.07 | 1.02 | 1.02 | 1.00 | 1.01 | 1.02 | 1.02 | 1.03 | 1.04 | 1.53 | | | 8.82 | 9.05 | 8.87 |
| | velocity | 5.49 | 8.54 | 8.96 | 8.96 | 9.14 | 9.05 | 8.96 | 8.96 | 8.87 | 8.79 | 9.16 | 8.30 | | | | |
| Roberts, Giano (USA) (2000) | time | 2.50 | 3.59 | 4.64 | 5.67 | 6.69 | 7.74 | 8.77 | 9.82 | 10.86 | 11.91 | | 13.45 | 1 / 4 | | | |
| | reaction time | | | | | | | | | | | | | | 3.17 | 3.10 | 3.14 |
| | interval | | 1.09 | 1.05 | 1.03 | 1.02 | 1.05 | 1.03 | 1.05 | 1.04 | 1.05 | 1.54 | | | 8.65 | 8.85 | 8.73 |
| | velocity | 5.49 | 8.39 | 8.70 | 8.87 | 8.96 | 8.70 | 8.87 | 8.70 | 8.79 | 8.70 | 9.10 | 8.18 | | | | |
| Campbell, Lafranz (JAM) (1997) | time | 2.51 | 3.55 | 4.59 | 5.60 | 6.64 | 7.66 | 8.69 | 9.74 | 10.79 | 11.91 | | 13.45 | 8 / 5 | | | |
| | reaction time | | | | | | | | | | | | | | 3.09 | 3.09 | 3.22 |
| | interval | 7 steps | 1.04 | 1.04 | 1.01 | 1.04 | 1.02 | 1.03 | 1.05 | 1.05 | 1.12 | 1.54 | | | 8.87 | 8.87 | 8.52 |
| | velocity | 5.47 | 8.79 | 8.79 | 9.05 | 8.79 | 8.96 | 8.87 | 8.70 | 8.70 | 8.16 | 9.10 | 8.18 | | | | |
| Patterson, Kentre (USA) (1999) | time | 2.50 | 3.55 | 4.60 | 5.60 | 6.64 | 7.67 | 8.72 | 9.78 | 10.84 | 11.91 | | 13.46 | 9 / 6 | | | |
| | reaction time | | | | | | | | | | | | | | 3.10 | 3.12 | 3.19 |
| | interval | | 1.05 | 1.05 | 1.00 | 1.04 | 1.03 | 1.05 | 1.06 | 1.06 | 1.07 | 1.55 | | | 8.85 | 8.79 | 8.60 |
| | velocity | 5.49 | 8.70 | 8.70 | 9.14 | 8.79 | 8.87 | 8.70 | 8.62 | 8.62 | 8.54 | 9.05 | 8.17 | | | | |
| Leaston, Justin (USA) (2001) | time | 2.52 | 3.58 | 4.63 | 5.66 | 6.70 | 7.74 | 8.77 | 9.83 | 10.89 | 11.98 | | 13.50 | 3 / 7 | | | |
| | reaction time | | | | | | | | | | | | | | 3.14 | 3.11 | 3.21 |
| | interval | | 1.06 | 1.05 | 1.03 | 1.04 | 1.04 | 1.03 | 1.06 | 1.06 | 1.09 | 1.52 | | | 8.73 | 8.82 | 8.54 |
| | velocity | 5.44 | 8.62 | 8.70 | 8.87 | 8.79 | 8.79 | 8.87 | 8.62 | 8.62 | 8.39 | 9.22 | 8.15 | | | | |
| Ojora, Tade (GBR) (1999) | time | 2.53 | 3.60 | 4.67 | 5.70 | 6.74 | 7.81 | 8.86 | 9.93 | 10.98 | 12.05 | | 13.58 | 2 / 8 | | | |
| | reaction time | | | | | | | | | | | | | | 3.17 | 3.16 | 3.19 |
| | interval | 7 steps | 1.07 | 1.07 | 1.03 | 1.04 | 1.07 | 1.05 | 1.07 | 1.05 | 1.07 | 1.53 | | | 8.65 | 8.68 | 8.60 |
| | velocity | 5.42 | 8.54 | 8.54 | 8.87 | 8.79 | 8.54 | 8.70 | 8.54 | 8.70 | 8.54 | 9.16 | 8.10 | | | | |
| Hayles, Jaheem (JAM) (2001) | time | 2.55 | 3.65 | 4.72 | 5.77 | 6.82 | 7.86 | 8.89 | 9.96 | 11.06 | 12.19 | | 13.73 | 4 / 9 | | | |
| | reaction time | | | | | | | | | | | | | | 3.22 | 3.12 | 3.30 |
| | interval | | 1.10 | 1.07 | 1.05 | 1.05 | 1.04 | 1.03 | 1.07 | 1.10 | 1.13 | 1.54 | | | 8.52 | 8.79 | 8.31 |
| | velocity | 5.38 | 8.31 | 8.54 | 8.70 | 8.70 | 8.79 | 8.87 | 8.54 | 8.31 | 8.09 | 9.10 | 8.01 | | | | |



Time Intervals (s)

Hurdle Phases

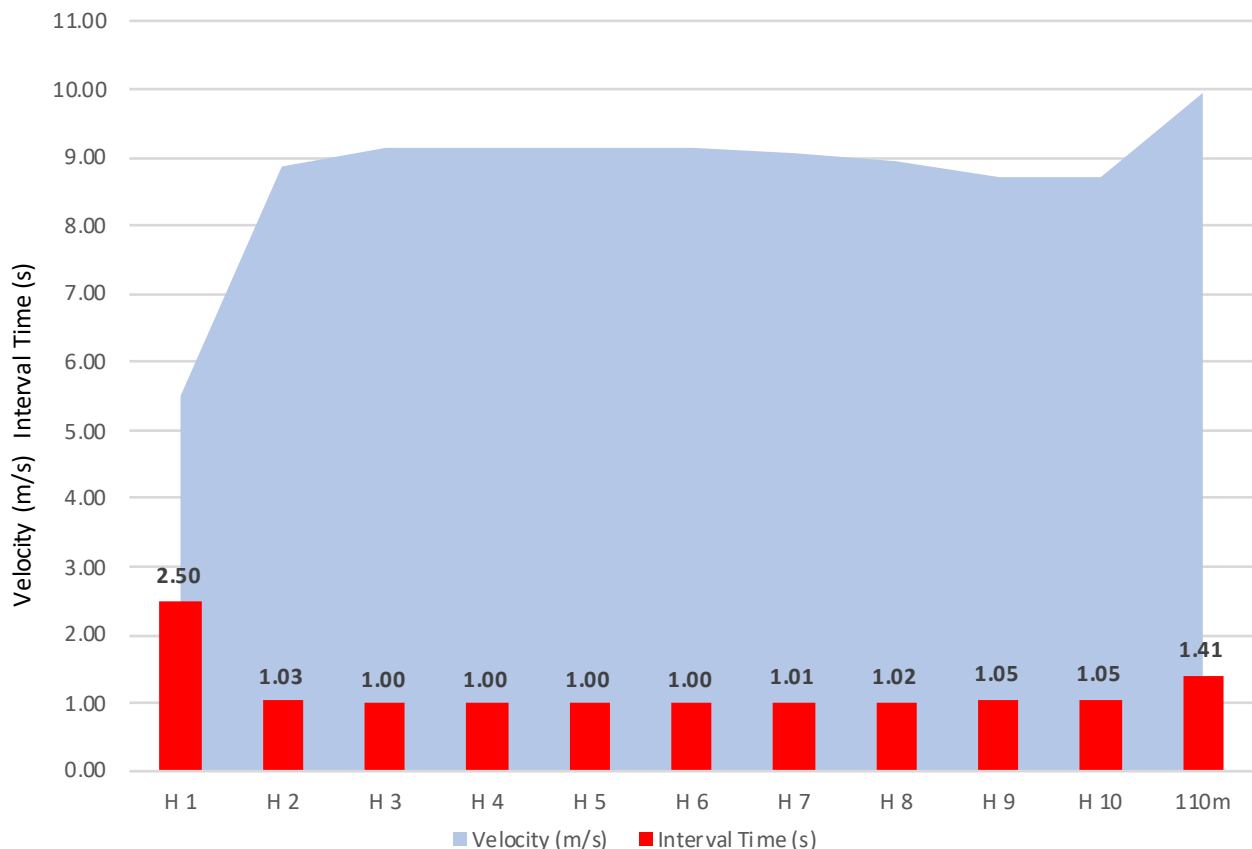


Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1280 x 720 @ 60fps
 Timing From: First Movement
 Source: https://www.youtube.com/watch?v=ebAHN_ITeR&t=1s

Men's 110m Hurdles

Name (YOB): Trey Cunningham (1998) **Official Time (FAT):** 13.07
Club: USA / Florida State University **Wind:** -1.5 m/s
Competition: NCAA East Region Preliminary **Lane / Place:** 5 / 1
City: Bloomington, IN **Reaction Time:**
Date: 2022.05.27 **Steps to Hurdle 1:** 7
Round: Quarterfinal 2 **Min Split (s):** 1.00
Distances: 13.72m / 9.14m / 107cm **Max Split (s):** 1.05
Evaluated with: ObjectusVideo **Evaluated by:** AthleteFirst.org
Timing From: First Movement **Quality & Frame Rate:** 1920 x 1080 @ 30fps
Source: <https://www.youtube.com/watch?v=wVvoE30pTkM>

| Hurdle | Touchdown Time (s) | Interval Time (s) | Velocity (m/s) | |
|-------------------------|--------------------|----------------------------|----------------------------|------------------------------|
| H 1 | 2.50 | 2.50 | 5.49 | Start → Hurdle 1 2.50 |
| H 2 | 3.53 | 1.03 | 8.87 | Hurdle 1 → Hurdle 4 3.03 |
| H 3 | 4.53 | 1.00 | 9.14 | |
| H 4 | 5.53 | 1.00 | 9.14 | |
| H 5 | 6.53 | 1.00 | 9.14 | Hurdle 4 → Hurdle 7 3.01 |
| H 6 | 7.53 | 1.00 | 9.14 | |
| H 7 | 8.54 | 1.01 | 9.05 | Hurdle 7 → Hurdle 10 3.12 |
| H 8 | 9.56 | 1.02 | 8.96 | |
| H 9 | 10.61 | 1.05 | 8.70 | |
| H 10 | 11.66 | 1.05 | 8.70 | Hurdle 10 → Finish 1.41 |
| Manual Time (MT) | 13.07 | 1.41 | 9.94 | |
| Official Time | 13.07 | <i>Ave Interval = 1.02</i> | <i>Ave Velocity = 8.98</i> | |



2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis)

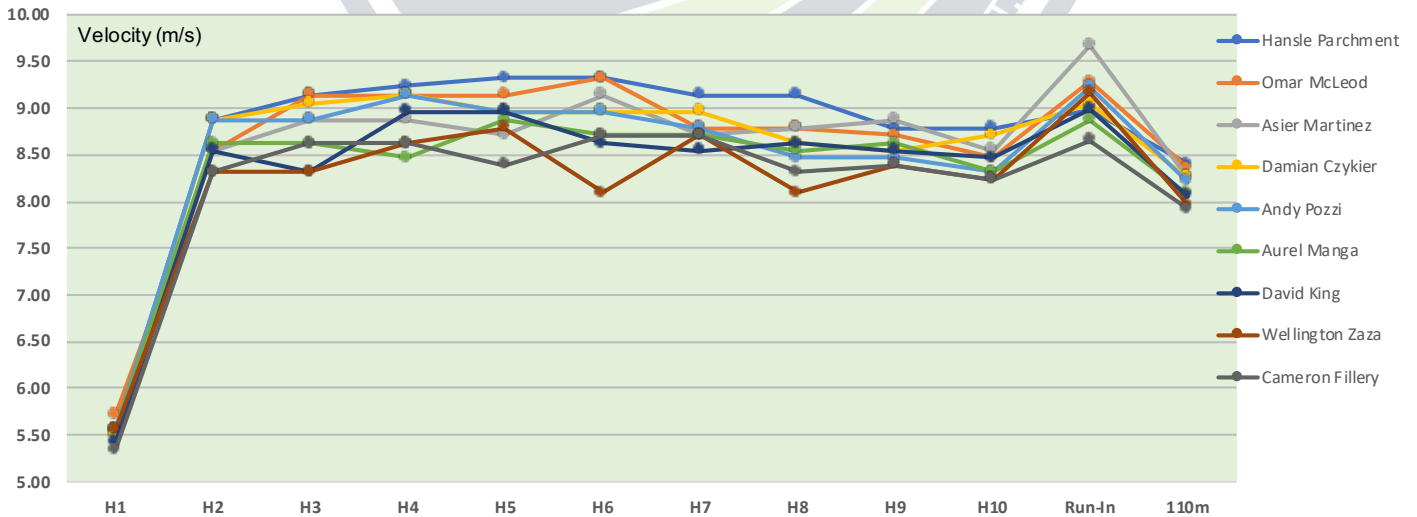
110m Hurdles

Date: 2022.05.21

Wind: 0.2 m/s

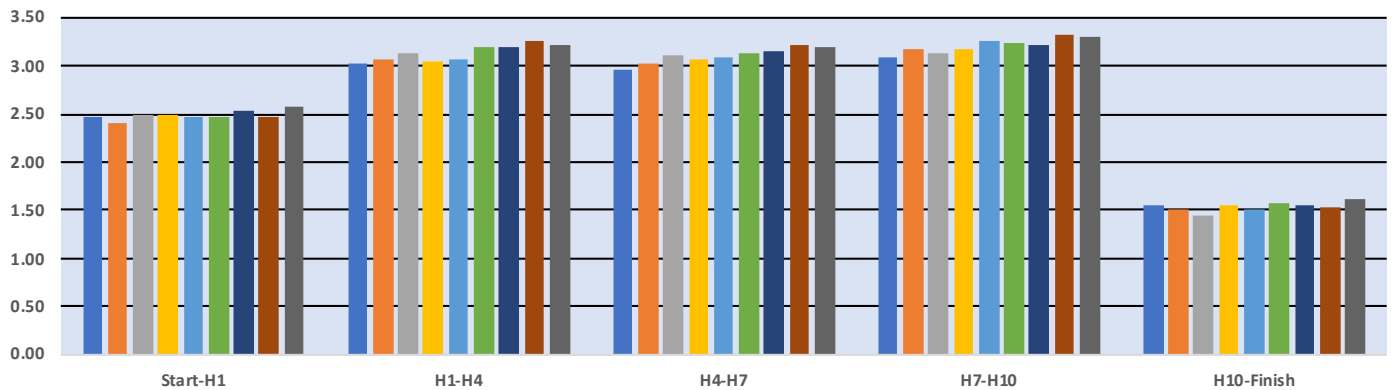
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 110m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---------------------------------------|---------------|---------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Parchment, Hansle (JAM) (1990) | time | 2.47 | 3.50 | 4.50 | 5.49 | 6.47 | 7.45 | 8.45 | 9.45 | 10.49 | 11.53 | | 13.09 | 4 / 1 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | 3.02 | 2.96 | 3.08 |
| | interval | 7 steps | 1.03 | 1.00 | 0.99 | 0.98 | 0.98 | 1.00 | 1.00 | 1.04 | 1.04 | 1.56 | | | 9.08 | 9.26 | 8.90 |
| | velocity | 5.55 | 8.87 | 9.14 | 9.23 | 9.33 | 9.33 | 9.14 | 9.14 | 8.79 | 8.79 | 8.99 | 8.40 | | | | |
| McLeod, Omar (JAM) (1994) | time | 2.40 | 3.47 | 4.47 | 5.47 | 6.47 | 7.45 | 8.49 | 9.53 | 10.58 | 11.66 | | 13.17 | 5 / 2 | | | |
| | reaction time | 0.132 | | | | | | | | | | | | | 3.07 | 3.02 | 3.17 |
| | interval | 7 steps | 1.07 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 1.04 | 1.04 | 1.05 | 1.51 | | | 8.93 | 9.08 | 8.65 |
| | velocity | 5.72 | 8.54 | 9.14 | 9.14 | 9.14 | 9.33 | 8.79 | 8.79 | 8.70 | 8.46 | 9.28 | 8.35 | | | | |
| Martinez, Asier (ESP) (2000) | time | 2.50 | 3.57 | 4.60 | 5.63 | 6.68 | 7.68 | 8.73 | 9.77 | 10.80 | 11.87 | | 13.32 | 6 / 3 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | 3.13 | 3.10 | 3.14 |
| | interval | 7 steps | 1.07 | 1.03 | 1.03 | 1.05 | 1.00 | 1.05 | 1.04 | 1.03 | 1.07 | 1.45 | | | 8.76 | 8.85 | 8.73 |
| | velocity | 5.49 | 8.54 | 8.87 | 8.87 | 8.70 | 9.14 | 8.70 | 8.79 | 8.87 | 8.54 | 9.67 | 8.26 | | | | |
| Czykier, Damian (POL) (1992) | time | 2.49 | 3.52 | 4.53 | 5.53 | 6.55 | 7.57 | 8.59 | 9.65 | 10.72 | 11.77 | | 13.32 | 1 / 4 | | | |
| | reaction time | 0.158 | | | | | | | | | | | | | 3.04 | 3.06 | 3.18 |
| | interval | 7 steps | 1.03 | 1.01 | 1.00 | 1.02 | 1.02 | 1.02 | 1.06 | 1.07 | 1.05 | 1.55 | | | 9.02 | 8.96 | 8.62 |
| | velocity | 5.51 | 8.87 | 9.05 | 9.14 | 8.96 | 8.96 | 8.96 | 8.62 | 8.54 | 8.70 | 9.05 | 8.26 | | | | |
| Pozzi, Andy (GBR) (1992) | time | 2.47 | 3.50 | 4.53 | 5.53 | 6.55 | 7.57 | 8.61 | 9.69 | 10.77 | 11.87 | | 13.39 | 3 / 5 | | | |
| | reaction time | 0.102 | | | | | | | | | | | | | 3.06 | 3.08 | 3.26 |
| | interval | 7 steps | 1.03 | 1.03 | 1.00 | 1.02 | 1.02 | 1.04 | 1.08 | 1.08 | 1.10 | 1.52 | | | 8.96 | 8.90 | 8.41 |
| | velocity | 5.55 | 8.87 | 8.87 | 9.14 | 8.96 | 8.96 | 8.79 | 8.46 | 8.46 | 8.31 | 9.22 | 8.22 | | | | |
| Manga, Aurel (FRA) (1992) | time | 2.47 | 3.53 | 4.59 | 5.67 | 6.70 | 7.75 | 8.80 | 9.87 | 10.93 | 12.03 | | 13.61 | 7 / 6 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | 3.20 | 3.13 | 3.23 |
| | interval | 7 steps | 1.06 | 1.06 | 1.08 | 1.03 | 1.05 | 1.05 | 1.07 | 1.06 | 1.10 | 1.58 | | | 8.57 | 8.76 | 8.49 |
| | velocity | 5.55 | 8.62 | 8.62 | 8.46 | 8.87 | 8.70 | 8.70 | 8.54 | 8.62 | 8.31 | 8.87 | 8.08 | | | | |
| King, David (GBR) (1994) | time | 2.53 | 3.60 | 4.70 | 5.72 | 6.74 | 7.80 | 8.87 | 9.93 | 11.00 | 12.08 | | 13.64 | 2 / 7 | | | |
| | reaction time | 0.137 | | | | | | | | | | | | | 3.19 | 3.15 | 3.21 |
| | interval | 7 steps | 1.07 | 1.10 | 1.02 | 1.02 | 1.06 | 1.07 | 1.06 | 1.07 | 1.08 | 1.56 | | | 8.60 | 8.70 | 8.54 |
| | velocity | 5.42 | 8.54 | 8.31 | 8.96 | 8.96 | 8.62 | 8.54 | 8.62 | 8.54 | 8.46 | 8.99 | 8.06 | | | | |
| Zaza, Wellington (LBR) (1995) | time | 2.47 | 3.57 | 4.67 | 5.73 | 6.77 | 7.90 | 8.95 | 10.08 | 11.17 | 12.28 | | 13.81 | 8 / 8 | | | |
| | reaction time | 0.141 | | | | | | | | | | | | | 3.26 | 3.22 | 3.33 |
| | interval | 7 steps | 1.10 | 1.10 | 1.06 | 1.04 | 1.13 | 1.05 | 1.13 | 1.09 | 1.11 | 1.53 | | | 8.41 | 8.52 | 8.23 |
| | velocity | 5.55 | 8.31 | 8.31 | 8.62 | 8.79 | 8.09 | 8.70 | 8.09 | 8.39 | 8.23 | 9.16 | 7.97 | | | | |
| Fillery, Cameron (GBR) (1998) | time | 2.57 | 3.67 | 4.73 | 5.79 | 6.88 | 7.93 | 8.98 | 10.08 | 11.17 | 12.28 | | 13.90 | 9 / 9 | | | |
| | reaction time | 0.126 | | | | | | | | | | | | | 3.22 | 3.19 | 3.30 |
| | interval | 7 steps | 1.10 | 1.06 | 1.06 | 1.09 | 1.05 | 1.05 | 1.10 | 1.09 | 1.11 | 1.62 | | | 8.52 | 8.60 | 8.31 |
| | velocity | 5.34 | 8.31 | 8.62 | 8.62 | 8.39 | 8.70 | 8.70 | 8.31 | 8.39 | 8.23 | 8.65 | 7.91 | | | | |



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=MW6WqY1qkBs>

Biomechanical Analysis

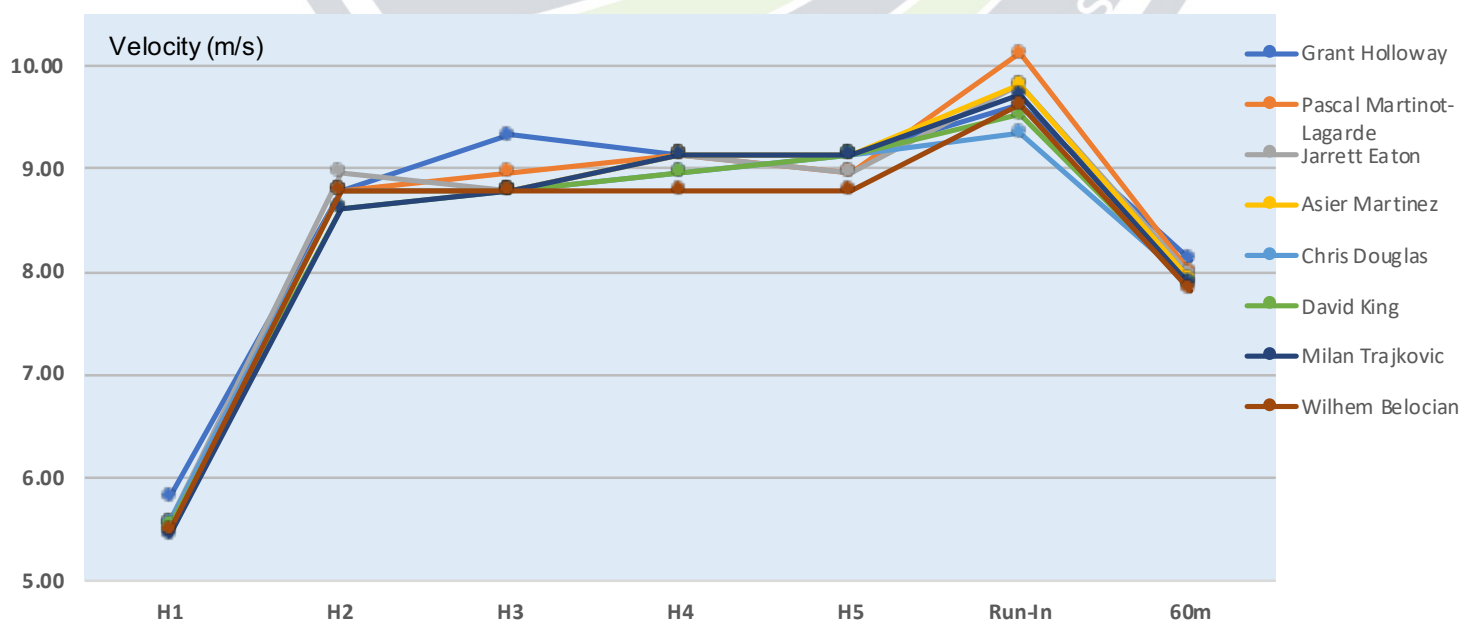
World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)

Men's 60m Hurdles

Date: 2022.03.20

FINAL

| | | H1 | H2 | H3 | H4 | H5 | Run-In | 60m | Lane / Place |
|--|---------------|-------|----------|---------|------|------|--------|------|--------------|
| Holloway, Grant (USA) (1997) | time | 2.36 | 3.40 | 4.38 | 5.38 | 6.38 | | 7.39 | 4 / 1 |
| | reaction time | 0.151 | interval | 7 steps | 1.04 | 0.98 | 1.00 | 1.00 | 1.01 |
| | velocity | 5.81 | 8.79 | 9.33 | 9.14 | 9.14 | 9.62 | 8.12 | |
| Martinot-Lagarde, Pascal (FRA) (1991) | time | 2.46 | 3.50 | 4.52 | 5.52 | 6.54 | | 7.50 | 5 / 2 |
| | reaction time | 0.154 | interval | 7 steps | 1.04 | 1.02 | 1.00 | 1.02 | 0.96 |
| | velocity | 5.58 | 8.79 | 8.96 | 9.14 | 8.96 | 10.13 | 8.00 | |
| Eaton, Jarrett (USA) (1989) | time | 2.46 | 3.48 | 4.52 | 5.52 | 6.54 | | 7.53 | 6 / 3 |
| | reaction time | 0.166 | interval | 7 steps | 1.02 | 1.04 | 1.00 | 1.02 | 0.99 |
| | velocity | 5.58 | 8.96 | 8.79 | 9.14 | 8.96 | 9.82 | 7.97 | |
| Martinez, Asier (ESP) (2000) | time | 2.50 | 3.54 | 4.58 | 5.58 | 6.58 | | 7.57 | 2 / 4 |
| | reaction time | 0.150 | interval | 7 steps | 1.04 | 1.04 | 1.00 | 1.00 | 0.99 |
| | velocity | 5.49 | 8.79 | 8.79 | 9.14 | 9.14 | 9.82 | 7.93 | |
| Douglas, Chris (AUS) (1997) | time | 2.46 | 3.50 | 4.54 | 5.56 | 6.56 | | 7.60 | 8 / 5 |
| | reaction time | 0.159 | interval | 7 steps | 1.04 | 1.04 | 1.02 | 1.00 | 1.04 |
| | velocity | 5.58 | 8.79 | 8.79 | 8.96 | 9.14 | 9.35 | 7.89 | |
| King, David (GBR) (1994) | time | 2.48 | 3.54 | 4.58 | 5.60 | 6.60 | | 7.62 | 1 / 6 |
| | reaction time | 0.142 | interval | 7 steps | 1.06 | 1.04 | 1.02 | 1.00 | 1.02 |
| | velocity | 5.53 | 8.62 | 8.79 | 8.96 | 9.14 | 9.53 | 7.87 | |
| Trajkovic, Milan (CYP) (1992) | time | 2.52 | 3.58 | 4.62 | 5.62 | 6.62 | | 7.62 | 7 / 7 |
| | reaction time | 0.207 | interval | 7 steps | 1.06 | 1.04 | 1.00 | 1.00 | 1.00 |
| | velocity | 5.44 | 8.62 | 8.79 | 9.14 | 9.14 | 9.72 | 7.87 | |
| Belocian, Wilhem (FRA) (1995) | time | 2.50 | 3.54 | 4.58 | 5.62 | 6.66 | | 7.67 | 3 / 8 |
| | reaction time | 0.177 | interval | | 1.04 | 1.04 | 1.04 | 1.04 | 1.01 |
| | velocity | 5.49 | 8.79 | 8.79 | 8.79 | 8.79 | 8.79 | 9.62 | 7.82 |



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 25fps

Timing From: First Movement

Source: https://www.youtube.com/watch?v=X_kiMlqqpeg

Biomechanical Analysis

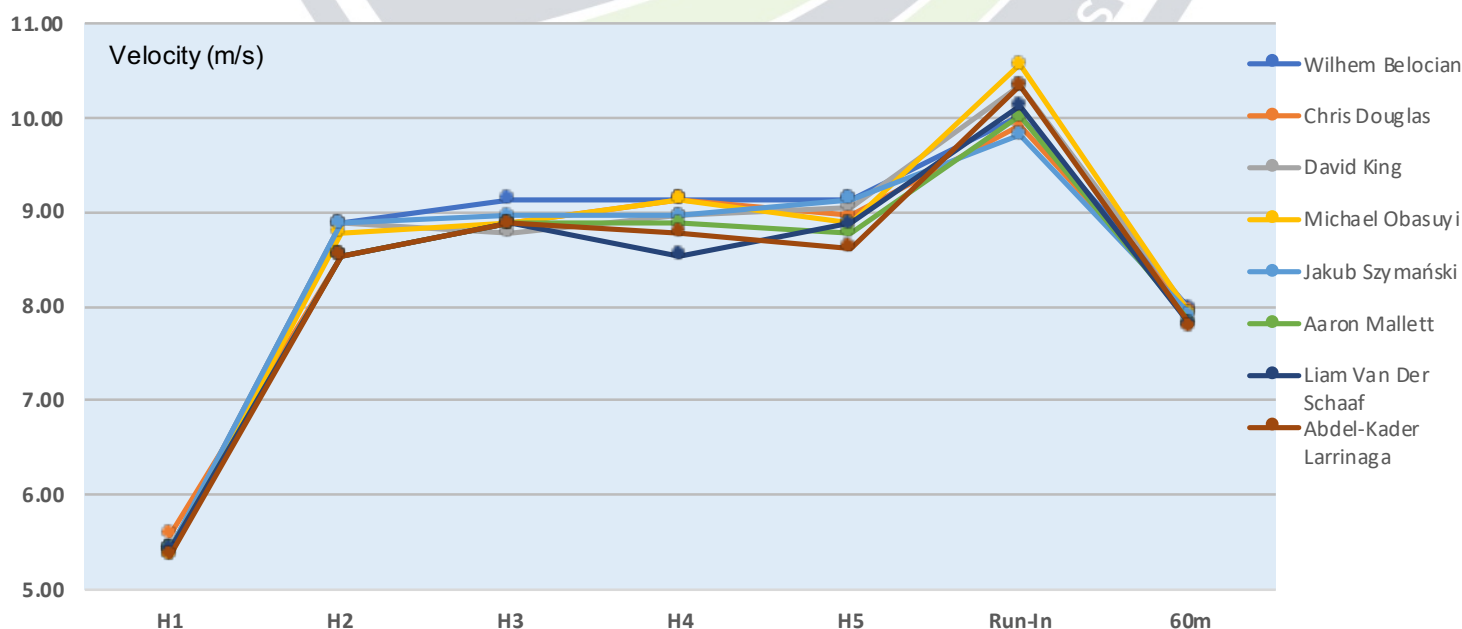
World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)

Men's 60m Hurdles

Date: 2022.03.20

Semi-Final 3

| | | H1 | H2 | H3 | H4 | H5 | Run-In | 60m | Lane / Place |
|--|-------------------|---------|------|------|------|------|--------|-------|--------------|
| Belocian, Wilhem (FRA) (1995) | time | 2.53 | 3.56 | 4.56 | 5.56 | 6.56 | | 7.53 | 4 / 1 |
| | reaction time | 0.129 | | | | | 0.97 | | |
| | interval velocity | 5.42 | 8.87 | 9.14 | 9.14 | 9.14 | 10.02 | 7.97 | |
| Douglas, Chris (AUS) (1997) | time | 2.46 | 3.53 | 4.56 | 5.56 | 6.58 | | 7.56 | 8 / 2 |
| | reaction time | 0.145 | | | | | 0.98 | NR PB | |
| | interval velocity | 7 steps | 5.58 | 8.54 | 8.87 | 9.14 | 8.96 | 9.92 | 7.94 |
| King, David (GBR) (1994) | time | 2.53 | 3.56 | 4.60 | 5.62 | 6.63 | | 7.57 | 3 / 3 |
| | reaction time | 0.121 | | | | | 0.94 | =PB | |
| | interval velocity | 7 steps | 5.42 | 8.87 | 8.79 | 8.96 | 9.05 | 10.34 | 7.93 |
| Obasuyi, Michael (BEL) (1999) | time | 2.56 | 3.60 | 4.63 | 5.63 | 6.66 | | 7.58 | 5 / 4 |
| | reaction time | 0.130 | | | | | 0.92 | PB | |
| | interval velocity | 7 steps | 5.36 | 8.79 | 8.87 | 9.14 | 8.87 | 10.57 | 7.92 |
| Szymański, Jakub (POL) (2002) | time | 2.53 | 3.56 | 4.58 | 5.60 | 6.60 | | 7.59 | 7 / 5 |
| | reaction time | 0.146 | | | | | 0.99 | PB | |
| | interval velocity | 7 steps | 5.42 | 8.87 | 8.96 | 8.96 | 9.14 | 9.82 | 7.91 |
| Mallett, Aaron (USA) (1994) | time | 2.53 | 3.60 | 4.63 | 5.66 | 6.70 | | 7.67 | 6 / 6 |
| | reaction time | 0.152 | | | | | 0.97 | | |
| | interval velocity | 7 steps | 5.42 | 8.54 | 8.87 | 8.87 | 8.79 | 10.02 | 7.82 |
| Van Der Schaaf, Liam (NED) (1998) | time | 2.53 | 3.60 | 4.63 | 5.70 | 6.73 | | 7.69 | 1 / 7 |
| | reaction time | 0.129 | | | | | 0.96 | PB | |
| | interval velocity | 7 steps | 5.42 | 8.54 | 8.87 | 8.54 | 8.87 | 10.13 | 7.80 |
| Larrinaga, Abdel-Kader (POL) (1994) | time | 2.56 | 3.63 | 4.66 | 5.70 | 6.76 | | 7.70 | 2 / 8 |
| | reaction time | 0.137 | | | | | 0.94 | | |
| | interval velocity | 7 steps | 5.36 | 8.54 | 8.87 | 8.79 | 8.62 | 10.34 | 7.79 |



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 25fps

Timing From: First Movement

Source: https://www.youtube.com/watch?v=X_kiMlqqpeg

Biomechanical Analysis

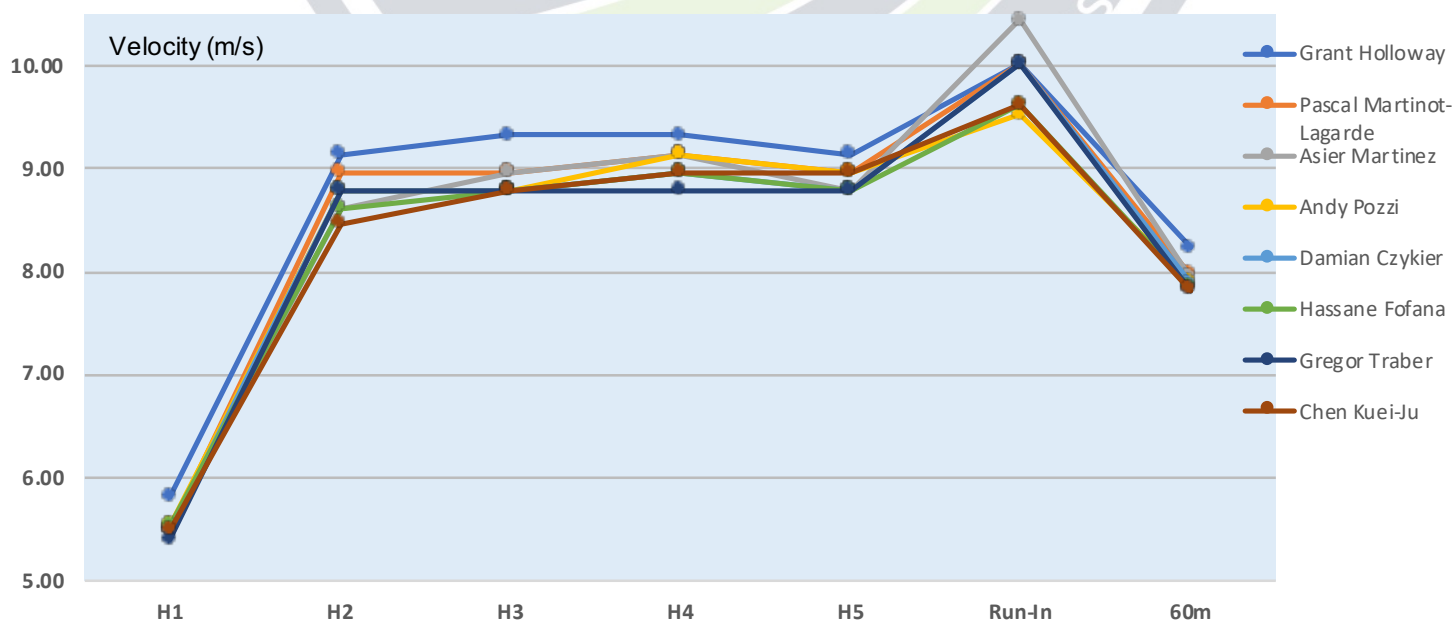
World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)

Men's 60m Hurdles

Date: 2022.03.20

Semi-Final 2

| | | H1 | H2 | H3 | H4 | H5 | Run-In | 60m | Lane / Place | |
|--|---------------|-------|----------|---------|------|------|--------|------|--------------|-------|
| Holloway, Grant (USA) (1997) | time | 2.36 | 3.36 | 4.34 | 5.32 | 6.32 | | 7.29 | 6 / 1 | |
| | reaction time | 0.130 | interval | 7 steps | 1.00 | 0.98 | 0.98 | 1.00 | 0.97 | =WR |
| | velocity | 5.81 | 9.14 | 9.33 | 9.33 | 9.14 | 10.02 | 8.23 | | |
| Martinot-Lagarde, Pascal (FRA) (1992) | time | 2.50 | 3.52 | 4.54 | 5.54 | 6.56 | | 7.53 | 4 / 2 | |
| | reaction time | 0.136 | interval | 7 steps | 1.02 | 1.02 | 1.00 | 1.02 | 0.97 | |
| | velocity | 5.49 | 8.96 | 8.96 | 9.14 | 8.96 | 10.02 | 7.97 | | |
| Martinez, Asier (ESP) (2000) | time | 2.50 | 3.56 | 4.58 | 5.58 | 6.62 | | 7.55 | 2 / 3 | |
| | reaction time | 0.138 | interval | 7 steps | 1.06 | 1.02 | 1.00 | 1.04 | 0.93 | =PB |
| | velocity | 5.49 | 8.62 | 8.96 | 9.14 | 8.79 | 10.45 | 7.95 | | |
| Pozzi, Andy (GBR) (1992) | time | 2.48 | 3.52 | 4.56 | 5.56 | 6.58 | | 7.60 | 3 / 4 | |
| | reaction time | 0.122 | interval | 7 steps | 1.04 | 1.04 | 1.00 | 1.02 | 1.02 | |
| | velocity | 5.53 | 8.79 | 8.79 | 9.14 | 8.96 | 9.53 | 7.89 | | |
| Czykier, Damian (POL) (1992) | time | 2.50 | 3.54 | 4.58 | 5.60 | 6.64 | | 7.61 | 5 / 5 | |
| | reaction time | 0.157 | interval | 7 steps | 1.04 | 1.04 | 1.02 | 1.04 | 0.97 | |
| | velocity | 5.49 | 8.79 | 8.79 | 8.96 | 8.79 | 10.02 | 7.88 | | |
| Fofana, Hassane (ITA) (1992) | time | 2.48 | 3.54 | 4.58 | 5.60 | 6.64 | | 7.65 | 1 / 6 | |
| | reaction time | 0.122 | interval | | 1.06 | 1.04 | 1.02 | 1.04 | 1.01 | PB |
| | velocity | 5.53 | 8.62 | 8.79 | 8.96 | 8.79 | 9.62 | 7.84 | | |
| Traber, Gregor (GER) (1992) | time | 2.54 | 3.58 | 4.62 | 5.66 | 6.70 | | 7.67 | 8 / 7 | |
| | reaction time | 0.140 | interval | 7 steps | 1.04 | 1.04 | 1.04 | 1.04 | 0.97 | |
| | velocity | 5.40 | 8.79 | 8.79 | 8.79 | 8.79 | 10.02 | 7.82 | | |
| Chen Kuei-Ju (TPE) (1993) | time | 2.50 | 3.58 | 4.62 | 5.64 | 6.66 | | 7.67 | 7 / 8 | |
| | reaction time | 0.168 | interval | 7 steps | 1.08 | 1.04 | 1.02 | 1.02 | 1.01 | NR PB |
| | velocity | 5.49 | 8.46 | 8.79 | 8.96 | 8.96 | 9.62 | 7.82 | | |



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 25fps

Timing From: First Movement

Source: https://www.youtube.com/watch?v=X_kiMlqqpeg

Biomechanical Analysis

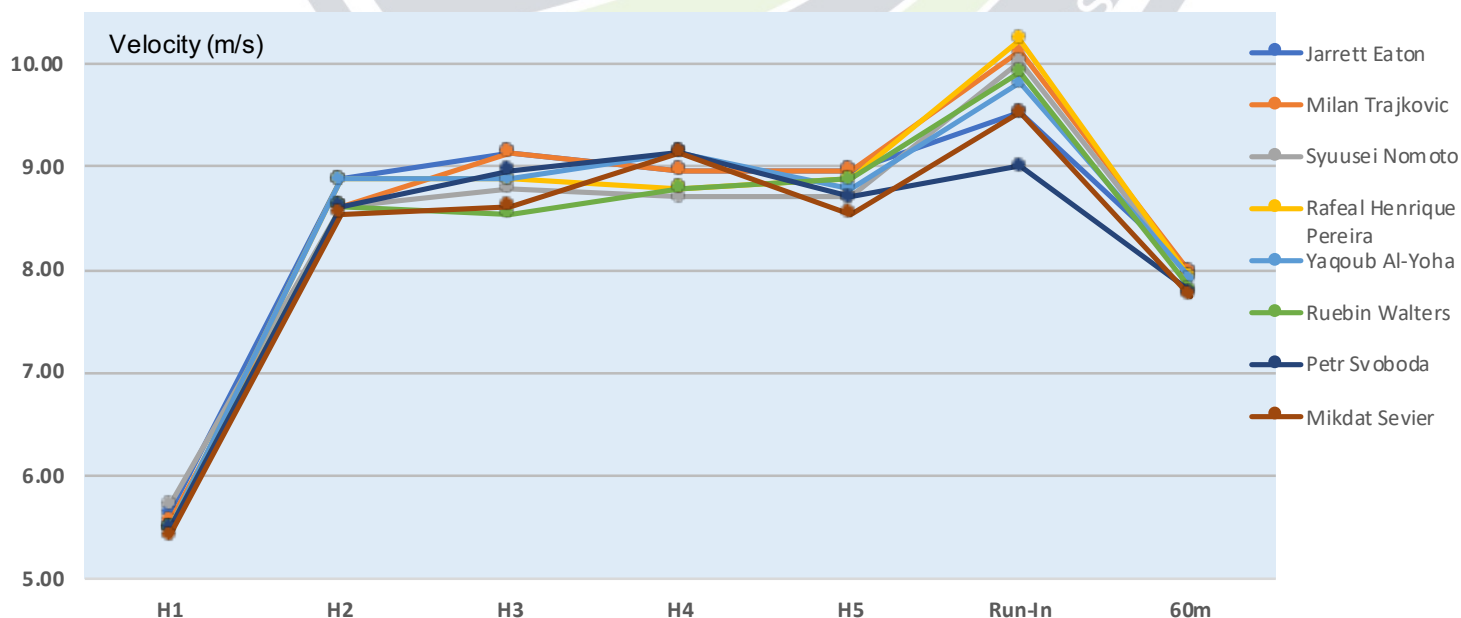
World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)

Men's 60m Hurdles

Date: 2022.03.20

Semi-Final 1

| | | H1 | H2 | H3 | H4 | H5 | Run-In | 60m | Lane / Place |
|--|---------------|-------|----------|---------|------|------|--------|------|--------------|
| Eaton, Jarrett (USA) (1989) | time | 2.43 | 3.46 | 4.46 | 5.48 | 6.50 | | 7.52 | 4 / 1 |
| | reaction time | 0.134 | interval | 7 steps | 1.03 | 1.00 | 1.02 | 1.02 | |
| | velocity | 5.65 | 8.87 | 9.14 | 8.96 | 8.96 | 9.53 | 7.98 | |
| Trajkovic, Milan (CYP) (1992) | time | 2.47 | 3.53 | 4.53 | 5.55 | 6.57 | | 7.53 | 1 / 2 |
| | reaction time | 0.145 | interval | 7 steps | 1.06 | 1.00 | 1.02 | 1.02 | 0.96 |
| | velocity | 5.55 | 8.62 | 9.14 | 8.96 | 8.96 | 10.13 | 7.97 | |
| Nomoto, Syuusei (JPN) (1995) | time | 2.40 | 3.46 | 4.50 | 5.55 | 6.60 | | 7.57 | 8 / 3 |
| | reaction time | 0.127 | interval | 7 steps | 1.06 | 1.04 | 1.05 | 1.05 | 0.97 |
| | velocity | 5.72 | 8.62 | 8.79 | 8.70 | 8.70 | 10.02 | 7.93 | |
| Pereira, Rafeal Henrique (BRA) (1991) | time | 2.50 | 3.53 | 4.56 | 5.60 | 6.63 | | 7.58 | 3 / 4 |
| | reaction time | 0.141 | interval | 1.03 | 1.03 | 1.04 | 1.03 | 0.95 | =NR =PB |
| | velocity | 5.49 | 8.87 | 8.87 | 8.79 | 8.87 | 10.23 | 7.92 | |
| Al-Yoha, Yaqub (KUW) (1993) | time | 2.50 | 3.53 | 4.56 | 5.56 | 6.60 | | 7.59 | 6 / 5 |
| | reaction time | 0.156 | interval | 1.03 | 1.03 | 1.00 | 1.04 | 0.99 | |
| | velocity | 5.49 | 8.87 | 8.87 | 9.14 | 8.79 | 9.82 | 7.91 | |
| Walters, Ruebin (TTO) (1995) | time | 2.50 | 3.56 | 4.63 | 5.67 | 6.70 | | 7.68 | 7 / 6 |
| | reaction time | 0.135 | interval | 1.06 | 1.07 | 1.04 | 1.03 | 0.98 | |
| | velocity | 5.49 | 8.62 | 8.54 | 8.79 | 8.87 | 9.92 | 7.81 | |
| Svoboda, Petr (CZE) (1984) | time | 2.50 | 3.56 | 4.58 | 5.58 | 6.63 | | 7.71 | 5 / 7 |
| | reaction time | 0.136 | interval | 1.06 | 1.02 | 1.00 | 1.05 | 1.08 | |
| | velocity | 5.49 | 8.62 | 8.96 | 9.14 | 8.70 | 9.00 | 7.78 | |
| Sevier, Mikdat (TUR) (1998) | time | 2.53 | 3.60 | 4.66 | 5.66 | 6.73 | | 7.75 | 2 / 8 |
| | reaction time | 0.129 | interval | 1.07 | 1.06 | 1.00 | 1.07 | 1.02 | |
| | velocity | 5.42 | 8.54 | 8.62 | 9.14 | 8.54 | 9.53 | 7.74 | |



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 25fps

Timing From: First Movement

Source: https://www.youtube.com/watch?v=X_kiMlqqpeg

Women's 100m Hurdles

2021 Top 10 Times - Women's 100m Hurdles

| | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 | |
|---|----------|----------|------|------|------|------|------|------|------|-------|--------|------|------------|-------|-------|--------|------|
| Amusan, Tobi (NGR) (1997) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 24-Jul | time | 2.45 | 3.43 | 4.40 | 5.30 | 6.23 | 7.16 | 8.07 | 9.02 | 9.98 | 10.97 | | | | | | |
| reaction time | 0.130 | interval | 0.98 | 0.97 | 0.90 | 0.93 | 0.93 | 0.91 | 0.95 | 0.96 | 0.99 | 1.09 | | | 2.85 | 2.77 | 2.90 |
| wind 2.5 m/s | velocity | 5.31 | 8.67 | 8.76 | 9.44 | 9.14 | 9.14 | 9.34 | 8.95 | 8.85 | 8.59 | 9.22 | 8.29 | | 8.95 | 9.21 | 8.79 |
| | | | | | | | | | | | | | | | | | |
| Amusan, Tobi (NGR) (1997) | | | | | | | | | | | | | | | | | |
| Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 24-Jul | time | 2.46 | 3.45 | 4.43 | 5.33 | 6.24 | 7.15 | 8.10 | 9.06 | 10.03 | 10.96 | | | | | | |
| reaction time | 0.144 | interval | 0.99 | 0.98 | 0.90 | 0.91 | 0.91 | 0.95 | 0.96 | 0.97 | 0.93 | 1.16 | WR | | 2.87 | 2.77 | 2.86 |
| wind 0.9 m/s | velocity | 5.28 | 8.59 | 8.67 | 9.44 | 9.34 | 9.34 | 8.95 | 8.85 | 8.76 | 9.14 | 8.66 | 8.25 | | 8.89 | 9.21 | 8.92 |
| | | | | | | | | | | | | | | | | | |
| Anderson, Britany (JAM) (2001) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 24-Jul | time | 2.43 | 3.42 | 4.40 | 5.30 | 6.25 | 7.20 | 8.15 | 9.10 | 10.08 | 11.08 | | | | | | |
| reaction time | 0.129 | interval | 0.99 | 0.98 | 0.90 | 0.95 | 0.95 | 0.95 | 0.95 | 0.98 | 1.00 | 1.15 | | | 2.87 | 2.85 | 2.93 |
| wind 2.5 m/s | velocity | 5.35 | 8.59 | 8.67 | 9.44 | 8.95 | 8.95 | 8.95 | 8.95 | 8.67 | 8.50 | 8.74 | 8.18 | | 8.89 | 8.95 | 8.70 |
| | | | | | | | | | | | | | | | | | |
| Camacho-Quinn, Jasmine (PUR) (1996) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 24-Jul | time | 2.45 | 3.46 | 4.44 | 5.38 | 6.30 | 7.24 | 8.18 | 9.10 | 10.06 | 11.03 | | | | | | |
| reaction time | 0.127 | interval | 1.01 | 0.98 | 0.94 | 0.92 | 0.94 | 0.94 | 0.92 | 0.96 | 0.97 | 1.20 | | | 2.93 | 2.80 | 2.85 |
| wind 2.5 m/s | velocity | 5.31 | 8.42 | 8.67 | 9.04 | 9.24 | 9.04 | 9.04 | 9.24 | 8.85 | 8.76 | 8.37 | 8.18 | | 8.70 | 9.11 | 8.95 |
| | | | | | | | | | | | | | | | | | |
| Harrison, Kendra (USA) (1992) | | | | | | | | | | | | | | | | | |
| Semi-Final 1 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 24-Jul | time | 2.46 | 3.48 | 4.43 | 5.36 | 6.30 | 7.23 | 8.15 | 9.13 | 10.10 | 11.08 | | | | | | |
| reaction time | 0.155 | interval | 1.02 | 0.95 | 0.93 | 0.94 | 0.93 | 0.92 | 0.98 | 0.97 | 0.98 | 1.19 | | | 2.90 | 2.79 | 2.93 |
| wind 0.9 m/s | velocity | 5.28 | 8.33 | 8.95 | 9.14 | 9.04 | 9.14 | 9.24 | 8.67 | 8.76 | 8.67 | 8.45 | 8.15 | | 8.79 | 9.14 | 8.70 |
| | | | | | | | | | | | | | | | | | |
| Camacho-Quinn, Jasmine (PUR) (1996) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Gyulai István Memorial (Székesfehérvár, HUN) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 8-Aug | time | 2.47 | 3.50 | 4.47 | 5.43 | 6.35 | 7.30 | 8.25 | 9.20 | 10.13 | 11.13 | | | | | | |
| reaction time | 0.114 | interval | 1.03 | 0.97 | 0.96 | 0.92 | 0.95 | 0.95 | 0.95 | 0.93 | 1.00 | 1.14 | | | 2.96 | 2.82 | 2.88 |
| wind 2.4 m/s | velocity | 5.26 | 8.25 | 8.76 | 8.85 | 9.24 | 8.95 | 8.95 | 8.95 | 9.14 | 8.50 | 8.82 | 8.15 | | 8.61 | 9.04 | 8.85 |
| | | | | | | | | | | | | | | | | | |
| Camacho-Quinn, Jasmine (PUR) (1996) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Memorial van Damme (Brussels, BEL) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 2-Sep | time | 2.44 | 3.44 | 4.40 | 5.35 | 6.28 | 7.22 | 8.19 | 9.13 | 10.09 | 11.07 | | | | | | |
| reaction time | 0.166 | interval | 1.00 | 0.96 | 0.95 | 0.93 | 0.94 | 0.97 | 0.94 | 0.96 | 0.98 | 1.20 | | | 2.91 | 2.84 | 2.88 |
| wind 0.1 m/s | velocity | 5.33 | 8.50 | 8.85 | 8.95 | 9.14 | 9.04 | 8.76 | 9.04 | 8.85 | 8.67 | 8.38 | 8.15 | | 8.76 | 8.98 | 8.85 |
| | | | | | | | | | | | | | | | | | |
| Amusan, Tobi (NGR) (1997) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Weltklasse (Zürich, SUI) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 8-Sep | time | 2.47 | 3.47 | 4.43 | 5.37 | 6.31 | 7.24 | 8.19 | 9.14 | 10.12 | 11.10 | | | | | | |
| reaction time | 0.163 | interval | 1.00 | 0.96 | 0.94 | 0.94 | 0.93 | 0.95 | 0.95 | 0.98 | 0.98 | 1.19 | | | 2.90 | 2.82 | 2.91 |
| wind -0.3 m/s | velocity | 5.26 | 8.50 | 8.85 | 9.04 | 9.04 | 9.14 | 8.95 | 8.95 | 8.67 | 8.67 | 8.45 | 8.14 | | 8.79 | 9.04 | 8.76 |
| | | | | | | | | | | | | | | | | | |
| Amusan, Tobi (NGR) (1997) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Commonwealth Games (Birmingham, GBR) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 7-Aug | time | 2.48 | 3.48 | 4.44 | 5.38 | 6.34 | 7.28 | 8.22 | 9.18 | 10.16 | 11.16 | | | | | | |
| reaction time | 0.126 | interval | 1.00 | 0.96 | 0.94 | 0.96 | 0.94 | 0.94 | 0.96 | 0.98 | 1.00 | 1.14 | | | 2.90 | 2.84 | 2.94 |
| wind -0.2 m/s | velocity | 5.24 | 8.50 | 8.85 | 9.04 | 8.85 | 9.04 | 9.04 | 8.85 | 8.67 | 8.50 | 8.82 | 8.13 | | 8.79 | 8.98 | 8.67 |
| | | | | | | | | | | | | | | | | | |
| Anderson, Britany (JAM) (2001) | | | | | | | | | | | | | | | | | |
| Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 24-Jul | time | 2.50 | 3.50 | 4.46 | 5.42 | 6.34 | 7.30 | 8.26 | 9.23 | 10.20 | 11.20 | | | | | | |
| reaction time | 0.143 | interval | 1.00 | 0.96 | 0.96 | 0.92 | 0.96 | 0.96 | 0.97 | 0.97 | 1.00 | 1.11 | NR | | 2.92 | 2.84 | 2.94 |
| wind 0.3 m/s | velocity | 5.20 | 8.50 | 8.85 | 8.85 | 9.24 | 8.85 | 8.85 | 8.76 | 8.76 | 8.50 | 9.05 | 8.12 | | 8.73 | 8.98 | 8.67 |
| | | | | | | | | | | | | | | | | | |
| Armstrong, Alia (USA) (2000) | | | | | | | | | | | | | | | | | |
| FINAL - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 24-Jul | time | 2.38 | 3.40 | 4.36 | 5.30 | 6.25 | 7.20 | 8.16 | 9.10 | 10.13 | 11.18 | | | | | | |
| reaction time | 0.125 | interval | 1.02 | 0.96 | 0.94 | 0.95 | 0.95 | 0.96 | 0.94 | 1.03 | 1.05 | 1.13 | | | 2.92 | 2.86 | 3.02 |
| wind 2.5 m/s | velocity | 5.46 | 8.33 | 8.85 | 9.04 | 8.95 | 8.95 | 8.85 | 9.04 | 8.25 | 8.10 | 8.89 | 8.12 | | 8.73 | 8.92 | 8.44 |
| | | | | | | | | | | | | | | | | | |
| Harrison, Kendra (USA) (1992) | | | | | | | | | | | | | | | | | |
| Invitational FINAL - 2022 Texas Relays (Austin, TX) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 26-Mar | time | 2.54 | 3.52 | 4.45 | 5.40 | 6.34 | 7.27 | 8.24 | 9.21 | 10.18 | 11.18 | | | | | | |
| reaction time | interval | 0.98 | 0.93 | 0.95 | 0.94 | 0.93 | 0.97 | 0.97 | 0.97 | 0.97 | 1.00 | 1.14 | | | 2.86 | 2.84 | 2.94 |
| wind 3.9 m/s | velocity | 5.12 | 8.67 | 9.14 | 8.95 | 9.04 | 9.14 | 8.76 | 8.76 | 8.76 | 8.50 | 8.82 | 8.12 | | 8.92 | 8.98 | 8.67 |
| | | | | | | | | | | | | | | | | | |
| Camacho-Quinn, Jasmine (PUR) (1996) | | | | | | | | | | | | | | | | | |
| Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 24-Jul | time | 2.53 | 3.53 | 4.53 | 5.46 | 6.43 | 7.38 | 8.32 | 9.26 | 10.23 | 11.21 | | | | | | |
| reaction time | 0.126 | interval | 1.00 | 1.00 | 0.93 | 0.97 | 0.95 | 0.94 | 0.94 | 0.97 | 0.98 | 1.11 | | | 2.93 | 2.86 | 2.89 |
| wind 0.3 m/s | velocity | 5.14 | 8.50 | 8.50 | 9.14 | 8.76 | 8.95 | 9.04 | 9.04 | 8.76 | 8.67 | 9.05 | 8.12 | | 8.70 | 8.92 | 8.82 |
| | | | | | | | | | | | | | | | | | |
| Armstrong, Alia (USA) (2000) | | | | | | | | | | | | | | | | | |
| University FINAL - 2022 Texas Relays (Austin, TX) (TV Analysis) | | | | | | | | | | | | | | | | | |
| date 26-Mar | time | 2.47 | 3.45 | 4.43 | 5.37 | 6.33 | 7.30 | 8.26 | 9.23 | 10.20 | 11.18 | | | | | | |
| reaction time | interval | 0.98 | 0.98 | 0.94 | 0.96 | 0.97 | 0.96 | 0.97 | 0.97 | 0.97 | 0.98 | 1.15 | | | 2.90 | 2.89 | 2.92 |
| wind 2.5 m/s | velocity | 5.26 | 8.67 | 8.67 | 9.04 | 8.85 | 8.76 | 8.85 | 8.76 | 8.76 | 8.67 | 8.74 | 8.11 | | 8.79 | 8.82 | 8.73 |
| | | | | | | | | | | | | | | | | | |

2022 Weltklasse (Zürich, SUI) (TV Analysis)

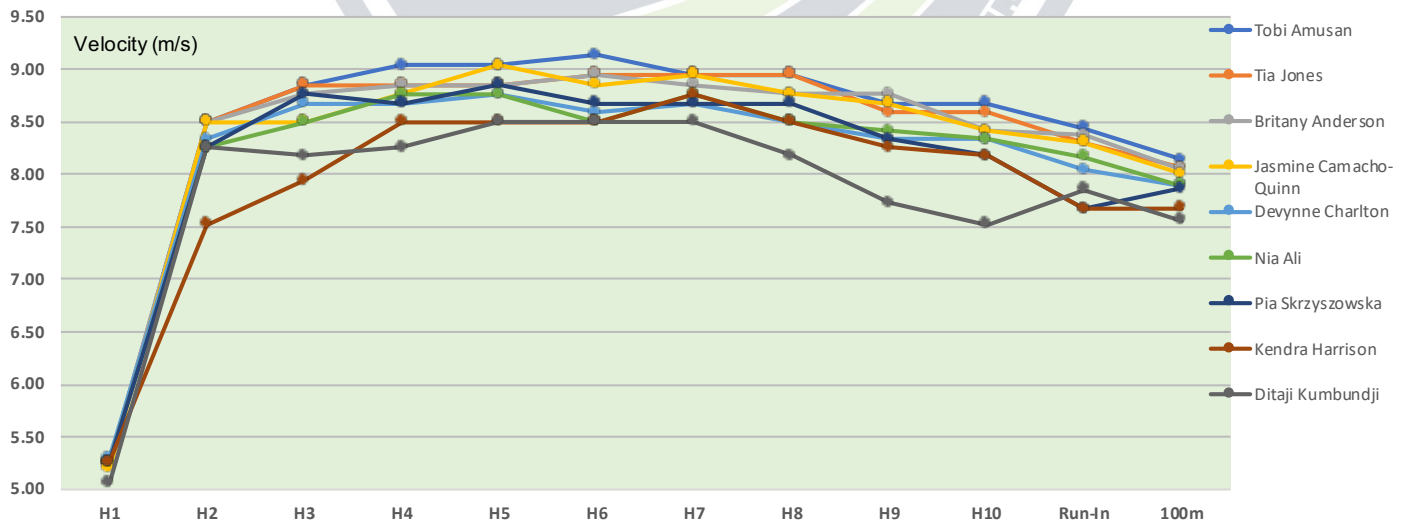
100m Hurdles

Date: 2022.09.08

Wind: -0.3 m/s

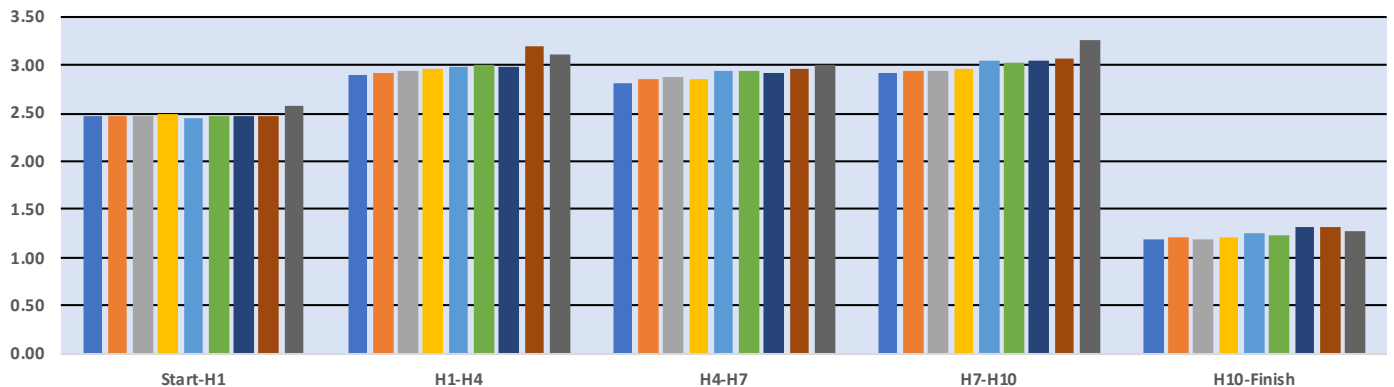
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|-------------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Amusan, Tobi (NGR) (1997) | time | 2.47 | 3.47 | 4.43 | 5.37 | 6.31 | 7.24 | 8.19 | 9.14 | 10.12 | 11.10 | | 12.29 | 4 / 1 | | | |
| | reaction time | 0.163 | | | | | | | | | | | | | 2.90 | 2.82 | 2.91 |
| | interval velocity | | 1.00 | 0.96 | 0.94 | 0.94 | 0.93 | 0.95 | 0.95 | 0.98 | 0.98 | 1.19 | | | 8.79 | 9.04 | 8.76 |
| Jones, Tia (USA) (2000) | time | 2.48 | 3.48 | 4.44 | 5.40 | 6.36 | 7.31 | 8.26 | 9.21 | 10.20 | 11.19 | | 12.40 | 8 / 2 | | | |
| | reaction time | 0.173 | | | | | | | | | | | | | 2.92 | 2.86 | 2.93 |
| | interval velocity | | 1.00 | 0.96 | 0.96 | 0.96 | 0.95 | 0.95 | 0.95 | 0.99 | 0.99 | 1.21 | | | 8.73 | 8.92 | 8.70 |
| Anderson, Britany (JAM) (2001) | time | 2.47 | 3.47 | 4.44 | 5.40 | 6.36 | 7.31 | 8.27 | 9.24 | 10.21 | 11.22 | | 12.42 | 6 / 3 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | 2.93 | 2.87 | 2.95 |
| | interval velocity | | 1.00 | 0.97 | 0.96 | 0.96 | 0.95 | 0.96 | 0.97 | 0.97 | 1.01 | 1.20 | | | 8.70 | 8.89 | 8.64 |
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.50 | 3.50 | 4.50 | 5.47 | 6.41 | 7.37 | 8.32 | 9.29 | 10.27 | 11.28 | | 12.49 | 5 / 4 | | | |
| | reaction time | 0.186 | | | | | | | | | | | | | 2.97 | 2.85 | 2.96 |
| | interval velocity | | 1.00 | 1.00 | 0.97 | 0.94 | 0.96 | 0.95 | 0.97 | 0.98 | 1.01 | 1.21 | | | 8.59 | 8.95 | 8.61 |
| Charlton, Devynne (BAH) (1995) | time | 2.45 | 3.47 | 4.45 | 5.43 | 6.40 | 7.39 | 8.37 | 9.37 | 10.39 | 11.41 | | 12.66 | 2 / 5 | | | |
| | reaction time | 0.147 | | | | | | | | | | | | | 2.98 | 2.94 | 3.04 |
| | interval velocity | | 1.02 | 0.98 | 0.98 | 0.97 | 0.99 | 0.98 | 1.00 | 1.02 | 1.02 | 1.25 | | | 8.56 | 8.67 | 8.39 |
| Ali, Nia (USA) (1988) | time | 2.47 | 3.50 | 4.50 | 5.47 | 6.44 | 7.44 | 8.41 | 9.41 | 10.42 | 11.44 | | 12.67 | 3 / 6 | | | |
| | reaction time | 0.163 | | | | | | | | | | | | | 3.00 | 2.94 | 3.03 |
| | interval velocity | | 1.03 | 1.00 | 0.97 | 0.97 | 1.00 | 0.97 | 1.00 | 1.01 | 1.02 | 1.23 | | | 8.50 | 8.67 | 8.42 |
| Skrzyszowska, Pia (POL) (2001) | time | 2.47 | 3.50 | 4.47 | 5.45 | 6.41 | 7.39 | 8.37 | 9.35 | 10.37 | 11.41 | | 12.72 | 9 / 7 | | | |
| | reaction time | 0.162 | | | | | | | | | | | | | 2.98 | 2.92 | 3.04 |
| | interval velocity | | 1.03 | 0.97 | 0.98 | 0.96 | 0.98 | 0.98 | 0.98 | 1.02 | 1.04 | 1.31 | | | 8.56 | 8.73 | 8.39 |
| Harrison, Kendra (USA) (1992) | time | 2.47 | 3.60 | 4.67 | 5.67 | 6.67 | 7.67 | 8.64 | 9.64 | 10.67 | 11.71 | | 13.02 | 7 / 8 | | | |
| | reaction time | 0.163 | | | | | | | | | | | | | 3.20 | 2.97 | 3.07 |
| | interval velocity | | 1.13 | 1.07 | 1.00 | 1.00 | 1.00 | 0.97 | 1.00 | 1.03 | 1.04 | 1.31 | | | 7.97 | 8.59 | 8.31 |
| Kambundji, Ditaji (SUI) (2002) | time | 2.57 | 3.60 | 4.64 | 5.67 | 6.67 | 7.67 | 8.67 | 9.71 | 10.81 | 11.94 | | 13.22 | 1 / 9 | | | |
| | reaction time | 0.161 | | | | | | | | | | | | | 3.10 | 3.00 | 3.27 |
| | interval velocity | | 1.03 | 1.04 | 1.03 | 1.00 | 1.00 | 1.00 | 1.04 | 1.10 | 1.13 | 1.28 | | | 8.23 | 8.50 | 7.80 |
| | velocity | | 5.06 | 8.25 | 8.17 | 8.25 | 8.50 | 8.50 | 8.50 | 8.17 | 7.73 | 7.52 | 7.85 | 7.56 | | | |



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=EzJKodw5GFU&t=9s>

2022 Memorial van Damme (Brussels, BEL) (TV Analysis)

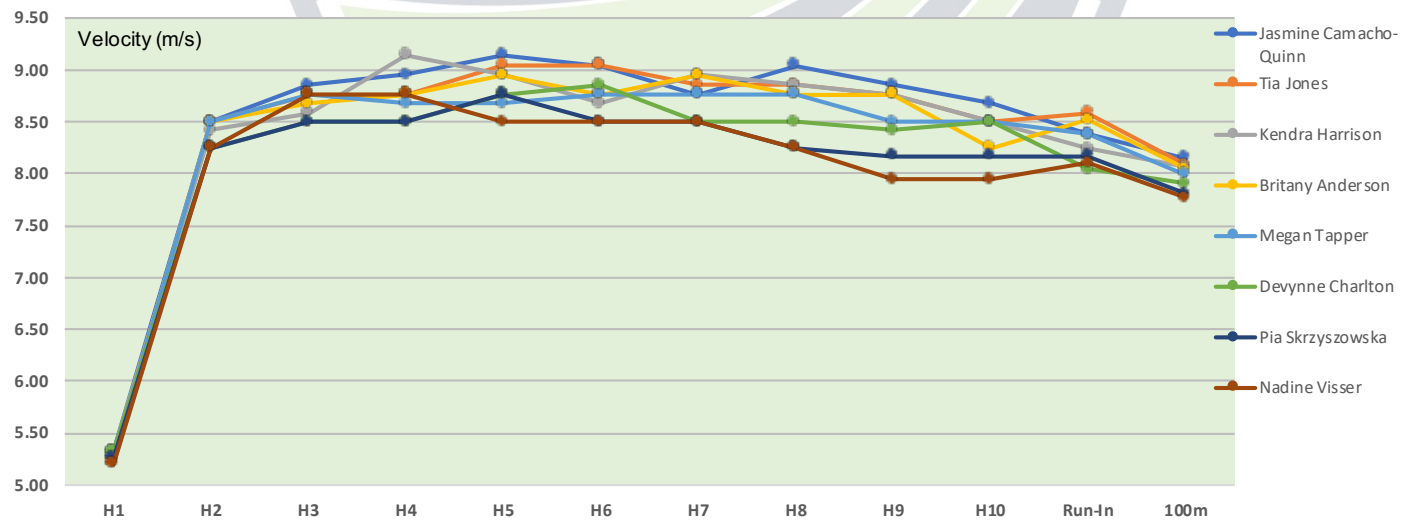
100m Hurdles

Date: 2022.09.02

Wind: 0.1 m/s

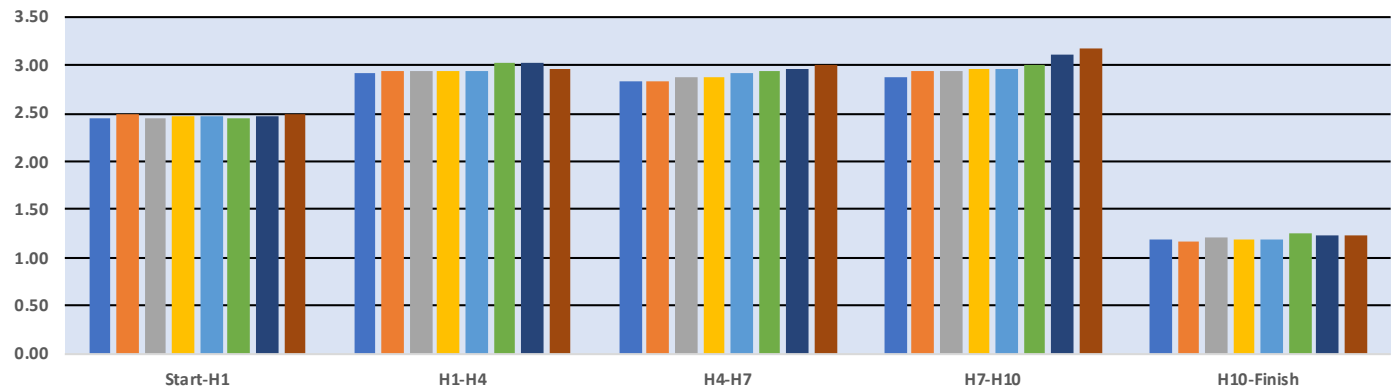
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-----------|------------|-------|-------|--------|
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.44 | 3.44 | 4.40 | 5.35 | 6.28 | 7.22 | 8.19 | 9.13 | 10.09 | 11.07 | | 12.27 | 4 / 1 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | 2.91 | 2.84 | 2.88 |
| | interval | | 1.00 | 0.96 | 0.95 | 0.93 | 0.94 | 0.97 | 0.94 | 0.96 | 0.98 | 1.20 | | | 8.76 | 8.98 | 8.85 |
| | velocity | 5.33 | 8.50 | 8.85 | 8.95 | 9.14 | 9.04 | 8.76 | 9.04 | 8.85 | 8.67 | 8.38 | 8.15 | | | | |
| Jones, Tia (USA) (2000) | time | 2.50 | 3.50 | 4.47 | 5.44 | 6.38 | 7.32 | 8.28 | 9.24 | 10.21 | 11.21 | | 12.38 | 3 / 2 | | | |
| | reaction time | 0.165 | | | | | | | | | | | | | 2.94 | 2.84 | 2.93 |
| | interval | | 1.00 | 0.97 | 0.97 | 0.94 | 0.94 | 0.96 | 0.96 | 0.97 | 1.00 | 1.17 | | | 8.67 | 8.98 | 8.70 |
| | velocity | 5.20 | 8.50 | 8.76 | 8.76 | 9.04 | 9.04 | 8.85 | 8.85 | 8.76 | 8.50 | 8.59 | 8.08 | | | | |
| Harrison, Kendra (USA) (1992) | time | 2.44 | 3.45 | 4.44 | 5.37 | 6.32 | 7.30 | 8.25 | 9.21 | 10.18 | 11.18 | | 12.40 | 5 / 3 | | | |
| | reaction time | 0.163 | | | | | | | | | | | | | 2.93 | 2.88 | 2.93 |
| | interval | | 1.01 | 0.99 | 0.93 | 0.95 | 0.98 | 0.95 | 0.96 | 0.97 | 1.00 | 1.22 | | | 8.70 | 8.85 | 8.70 |
| | velocity | 5.33 | 8.42 | 8.59 | 9.14 | 8.95 | 8.67 | 8.95 | 8.85 | 8.76 | 8.50 | 8.24 | 8.06 | | | | |
| Anderson, Britany (JAM) (2001) | time | 2.47 | 3.47 | 4.45 | 5.42 | 6.37 | 7.34 | 8.29 | 9.26 | 10.23 | 11.26 | | 12.44 | 6 / 4 | | | |
| | reaction time | 0.145 | | | | | | | | | | | | | 2.95 | 2.87 | 2.97 |
| | interval | | 1.00 | 0.98 | 0.97 | 0.95 | 0.97 | 0.95 | 0.97 | 0.97 | 1.03 | 1.18 | | | 8.64 | 8.89 | 8.59 |
| | velocity | 5.26 | 8.50 | 8.67 | 8.76 | 8.95 | 8.76 | 8.95 | 8.76 | 8.76 | 8.25 | 8.52 | 8.04 | | | | |
| Tapper, Megan (JAM) (1994) | time | 2.47 | 3.47 | 4.44 | 5.42 | 6.40 | 7.37 | 8.34 | 9.31 | 10.31 | 11.31 | | 12.51 | 2 / 5 | | | |
| | reaction time | 0.163 | | | | | | | | | | | | | 2.95 | 2.92 | 2.97 |
| | interval | | 1.00 | 0.97 | 0.98 | 0.98 | 0.97 | 0.97 | 0.97 | 1.00 | 1.00 | 1.20 | PB | | 8.64 | 8.73 | 8.59 |
| | velocity | 5.26 | 8.50 | 8.76 | 8.67 | 8.67 | 8.76 | 8.76 | 8.76 | 8.50 | 8.50 | 8.38 | 7.99 | | | | |
| Charlton, Devynne (BAH) (1995) | time | 2.44 | 3.47 | 4.47 | 5.47 | 6.44 | 7.40 | 8.40 | 9.40 | 10.41 | 11.41 | | 12.66 | 1 / 6 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | 3.03 | 2.93 | 3.01 |
| | interval | | 1.03 | 1.00 | 1.00 | 0.97 | 0.96 | 1.00 | 1.00 | 1.01 | 1.00 | 1.25 | | | 8.42 | 8.70 | 8.47 |
| | velocity | 5.33 | 8.25 | 8.50 | 8.50 | 8.76 | 8.85 | 8.50 | 8.50 | 8.42 | 8.50 | 8.04 | 7.90 | | | | |
| Skrzyszowska, Pia (POL) (2001) | time | 2.47 | 3.50 | 4.50 | 5.50 | 6.47 | 7.47 | 8.47 | 9.50 | 10.54 | 11.58 | | 12.81 | 7 / 7 | | | |
| | reaction time | 0.136 | | | | | | | | | | | | | 3.03 | 2.97 | 3.11 |
| | interval | | 1.03 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 1.03 | 1.04 | 1.04 | 1.23 | | | 8.42 | 8.59 | 8.20 |
| | velocity | 5.26 | 8.25 | 8.50 | 8.50 | 8.76 | 8.50 | 8.50 | 8.25 | 8.17 | 8.17 | 8.17 | 7.81 | | | | |
| Visser, Nadine (NED) (1995) | time | 2.50 | 3.53 | 4.50 | 5.47 | 6.47 | 7.47 | 8.47 | 9.50 | 10.57 | 11.64 | | 12.88 | 8 / 8 | | | |
| | reaction time | 0.174 | | | | | | | | | | | | | 2.97 | 3.00 | 3.17 |
| | interval | | 1.03 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 1.03 | 1.07 | 1.07 | 1.24 | | | 8.59 | 8.50 | 8.04 |
| | velocity | 5.20 | 8.25 | 8.76 | 8.76 | 8.50 | 8.50 | 8.50 | 8.25 | 7.94 | 7.94 | 8.10 | 7.76 | | | | |



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=6uolnNITBdI>

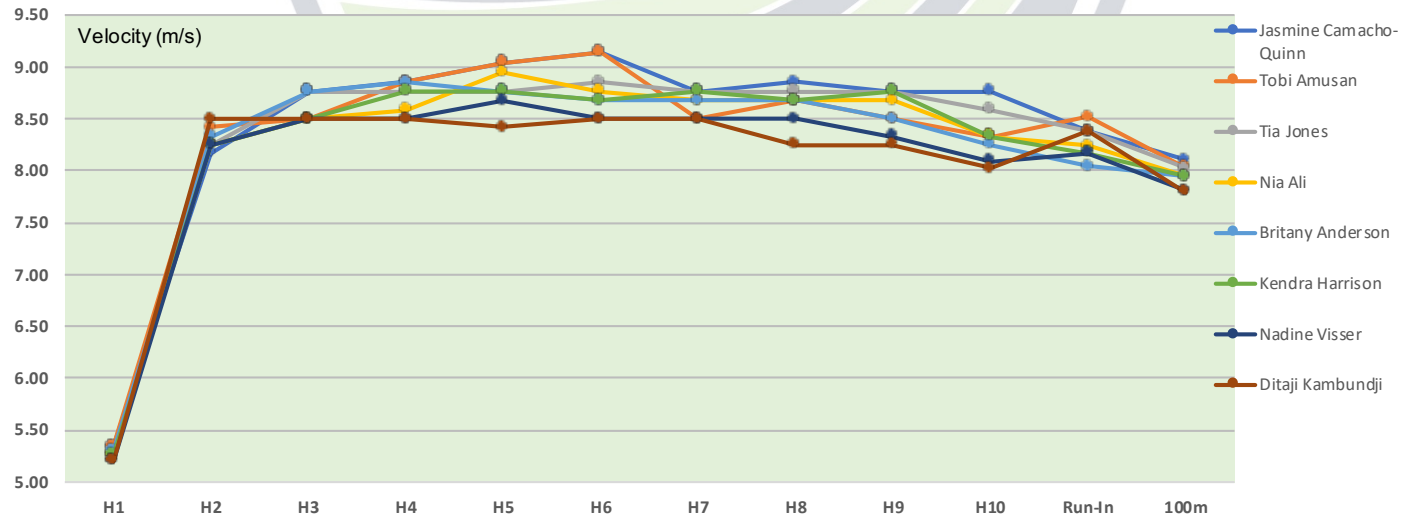
2022 Athletissima (Lausanne, SUI) (TV Analysis)

100m Hurdles

Date: 2022.08.26 Wind: -0.9 m/s

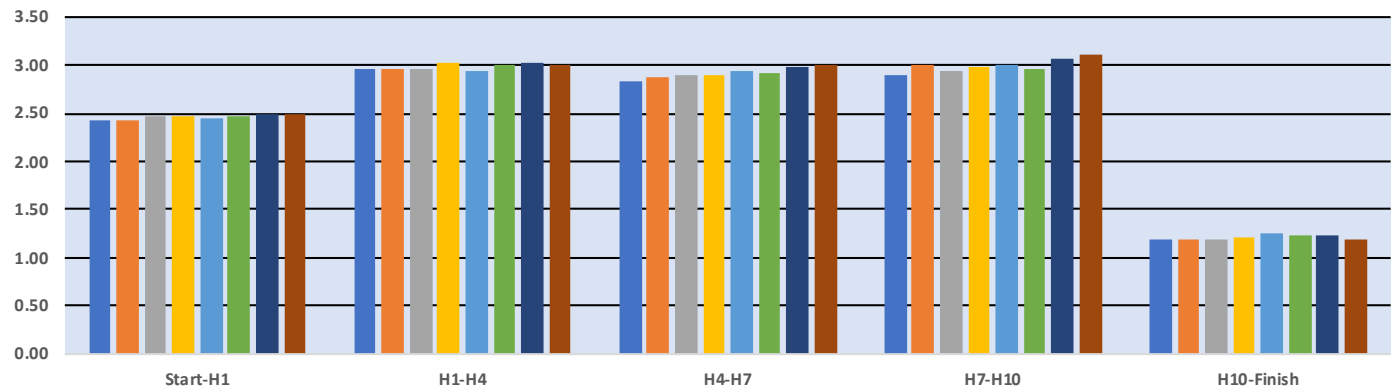
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-----------|------------|-------|-------|--------|
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.43 | 3.47 | 4.44 | 5.40 | 6.34 | 7.27 | 8.24 | 9.20 | 10.17 | 11.14 | | 12.34 | 4 / 1 | | | |
| | reaction time | 0.152 | | | | | | | | | | | | | 2.97 | 2.84 | 2.90 |
| | interval | | 1.04 | 0.97 | 0.96 | 0.94 | 0.93 | 0.97 | 0.96 | 0.97 | 0.97 | 1.20 | | | 8.59 | 8.98 | 8.79 |
| | velocity | 5.35 | 8.17 | 8.76 | 8.85 | 9.04 | 9.14 | 8.76 | 8.85 | 8.76 | 8.76 | 8.38 | 8.10 | | | | |
| Amusan, Tobi (NGR) (1997) | time | 2.43 | 3.44 | 4.44 | 5.40 | 6.34 | 7.27 | 8.27 | 9.25 | 10.25 | 11.27 | | 12.45 | 5 / 2 | | | |
| | reaction time | 0.151 | | | | | | | | | | | | | 2.97 | 2.87 | 3.00 |
| | interval | | 1.01 | 1.00 | 0.96 | 0.94 | 0.93 | 1.00 | 0.98 | 1.00 | 1.02 | 1.18 | | | 8.59 | 8.89 | 8.50 |
| | velocity | 5.35 | 8.42 | 8.50 | 8.85 | 9.04 | 9.14 | 8.50 | 8.67 | 8.50 | 8.33 | 8.52 | 8.03 | | | | |
| Jones, Tia (USA) (2000) | time | 2.47 | 3.50 | 4.47 | 5.44 | 6.41 | 7.37 | 8.34 | 9.31 | 10.28 | 11.27 | | 12.47 | 8 / 3 | | | |
| | reaction time | 0.161 | | | | | | | | | | | | | 2.97 | 2.90 | 2.93 |
| | interval | | 1.03 | 0.97 | 0.97 | 0.97 | 0.96 | 0.97 | 0.97 | 0.97 | 0.99 | 1.20 | PB | | 8.59 | 8.79 | 8.70 |
| | velocity | 5.26 | 8.25 | 8.76 | 8.76 | 8.76 | 8.85 | 8.76 | 8.76 | 8.76 | 8.59 | 8.37 | 8.02 | | | | |
| Ali, Nia (USA) (1988) | time | 2.47 | 3.50 | 4.50 | 5.49 | 6.44 | 7.41 | 8.39 | 9.37 | 10.35 | 11.37 | | 12.59 | 7 / 4 | | | |
| | reaction time | 0.182 | | | | | | | | | | | | | 3.02 | 2.90 | 2.98 |
| | interval | | 1.03 | 1.00 | 0.99 | 0.95 | 0.97 | 0.98 | 0.98 | 0.98 | 1.02 | 1.22 | | | 8.44 | 8.79 | 8.56 |
| | velocity | 5.26 | 8.25 | 8.50 | 8.59 | 8.95 | 8.76 | 8.67 | 8.67 | 8.67 | 8.67 | 8.33 | 7.94 | | | | |
| Anderson, Britany (JAM) (2001) | time | 2.45 | 3.47 | 4.44 | 5.40 | 6.37 | 7.35 | 8.33 | 9.31 | 10.31 | 11.34 | | 12.59 | 3 / 5 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | 2.95 | 2.93 | 3.01 |
| | interval | | 1.02 | 0.97 | 0.96 | 0.97 | 0.98 | 0.98 | 0.98 | 1.00 | 1.03 | 1.25 | | | 8.64 | 8.70 | 8.47 |
| | velocity | 5.31 | 8.33 | 8.76 | 8.85 | 8.76 | 8.67 | 8.67 | 8.67 | 8.50 | 8.25 | 8.04 | 7.94 | | | | |
| Harrison, Kendra (USA) (1992) | time | 2.47 | 3.50 | 4.50 | 5.47 | 6.44 | 7.42 | 8.39 | 9.37 | 10.34 | 11.36 | | 12.59 | 6 / 6 | | | |
| | reaction time | 0.171 | | | | | | | | | | | | | 3.00 | 2.92 | 2.97 |
| | interval | | 1.03 | 1.00 | 0.97 | 0.97 | 0.98 | 0.97 | 0.98 | 0.97 | 1.02 | 1.23 | | | 8.50 | 8.73 | 8.59 |
| | velocity | 5.26 | 8.25 | 8.50 | 8.76 | 8.76 | 8.67 | 8.76 | 8.67 | 8.76 | 8.33 | 8.17 | 7.94 | | | | |
| Visser, Nadine (NED) (1995) | time | 2.50 | 3.53 | 4.53 | 5.53 | 6.51 | 7.51 | 8.51 | 9.51 | 10.53 | 11.58 | | 12.81 | 1 / 7 | | | |
| | reaction time | 0.171 | | | | | | | | | | | | | 3.03 | 2.98 | 3.07 |
| | interval | | 1.03 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 1.00 | 1.02 | 1.05 | 1.23 | | | 8.42 | 8.56 | 8.31 |
| | velocity | 5.20 | 8.25 | 8.50 | 8.50 | 8.67 | 8.50 | 8.50 | 8.50 | 8.33 | 8.10 | 8.17 | 7.81 | | | | |
| Kambundji, Ditaji (SUI) (2002) | time | 2.50 | 3.50 | 4.50 | 5.50 | 6.51 | 7.51 | 8.51 | 9.54 | 10.57 | 11.63 | | 12.83 | 2 / 8 | | | |
| | reaction time | 0.129 | | | | | | | | | | | | | 3.00 | 3.01 | 3.12 |
| | interval | | 1.00 | 1.00 | 1.00 | 1.01 | 1.00 | 1.00 | 1.03 | 1.03 | 1.06 | 1.20 | | | 8.50 | 8.47 | 8.17 |
| | velocity | 5.20 | 8.50 | 8.50 | 8.50 | 8.42 | 8.50 | 8.50 | 8.25 | 8.25 | 8.02 | 8.38 | 7.79 | | | | |



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=frnmR4Ecb0g&t=2s>

2022 European Athletics Championships (Munich, GER) (TV Analysis)

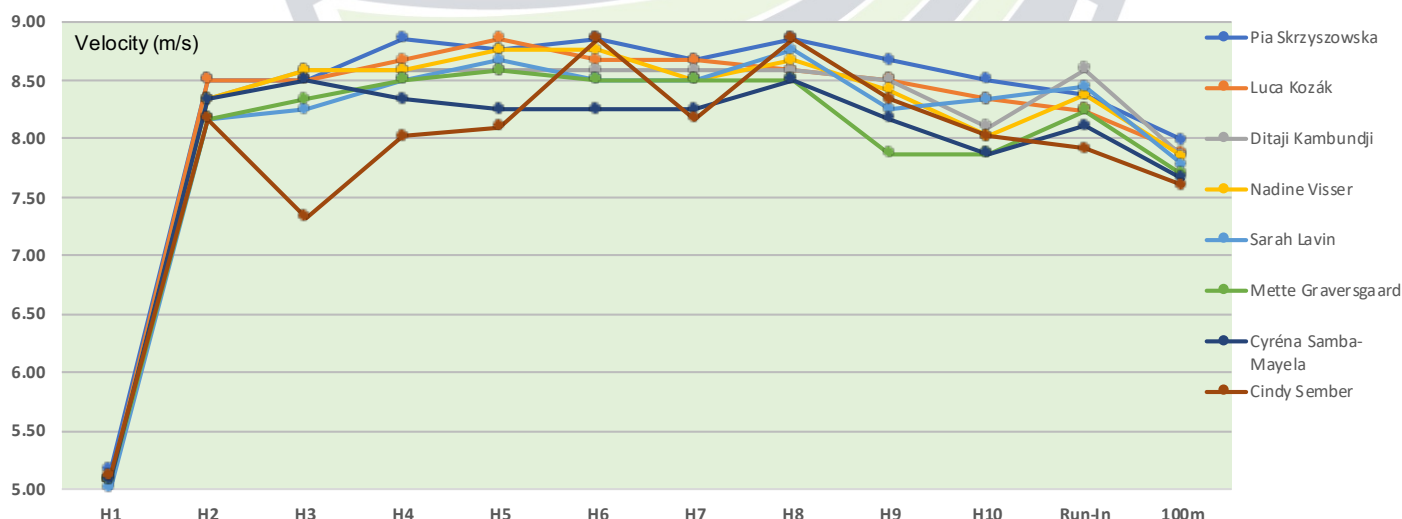
100m Hurdles

Date: 2022.08.21

Wind: -0.1 m/s

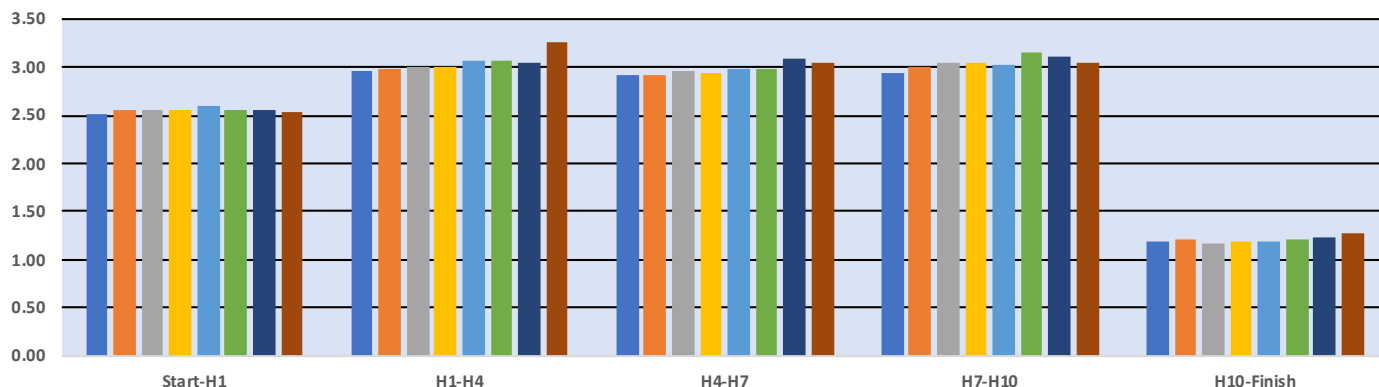
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|-----------------------------------|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|---------|------------|-------|-------|--------|
| Skrzysowska, Pia (POL) (2001) | time | 2.52 | 3.52 | 4.52 | 5.48 | 6.45 | 7.41 | 8.39 | 9.35 | 10.33 | 11.33 | | 12.53 | 6 / 1 | | | |
| | reaction time | 0.134 | | | | | | | | | | | | | 2.96 | 2.91 | 2.94 |
| | interval | | 1.00 | 1.00 | 0.96 | 0.97 | 0.96 | 0.98 | 0.98 | 0.96 | 0.98 | 1.00 | 1.20 | | 8.61 | 8.76 | 8.67 |
| Kozák, Luca (HUN) (1996) | time | 2.56 | 3.56 | 4.56 | 5.54 | 6.50 | 7.48 | 8.46 | 9.45 | 10.45 | 11.47 | | 12.69 | 5 / 2 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | 2.98 | 2.92 | 3.01 |
| | interval | | 1.00 | 1.00 | 0.98 | 0.96 | 0.98 | 0.98 | 0.99 | 1.00 | 1.02 | 1.22 | =NR =PB | | 8.56 | 8.73 | 8.47 |
| Kambundji, Ditaji (SUI) (2002) | time | 2.56 | 3.58 | 4.57 | 5.56 | 6.55 | 7.54 | 8.53 | 9.52 | 10.52 | 11.57 | | 12.74 | 8 / 3 | | | |
| | reaction time | 0.169 | | | | | | | | | | | | | 3.00 | 2.97 | 3.04 |
| | interval | | 1.02 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 1.00 | 1.05 | 1.17 | | | 8.50 | 8.59 | 8.39 |
| Visser, Nadine (NED) (1995) | time | 2.56 | 3.58 | 4.57 | 5.56 | 6.53 | 7.50 | 8.50 | 9.48 | 10.49 | 11.55 | | 12.75 | 4 / 4 | | | |
| | reaction time | 0.156 | | | | | | | | | | | | | 3.00 | 2.94 | 3.05 |
| | interval | | 1.02 | 0.99 | 0.99 | 0.97 | 0.97 | 1.00 | 0.98 | 1.01 | 1.06 | 1.20 | | | 8.50 | 8.67 | 8.36 |
| Lavin, Sarah (IRL) (1994) | time | 2.60 | 3.64 | 4.67 | 5.67 | 6.65 | 7.65 | 8.65 | 9.62 | 10.65 | 11.67 | | 12.86 | 1 / 5 | | | |
| | reaction time | 0.171 | | | | | | | | | | | | | 3.07 | 2.98 | 3.02 |
| | interval | | 1.04 | 1.03 | 1.00 | 0.98 | 1.00 | 1.00 | 0.97 | 1.03 | 1.02 | 1.19 | | | 8.31 | 8.56 | 8.44 |
| Graversgaard, Mette (DEN) (1995) | time | 2.56 | 3.60 | 4.62 | 5.62 | 6.61 | 7.61 | 8.61 | 9.61 | 10.69 | 11.77 | | 12.99 | 2 / 6 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | 3.06 | 2.99 | 3.16 |
| | interval | | 1.04 | 1.02 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.08 | 1.08 | 1.22 | | | 8.33 | 8.53 | 8.07 |
| Samba-Mayela, Cyréna (FRA) (2000) | time | 2.56 | 3.58 | 4.58 | 5.60 | 6.63 | 7.66 | 8.69 | 9.69 | 10.73 | 11.81 | | 13.05 | 7 / 7 | | | |
| | reaction time | 0.152 | | | | | | | | | | | | | 3.04 | 3.09 | 3.12 |
| | interval | | 1.02 | 1.00 | 1.02 | 1.03 | 1.03 | 1.03 | 1.00 | 1.04 | 1.08 | 1.24 | | | 8.39 | 8.25 | 8.17 |
| Sember, Cindy (GBR) (1994) | time | 2.54 | 3.58 | 4.74 | 5.80 | 6.85 | 7.81 | 8.85 | 9.81 | 10.83 | 11.89 | | 13.16 | 3 / 8 | | | |
| | reaction time | 0.175 | | | | | | | | | | | | | 3.26 | 3.05 | 3.04 |
| | interval | | 1.04 | 1.16 | 1.06 | 1.05 | 0.96 | 1.04 | 0.96 | 1.02 | 1.06 | 1.27 | | | 7.82 | 8.36 | 8.39 |
| | velocity | 5.12 | 8.17 | 7.33 | 8.02 | 8.10 | 8.85 | 8.17 | 8.85 | 8.33 | 8.02 | 7.91 | 7.60 | | | | |



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=OJoXwaCk6JU>

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

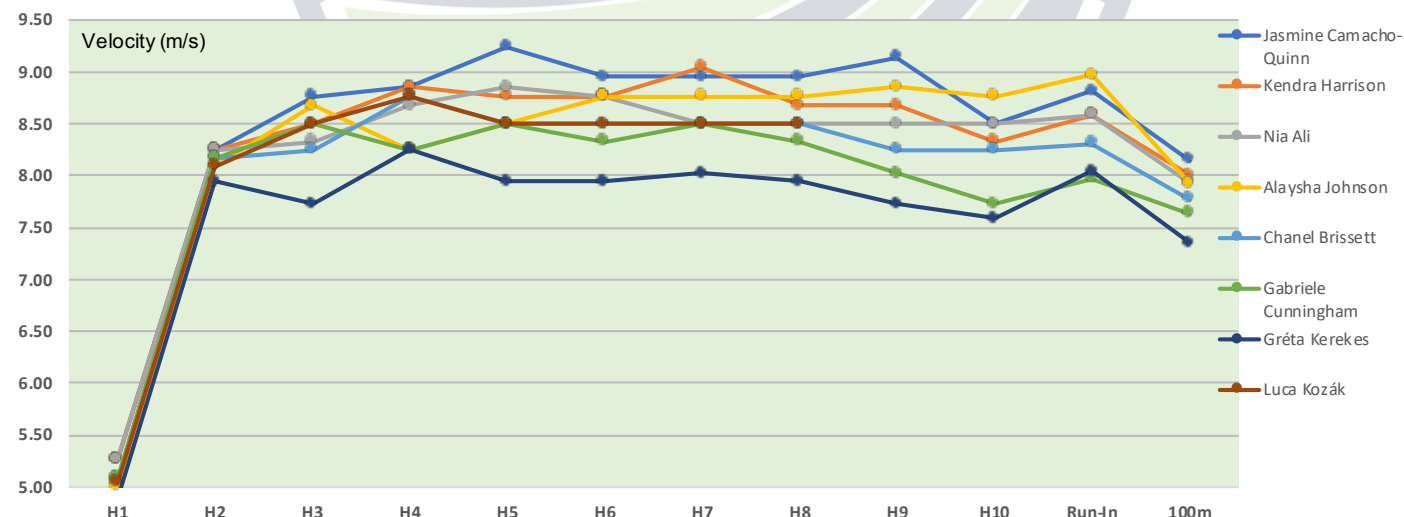
100m Hurdles

Date: 2022.08.08

Wind: 2.4 m/s

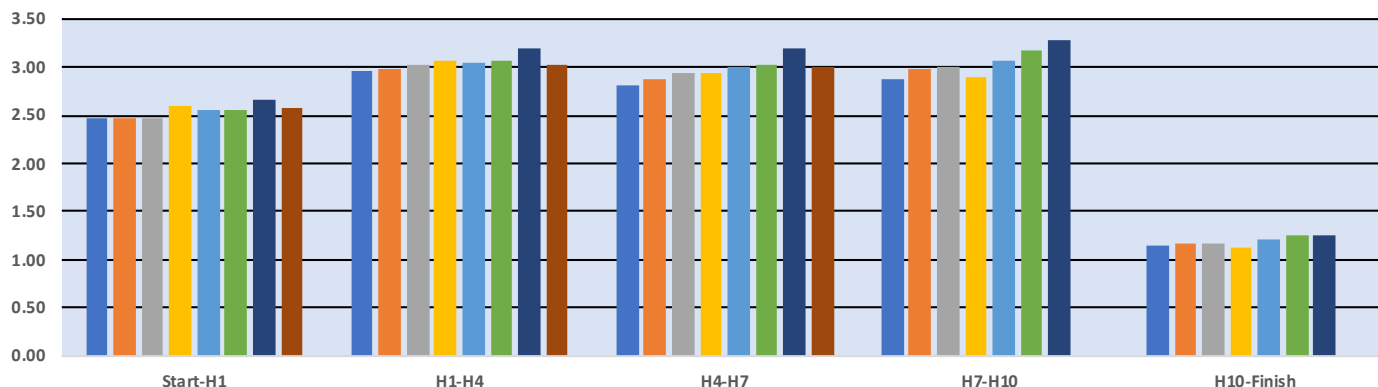
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.47 | 3.50 | 4.47 | 5.43 | 6.35 | 7.30 | 8.25 | 9.20 | 10.13 | 11.13 | | 12.27 | 5 / 1 | | | |
| | reaction time | 0.114 | | | | | | | | | | | | | 2.96 | 2.82 | 2.88 |
| | interval | | 1.03 | 0.97 | 0.96 | 0.92 | 0.95 | 0.95 | 0.95 | 0.93 | 1.00 | 1.14 | | | 8.61 | 9.04 | 8.85 |
| | velocity | 5.26 | 8.25 | 8.76 | 8.85 | 9.24 | 8.95 | 8.95 | 8.95 | 9.14 | 8.50 | 8.82 | 8.15 | | | | |
| Harrison, Kendra (USA) (1992) | time | 2.47 | 3.50 | 4.50 | 5.46 | 6.43 | 7.40 | 8.34 | 9.32 | 10.30 | 11.32 | | 12.49 | 4 / 2 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 2.99 | 2.88 | 2.98 |
| | interval | | 1.03 | 1.00 | 0.96 | 0.97 | 0.97 | 0.94 | 0.98 | 0.98 | 1.02 | 1.17 | | | 8.53 | 8.85 | 8.56 |
| | velocity | 5.26 | 8.25 | 8.50 | 8.85 | 8.76 | 8.76 | 9.04 | 8.67 | 8.67 | 8.33 | 8.59 | 8.01 | | | | |
| Ali, Nia (USA) (1988) | time | 2.47 | 3.50 | 4.52 | 5.50 | 6.46 | 7.43 | 8.43 | 9.43 | 10.43 | 11.43 | | 12.60 | 6 / 3 | | | |
| | reaction time | 0.138 | | | | | | | | | | | | | 3.03 | 2.93 | 3.00 |
| | interval | | 1.03 | 1.02 | 0.98 | 0.96 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.17 | | | 8.42 | 8.70 | 8.50 |
| | velocity | 5.26 | 8.25 | 8.33 | 8.67 | 8.85 | 8.76 | 8.50 | 8.50 | 8.50 | 8.50 | 8.59 | 7.94 | | | | |
| Johnson, Alaysha (USA) (1996) | time | 2.60 | 3.65 | 4.63 | 5.66 | 6.66 | 7.63 | 8.60 | 9.57 | 10.53 | 11.50 | | 12.62 | 7 / 4 | | | |
| | reaction time | 0.173 | | | | | | | | | | | | | 3.06 | 2.94 | 2.90 |
| | interval | | 1.05 | 0.98 | 1.03 | 1.00 | 0.97 | 0.97 | 0.97 | 0.96 | 0.97 | 1.12 | | | 8.33 | 8.67 | 8.79 |
| | velocity | 5.00 | 8.10 | 8.67 | 8.25 | 8.50 | 8.76 | 8.76 | 8.76 | 8.85 | 8.76 | 8.97 | 7.92 | | | | |
| Brissett, Chanel (USA) (1999) | time | 2.56 | 3.60 | 4.63 | 5.60 | 6.60 | 7.60 | 8.60 | 9.60 | 10.63 | 11.66 | | 12.87 | 1 / 5 | | | |
| | reaction time | 0.148 | | | | | | | | | | | | | 3.04 | 3.00 | 3.06 |
| | interval | | 1.04 | 1.03 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.03 | 1.21 | | | 8.39 | 8.50 | 8.33 |
| | velocity | 5.08 | 8.17 | 8.25 | 8.76 | 8.50 | 8.50 | 8.50 | 8.50 | 8.25 | 8.25 | 8.31 | 7.77 | | | | |
| Cunningham, Gabriele (USA) (1998) | time | 2.56 | 3.60 | 4.60 | 5.63 | 6.63 | 7.65 | 8.65 | 9.67 | 10.73 | 11.83 | | 13.09 | 2 / 6 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | 3.07 | 3.02 | 3.18 |
| | interval | | 1.04 | 1.00 | 1.03 | 1.00 | 1.02 | 1.00 | 1.02 | 1.06 | 1.10 | 1.26 | | | 8.31 | 8.44 | 8.02 |
| | velocity | 5.08 | 8.17 | 8.50 | 8.25 | 8.50 | 8.33 | 8.50 | 8.33 | 8.02 | 7.73 | 7.98 | 7.64 | | | | |
| Kerekes, Gréta (HUN) (1992) | time | 2.66 | 3.73 | 4.83 | 5.86 | 6.93 | 8.00 | 9.06 | 10.13 | 11.23 | 12.35 | | 13.60 | 8 / 7 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 3.20 | 3.20 | 3.29 |
| | interval | | 1.07 | 1.10 | 1.03 | 1.07 | 1.07 | 1.06 | 1.07 | 1.10 | 1.12 | 1.25 | | | 7.97 | 7.97 | 7.75 |
| | velocity | 4.89 | 7.94 | 7.73 | 8.25 | 7.94 | 7.94 | 8.02 | 7.94 | 7.73 | 7.59 | 8.04 | 7.35 | | | | |
| Kozák, Luca (HUN) (1996) | time | 2.58 | 3.63 | 4.63 | 5.60 | 6.60 | 7.60 | 8.60 | 9.60 | | | | | 3 / -- | | | |
| | reaction time | 0.165 | | | | | | | | | | | | | 3.02 | 3.00 | |
| | interval | | 1.05 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | | 8.44 | 8.50 | |
| | velocity | 5.04 | 8.10 | 8.50 | 8.76 | 8.50 | 8.50 | 8.50 | 8.50 | | | | | | | | |



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 Commonwealth Games (Birmingham, GBR) (TV Analysis)

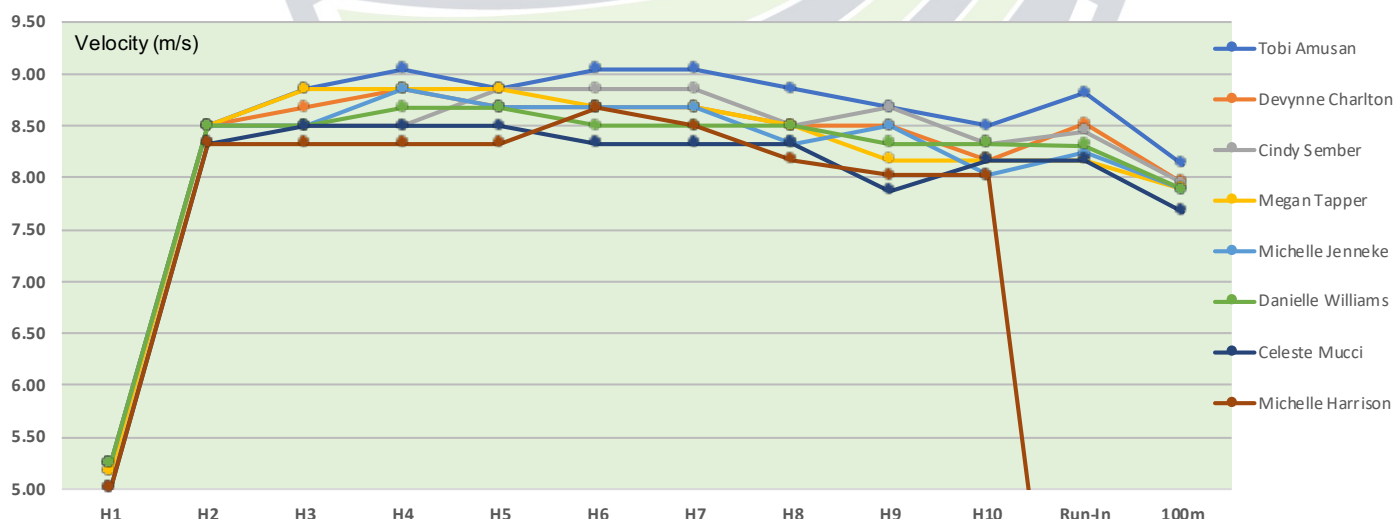
100m Hurdles

Date: 2022.08.07

Wind: -0.2 m/s

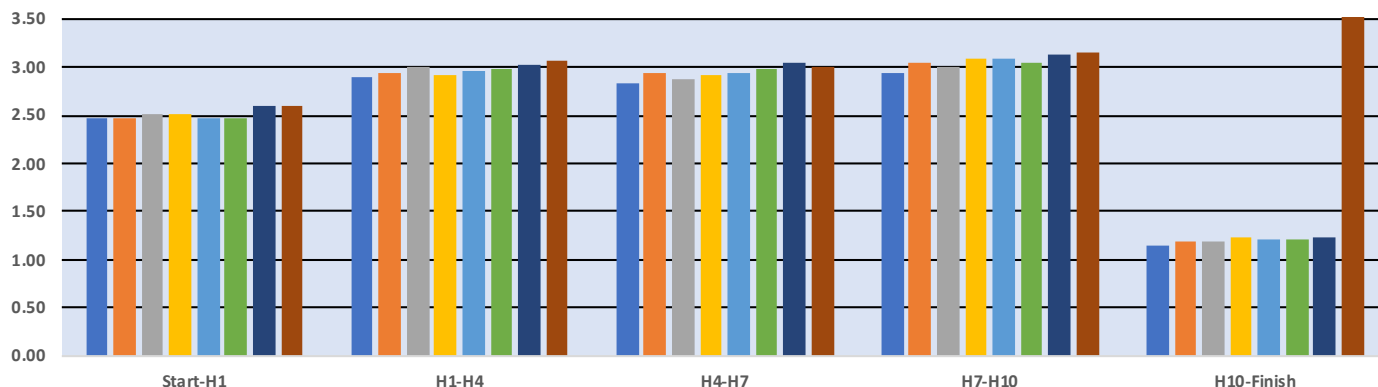
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Amusan, Tobi (NGR) (1997) | time | 2.48 | 3.48 | 4.44 | 5.38 | 6.34 | 7.28 | 8.22 | 9.18 | 10.16 | 11.16 | | 12.30 | 5 / 1 | | | |
| | reaction time | 0.126 | | | | | | | | | | | | | 2.90 | 2.84 | 2.94 |
| | interval | | 1.00 | 0.96 | 0.94 | 0.96 | 0.94 | 0.94 | 0.96 | 0.98 | 1.00 | 1.14 | | | 8.79 | 8.98 | 8.67 |
| | velocity | 5.24 | 8.50 | 8.85 | 9.04 | 8.85 | 9.04 | 9.04 | 8.85 | 8.67 | 8.50 | 8.82 | 8.13 | | | | |
| Charlton, Devynne (BAH) (1995) | time | 2.48 | 3.48 | 4.46 | 5.42 | 6.40 | 7.38 | 8.36 | 9.36 | 10.36 | 11.40 | | 12.58 | 7 / 2 | | | |
| | reaction time | 0.144 | | | | | | | | | | | | | 2.94 | 2.94 | 3.04 |
| | interval | | 1.00 | 0.98 | 0.96 | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.04 | 1.18 | | | 8.67 | 8.67 | 8.39 |
| | velocity | 5.24 | 8.50 | 8.67 | 8.85 | 8.67 | 8.67 | 8.67 | 8.50 | 8.50 | 8.17 | 8.52 | 7.95 | | | | |
| Sember, Cindy (GBR) (1994) | time | 2.52 | 3.52 | 4.52 | 5.52 | 6.48 | 7.44 | 8.40 | 9.40 | 10.38 | 11.40 | | 12.59 | 3 / 3 | | | |
| | reaction time | 0.145 | | | | | | | | | | | | | 3.00 | 2.88 | 3.00 |
| | interval | | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.96 | 1.00 | 0.98 | 1.02 | 1.19 | | | 8.50 | 8.85 | 8.50 |
| | velocity | 5.16 | 8.50 | 8.50 | 8.50 | 8.85 | 8.85 | 8.85 | 8.50 | 8.67 | 8.33 | 8.45 | 7.94 | | | | |
| Tapper, Megan (JAM) (1994) | time | 2.52 | 3.52 | 4.48 | 5.44 | 6.40 | 7.38 | 8.36 | 9.36 | 10.40 | 11.44 | | 12.67 | 4 / 4 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | 2.92 | 2.92 | 3.08 |
| | interval | | 1.00 | 0.96 | 0.96 | 0.96 | 0.98 | 0.98 | 1.00 | 1.04 | 1.04 | 1.23 | | | 8.73 | 8.73 | 8.28 |
| | velocity | 5.16 | 8.50 | 8.85 | 8.85 | 8.85 | 8.67 | 8.67 | 8.50 | 8.17 | 8.17 | 8.17 | 7.89 | | | | |
| Jenneke, Michelle (AUS) (1993) | time | 2.48 | 3.48 | 4.48 | 5.44 | 6.42 | 7.40 | 8.38 | 9.40 | 10.40 | 11.46 | | 12.68 | 6 / 5 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | 2.96 | 2.94 | 3.08 |
| | interval | | 1.00 | 1.00 | 0.96 | 0.98 | 0.98 | 0.98 | 1.02 | 1.00 | 1.06 | 1.22 | | | 8.61 | 8.67 | 8.28 |
| | velocity | 5.24 | 8.50 | 8.50 | 8.85 | 8.67 | 8.67 | 8.67 | 8.33 | 8.50 | 8.02 | 8.24 | 7.89 | | | | |
| Williams, Danielle (JAM) (1992) | time | 2.48 | 3.48 | 4.48 | 5.46 | 6.44 | 7.44 | 8.44 | 9.44 | 10.46 | 11.48 | | 12.69 | 8 / 6 | | | |
| | reaction time | 0.128 | | | | | | | | | | | | | 2.98 | 2.98 | 3.04 |
| | interval | | 1.00 | 1.00 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 1.02 | 1.02 | 1.21 | | | 8.56 | 8.56 | 8.39 |
| | velocity | 5.24 | 8.50 | 8.50 | 8.67 | 8.67 | 8.50 | 8.50 | 8.50 | 8.33 | 8.33 | 8.31 | 7.88 | | | | |
| Mucci, Celeste (AUS) (1999) | time | 2.60 | 3.62 | 4.62 | 5.62 | 6.62 | 7.64 | 8.66 | 9.68 | 10.76 | 11.80 | | 13.03 | 1 / 7 | | | |
| | reaction time | 0.151 | | | | | | | | | | | | | 3.02 | 3.04 | 3.14 |
| | interval | | 1.02 | 1.00 | 1.00 | 1.00 | 1.02 | 1.02 | 1.02 | 1.08 | 1.04 | 1.23 | | | 8.44 | 8.39 | 8.12 |
| | velocity | 5.00 | 8.33 | 8.50 | 8.50 | 8.50 | 8.33 | 8.33 | 8.33 | 7.87 | 8.17 | 8.17 | 7.67 | | | | |
| Harrison, Michelle (CAN) (1992) | time | 2.60 | 3.62 | 4.64 | 5.66 | 6.68 | 7.66 | 8.66 | 9.70 | 10.76 | 11.82 | | 25.13 | 2 / 8 | | | |
| | reaction time | 0.126 | | | | | | | | | | | | | 3.06 | 3.00 | 3.16 |
| | interval | | 1.02 | 1.02 | 1.02 | 1.02 | 0.98 | 1.00 | 1.04 | 1.06 | 1.06 | 13.31 | | | 8.33 | 8.50 | 8.07 |
| | velocity | 5.00 | 8.33 | 8.33 | 8.33 | 8.33 | 8.67 | 8.50 | 8.17 | 8.02 | 8.02 | 0.76 | 3.98 | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1280 x 720 @ 25fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=8d1wCqBKveY&t=7s>

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

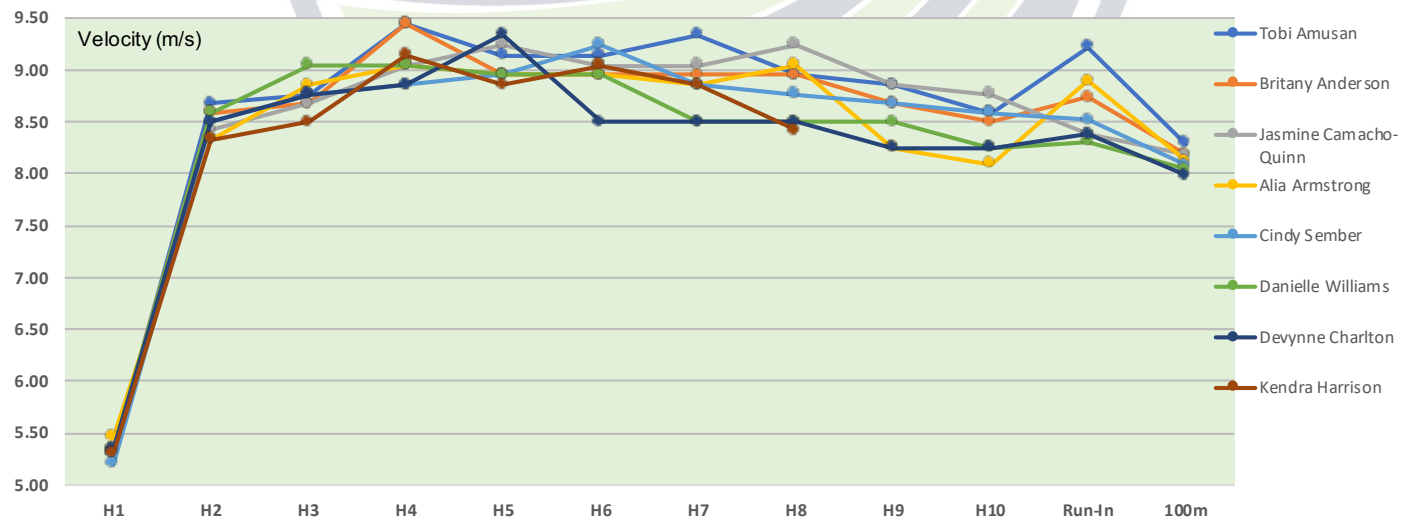
100m Hurdles

Date: 2022.07.24

Wind: 2.5 m/s

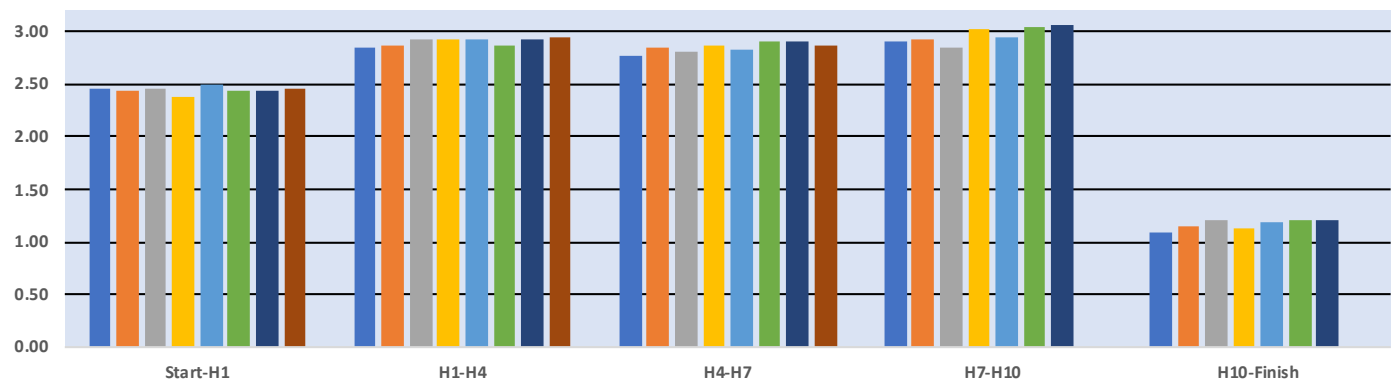
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Amusan, Tobi (NGR) (1997) | time | 2.45 | 3.43 | 4.40 | 5.30 | 6.23 | 7.16 | 8.07 | 9.02 | 9.98 | 10.97 | | 12.06 | 4 / 1 | | | |
| | reaction time | 0.130 | | | | | | | | | | | | | 2.85 | 2.77 | 2.90 |
| | interval | | 0.98 | 0.97 | 0.90 | 0.93 | 0.93 | 0.91 | 0.95 | 0.96 | 0.99 | 1.09 | | | 8.95 | 9.21 | 8.79 |
| | velocity | 5.31 | 8.67 | 8.76 | 9.44 | 9.14 | 9.14 | 9.34 | 8.95 | 8.85 | 8.59 | 9.22 | 8.29 | | | | |
| Anderson, Britany (JAM) (2001) | time | 2.43 | 3.42 | 4.40 | 5.30 | 6.25 | 7.20 | 8.15 | 9.10 | 10.08 | 11.08 | | 12.23 | 5 / 2 | | | |
| | reaction time | 0.129 | | | | | | | | | | | | | 2.87 | 2.85 | 2.93 |
| | interval | | 0.99 | 0.98 | 0.90 | 0.95 | 0.95 | 0.95 | 0.95 | 0.98 | 1.00 | 1.15 | | | 8.89 | 8.95 | 8.70 |
| | velocity | 5.35 | 8.59 | 8.67 | 9.44 | 8.95 | 8.95 | 8.95 | 8.95 | 8.67 | 8.50 | 8.74 | 8.18 | | | | |
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.45 | 3.46 | 4.44 | 5.38 | 6.30 | 7.24 | 8.18 | 9.10 | 10.06 | 11.03 | | 12.23 | 7 / 3 | | | |
| | reaction time | 0.127 | | | | | | | | | | | | | 2.93 | 2.80 | 2.85 |
| | interval | | 1.01 | 0.98 | 0.94 | 0.92 | 0.94 | 0.94 | 0.92 | 0.96 | 0.97 | 1.20 | | | 8.70 | 9.11 | 8.95 |
| | velocity | 5.31 | 8.42 | 8.67 | 9.04 | 9.24 | 9.04 | 9.04 | 9.24 | 8.85 | 8.76 | 8.37 | 8.18 | | | | |
| Armstrong, Alia (USA) (2000) | time | 2.38 | 3.40 | 4.36 | 5.30 | 6.25 | 7.20 | 8.16 | 9.10 | 10.13 | 11.18 | | 12.31 | 6 / 4 | | | |
| | reaction time | 0.125 | | | | | | | | | | | | | 2.92 | 2.86 | 3.02 |
| | interval | | 1.02 | 0.96 | 0.94 | 0.95 | 0.95 | 0.96 | 0.94 | 1.03 | 1.05 | 1.13 | | | 8.73 | 8.92 | 8.44 |
| | velocity | 5.46 | 8.33 | 8.85 | 9.04 | 8.95 | 8.95 | 8.85 | 9.04 | 8.25 | 8.10 | 8.89 | 8.12 | | | | |
| Sember, Cindy (GBR) (1994) | time | 2.50 | 3.50 | 4.47 | 5.43 | 6.38 | 7.30 | 8.26 | 9.23 | 10.21 | 11.20 | | 12.38 | 1 / 5 | | | |
| | reaction time | 0.158 | | | | | | | | | | | | | 2.93 | 2.83 | 2.94 |
| | interval | | 1.00 | 0.97 | 0.96 | 0.95 | 0.92 | 0.96 | 0.97 | 0.98 | 0.99 | 1.18 | | | 8.70 | 9.01 | 8.67 |
| | velocity | 5.20 | 8.50 | 8.76 | 8.85 | 8.95 | 9.24 | 8.85 | 8.76 | 8.67 | 8.59 | 8.52 | 8.08 | | | | |
| Williams, Danielle (JAM) (1992) | time | 2.43 | 3.42 | 4.36 | 5.30 | 6.25 | 7.20 | 8.20 | 9.20 | 10.20 | 11.23 | | 12.44 | 2 / 6 | | | |
| | reaction time | 0.105 | | | | | | | | | | | | | 2.87 | 2.90 | 3.03 |
| | interval | | 0.99 | 0.94 | 0.94 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.03 | 1.21 | | | 8.89 | 8.79 | 8.42 |
| | velocity | 5.35 | 8.59 | 9.04 | 9.04 | 8.95 | 8.95 | 8.50 | 8.50 | 8.50 | 8.25 | 8.31 | 8.04 | | | | |
| Charlton, Devynne (BAH) (1995) | time | 2.43 | 3.43 | 4.40 | 5.36 | 6.27 | 7.27 | 8.27 | 9.27 | 10.30 | 11.33 | | 12.53 | 8 / 7 | | | |
| | reaction time | 0.129 | | | | | | | | | | | | | 2.93 | 2.91 | 3.06 |
| | interval | | 1.00 | 0.97 | 0.96 | 0.91 | 1.00 | 1.00 | 1.00 | 1.03 | 1.03 | 1.20 | | | 8.70 | 8.76 | 8.33 |
| | velocity | 5.35 | 8.50 | 8.76 | 8.85 | 9.34 | 8.50 | 8.50 | 8.50 | 8.25 | 8.25 | 8.38 | 7.98 | | | | |
| Harrison, Kendra (USA) (1992) | time | 2.45 | 3.47 | 4.47 | 5.40 | 6.36 | 7.30 | 8.26 | 9.27 | | | | | 3 / -- | | | |
| | reaction time | 0.145 | | | | | | | | | | | | | 2.95 | 2.86 | |
| | interval | | 1.02 | 1.00 | 0.93 | 0.96 | 0.94 | 0.96 | 1.01 | | | | | | 8.64 | 8.92 | |
| | velocity | 5.31 | 8.33 | 8.50 | 9.14 | 8.85 | 9.04 | 8.85 | 8.42 | | | | | | | | |



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=ZNooifS5IFdc&t=22s>

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

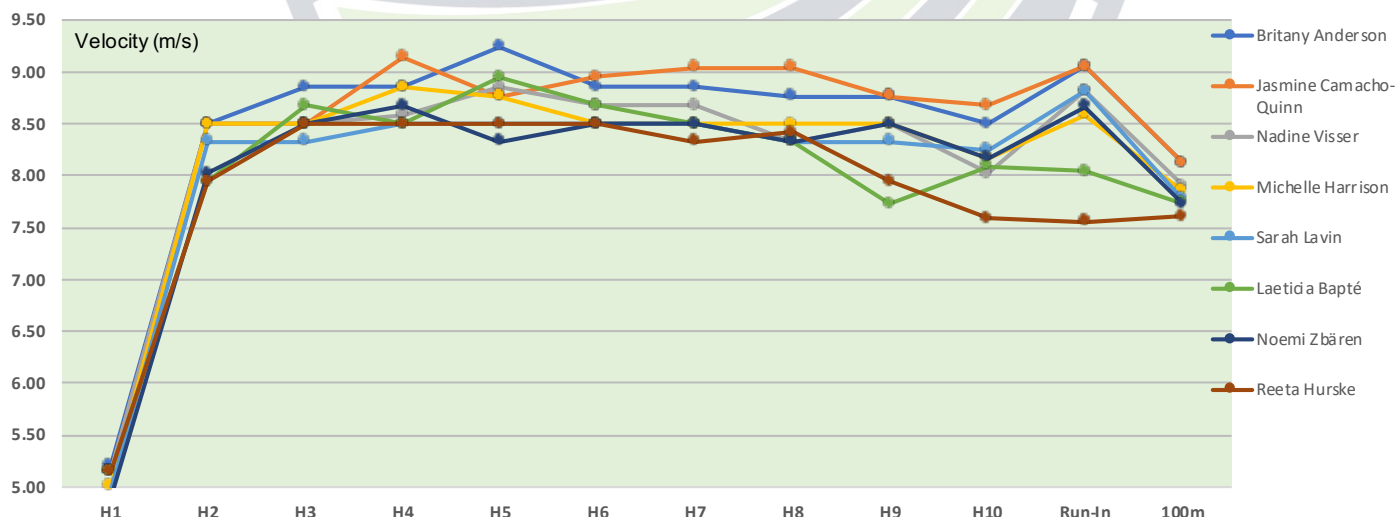
100m Hurdles

Date: 2022.07.24

Wind: 0.3 m/s

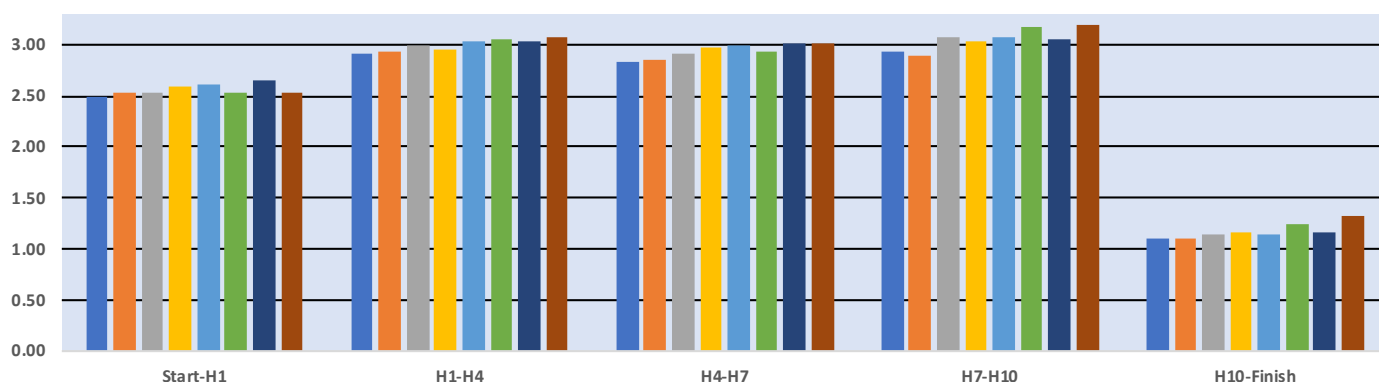
Semi-Final 3

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|------------------------------------|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Anderson, Britany (JAM) (2001) | time | 2.50 | 3.50 | 4.46 | 5.42 | 6.34 | 7.30 | 8.26 | 9.23 | 10.20 | 11.20 | 12.31 | 12.31 | 3 / 1 | | | |
| | reaction time | 0.143 | | | | | | | | | | | NR PB | | 2.92 | 2.84 | 2.94 |
| | interval | | 1.00 | 0.96 | 0.96 | 0.92 | 0.96 | 0.96 | 0.97 | 0.97 | 1.00 | 1.11 | 8.12 | | 8.73 | 8.98 | 8.67 |
| | velocity | 5.20 | 8.50 | 8.85 | 8.85 | 9.24 | 8.85 | 8.85 | 8.76 | 8.76 | 8.50 | 9.05 | 8.12 | | | | |
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.53 | 3.53 | 4.53 | 5.46 | 6.43 | 7.38 | 8.32 | 9.26 | 10.23 | 11.21 | 12.32 | 12.32 | 5 / 2 | | | |
| | reaction time | 0.126 | | | | | | | | | | | | | 2.93 | 2.86 | 2.89 |
| | interval | | 1.00 | 1.00 | 0.93 | 0.97 | 0.95 | 0.94 | 0.94 | 0.97 | 0.98 | 1.11 | 8.12 | | 8.70 | 8.92 | 8.82 |
| | velocity | 5.14 | 8.50 | 8.50 | 9.14 | 8.76 | 8.95 | 9.04 | 9.04 | 8.76 | 8.67 | 9.05 | 8.12 | | | | |
| Visser, Nadine (NED) (1995) | time | 2.53 | 3.53 | 4.53 | 5.52 | 6.48 | 7.46 | 8.44 | 9.46 | 10.46 | 11.52 | 12.66 | 12.66 | 6 / 3 | | | |
| | reaction time | 0.125 | | | | | | | | | | | | | 2.99 | 2.92 | 3.08 |
| | interval | | 1.00 | 1.00 | 0.99 | 0.96 | 0.98 | 0.98 | 1.02 | 1.00 | 1.06 | 1.14 | 7.90 | | 8.53 | 8.73 | 8.28 |
| | velocity | 5.14 | 8.50 | 8.50 | 8.59 | 8.85 | 8.67 | 8.67 | 8.33 | 8.50 | 8.02 | 8.82 | 7.90 | | | | |
| Harrison, Michelle (CAN) (1992) | time | 2.60 | 3.60 | 4.60 | 5.56 | 6.53 | 7.53 | 8.53 | 9.53 | 10.53 | 11.57 | 12.74 | 12.74 | 4 / 4 | | | |
| | reaction time | 0.106 | | | | | | | | | | | PB | | 2.96 | 2.97 | 3.04 |
| | interval | | 1.00 | 1.00 | 0.96 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.04 | 1.17 | 7.85 | | 8.61 | 8.59 | 8.39 |
| | velocity | 5.00 | 8.50 | 8.50 | 8.85 | 8.85 | 8.50 | 8.50 | 8.50 | 8.50 | 8.17 | 8.59 | 7.85 | | | | |
| Lavin, Sarah (IRL) (1994) | time | 2.62 | 3.64 | 4.66 | 5.66 | 6.66 | 7.66 | 8.66 | 9.68 | 10.70 | 11.73 | 12.87 | 12.87 | 7 / 5 | | | |
| | reaction time | 0.117 | | | | | | | | | | | | | 3.04 | 3.00 | 3.07 |
| | interval | | 1.02 | 1.02 | 1.00 | 1.00 | 1.00 | 1.00 | 1.02 | 1.02 | 1.03 | 1.14 | 7.77 | | 8.39 | 8.50 | 8.31 |
| | velocity | 4.96 | 8.33 | 8.33 | 8.50 | 8.50 | 8.50 | 8.50 | 8.33 | 8.33 | 8.25 | 8.82 | 7.77 | | | | |
| Bapté, Laetia (FRA) (1999) | time | 2.53 | 3.60 | 4.58 | 5.58 | 6.53 | 7.51 | 8.51 | 9.53 | 10.63 | 11.68 | 12.93 | 12.93 | 1 / 6 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | 3.05 | 2.93 | 3.17 |
| | interval | | 1.07 | 0.98 | 1.00 | 0.95 | 0.98 | 1.00 | 1.02 | 1.10 | 1.05 | 1.25 | 7.73 | | 8.36 | 8.70 | 8.04 |
| | velocity | 5.14 | 7.94 | 8.67 | 8.50 | 8.95 | 8.67 | 8.50 | 8.33 | 7.73 | 8.10 | 8.04 | 7.73 | | | | |
| Zbären, Noemi (SUI) (1994) | time | 2.66 | 3.72 | 4.72 | 5.70 | 6.72 | 7.72 | 8.72 | 9.74 | 10.74 | 11.78 | 12.94 | 12.94 | 8 / 7 | | | |
| | reaction time | 0.164 | | | | | | | | | | | | | 3.04 | 3.02 | 3.06 |
| | interval | | 1.06 | 1.00 | 0.98 | 1.02 | 1.00 | 1.00 | 1.02 | 1.02 | 1.04 | 1.16 | 7.73 | | 8.39 | 8.44 | 8.33 |
| | velocity | 4.89 | 8.02 | 8.50 | 8.67 | 8.33 | 8.50 | 8.50 | 8.33 | 8.50 | 8.17 | 8.66 | 7.73 | | | | |
| Hurske, Reetta (FIN) (1995) | time | 2.53 | 3.60 | 4.60 | 5.60 | 6.60 | 7.60 | 8.62 | 9.63 | 10.70 | 11.82 | 13.15 | 13.15 | 2 / 8 | | | |
| | reaction time | 0.113 | | | | | | | | | | | | | 3.07 | 3.02 | 3.20 |
| | interval | | 1.07 | 1.00 | 1.00 | 1.00 | 1.00 | 1.02 | 1.01 | 1.07 | 1.12 | 1.33 | 7.60 | | 8.31 | 8.44 | 7.97 |
| | velocity | 5.14 | 7.94 | 8.50 | 8.50 | 8.50 | 8.50 | 8.33 | 8.42 | 7.94 | 7.59 | 7.56 | 7.60 | | | | |



Time Intervals (s)

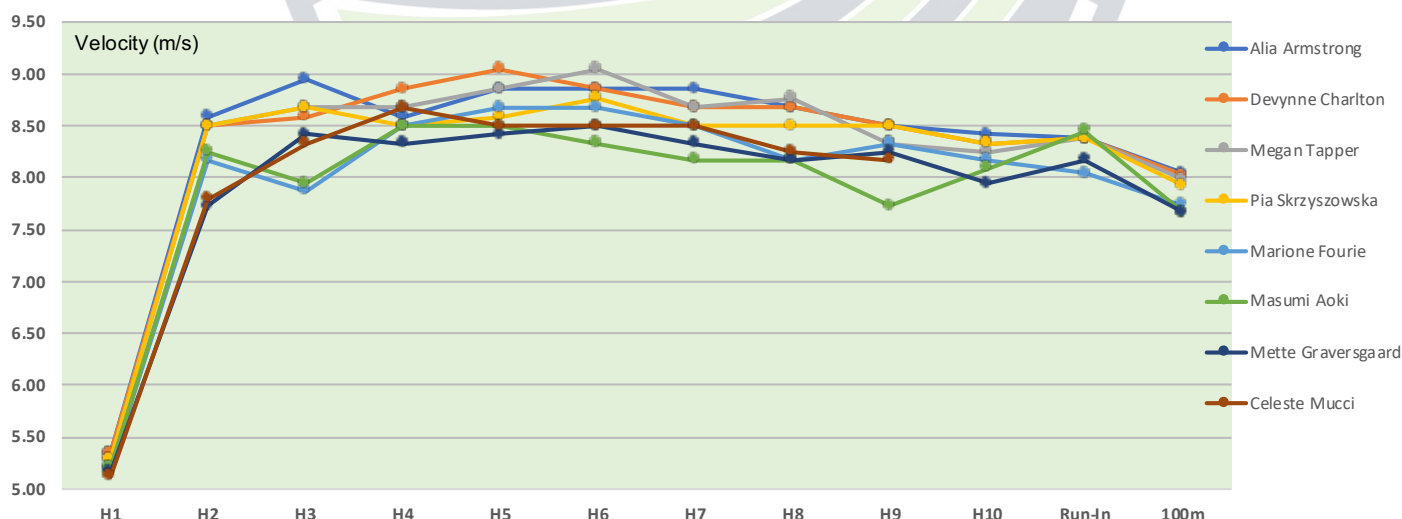
Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: Gun Flash
 Source: <https://www.youtube.com/watch?v=ZNooifS5IFdc&t=22s>

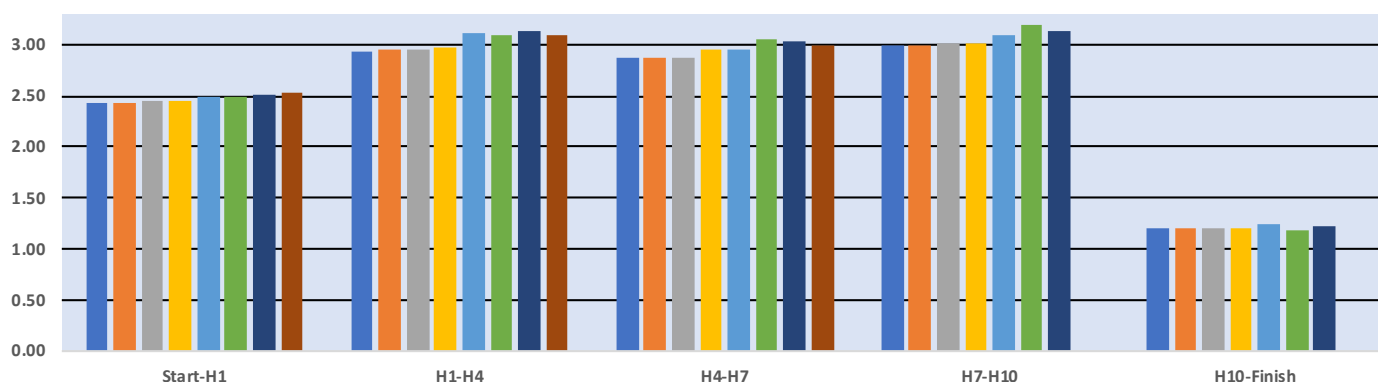
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

| 100m Hurdles | | Date: 2022.07.24 | Wind: -0.1 m/s | | | | | | | | | | Semi-Final 2 | | | | |
|----------------------------------|---------------|------------------|----------------|------|------|------|------|------|------|-------|-------|--------|--------------|------------|-------|-------|--------|
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
| Armstrong, Alia (USA) (2000) | time | 2.43 | 3.42 | 4.37 | 5.36 | 6.32 | 7.28 | 8.24 | 9.22 | 10.22 | 11.23 | 12.43 | 12.43 | 5 / 1 | | | |
| | reaction time | 0.153 | | | | | | | | | | | PB | | 2.93 | 2.88 | 2.99 |
| | interval | | 0.99 | 0.95 | 0.99 | 0.96 | 0.96 | 0.96 | 0.98 | 1.00 | 1.01 | 1.20 | 8.05 | | 8.70 | 8.85 | 8.53 |
| | velocity | 5.35 | 8.59 | 8.95 | 8.59 | 8.85 | 8.85 | 8.85 | 8.67 | 8.50 | 8.42 | 8.38 | 8.05 | | | | |
| Charlton, Devynne (BAH) (1995) | time | 2.43 | 3.43 | 4.42 | 5.38 | 6.32 | 7.28 | 8.24 | 9.22 | 10.24 | 11.26 | 12.46 | 12.46 | 3 / 2 | | | |
| | reaction time | 0.138 | | | | | | | | | | | NR PB | | 2.95 | 2.88 | 3.00 |
| | interval | | 1.00 | 0.99 | 0.96 | 0.94 | 0.96 | 0.98 | 0.98 | 1.00 | 1.02 | 1.20 | 8.03 | | 8.64 | 8.85 | 8.50 |
| | velocity | 5.35 | 8.50 | 8.59 | 8.85 | 9.04 | 8.85 | 8.67 | 8.67 | 8.50 | 8.33 | 8.37 | 8.03 | | | | |
| Tapper, Megan (JAM) (1994) | time | 2.46 | 3.46 | 4.44 | 5.42 | 6.38 | 7.32 | 8.30 | 9.27 | 10.29 | 11.32 | 12.52 | 12.52 | 4 / 3 | | | |
| | reaction time | 0.173 | | | | | | | | | | | PB | | 2.96 | 2.88 | 3.02 |
| | interval | | 1.00 | 0.98 | 0.98 | 0.96 | 0.94 | 0.98 | 0.97 | 1.02 | 1.03 | 1.20 | 7.99 | | 8.61 | 8.85 | 8.44 |
| | velocity | 5.28 | 8.50 | 8.67 | 8.67 | 8.85 | 9.04 | 8.67 | 8.76 | 8.33 | 8.25 | 8.38 | 7.99 | | | | |
| Skrzysowska, Pia (POL) (2001) | time | 2.46 | 3.46 | 4.44 | 5.44 | 6.43 | 7.40 | 8.40 | 9.40 | 10.40 | 11.42 | 12.62 | 12.62 | 6 / 4 | | | |
| | reaction time | 0.119 | | | | | | | | | | | PB | | 2.98 | 2.96 | 3.02 |
| | interval | | 1.00 | 0.98 | 1.00 | 0.99 | 0.97 | 1.00 | 1.00 | 1.00 | 1.02 | 1.20 | 7.92 | | 8.56 | 8.61 | 8.44 |
| | velocity | 5.28 | 8.50 | 8.67 | 8.50 | 8.59 | 8.76 | 8.50 | 8.50 | 8.50 | 8.33 | 8.38 | 7.92 | | | | |
| Fourie, Marione (RSA) (2002) | time | 2.50 | 3.54 | 4.62 | 5.62 | 6.60 | 7.58 | 8.58 | 9.62 | 10.64 | 11.68 | 12.93 | 12.93 | 7 / 5 | | | |
| | reaction time | 0.128 | | | | | | | | | | | PB | | 3.12 | 2.96 | 3.10 |
| | interval | | 1.04 | 1.08 | 1.00 | 0.98 | 0.98 | 1.00 | 1.04 | 1.02 | 1.04 | 1.25 | 7.73 | | 8.17 | 8.61 | 8.23 |
| | velocity | 5.20 | 8.17 | 7.87 | 8.50 | 8.67 | 8.67 | 8.50 | 8.17 | 8.33 | 8.17 | 8.04 | 7.73 | | | | |
| Aoki, Masumi (JPN) (1994) | time | 2.50 | 3.53 | 4.60 | 5.60 | 6.60 | 7.62 | 8.66 | 9.70 | 10.80 | 11.85 | 13.04 | 13.04 | 2 / 6 | | | |
| | reaction time | 0.123 | | | | | | | | | | | | | 3.10 | 3.06 | 3.19 |
| | interval | | 1.03 | 1.07 | 1.00 | 1.00 | 1.02 | 1.04 | 1.04 | 1.10 | 1.05 | 1.19 | 7.67 | | 8.23 | 8.33 | 7.99 |
| | velocity | 5.20 | 8.25 | 7.94 | 8.50 | 8.50 | 8.33 | 8.17 | 8.17 | 7.73 | 8.10 | 8.45 | 7.67 | | | | |
| Graversgaard, Mette (DEN) (1995) | time | 2.52 | 3.62 | 4.63 | 5.65 | 6.66 | 7.66 | 8.68 | 9.72 | 10.75 | 11.82 | 13.05 | 13.05 | 8 / 7 | | | |
| | reaction time | 0.134 | | | | | | | | | | | | | 3.13 | 3.03 | 3.14 |
| | interval | | 1.10 | 1.01 | 1.02 | 1.01 | 1.00 | 1.02 | 1.04 | 1.03 | 1.07 | 1.23 | 7.66 | | 8.15 | 8.42 | 8.12 |
| | velocity | 5.16 | 7.73 | 8.42 | 8.33 | 8.42 | 8.50 | 8.33 | 8.17 | 8.25 | 7.94 | 8.17 | 7.66 | | | | |
| Mucci, Celeste (AUS) (1999) | time | 2.54 | 3.63 | 4.65 | 5.63 | 6.63 | 7.63 | 8.63 | 9.66 | 10.70 | | | | 1 / -- | | | |
| | reaction time | 0.143 | | | | | | | | | | | | dnf | 3.09 | 3.00 | |
| | interval | | 1.09 | 1.02 | 0.98 | 1.00 | 1.00 | 1.00 | 1.03 | 1.04 | | | | DQ | 8.25 | 8.50 | |
| | velocity | 5.12 | 7.80 | 8.33 | 8.67 | 8.50 | 8.50 | 8.50 | 8.25 | 8.17 | | | | | | | |



Time Intervals (s)

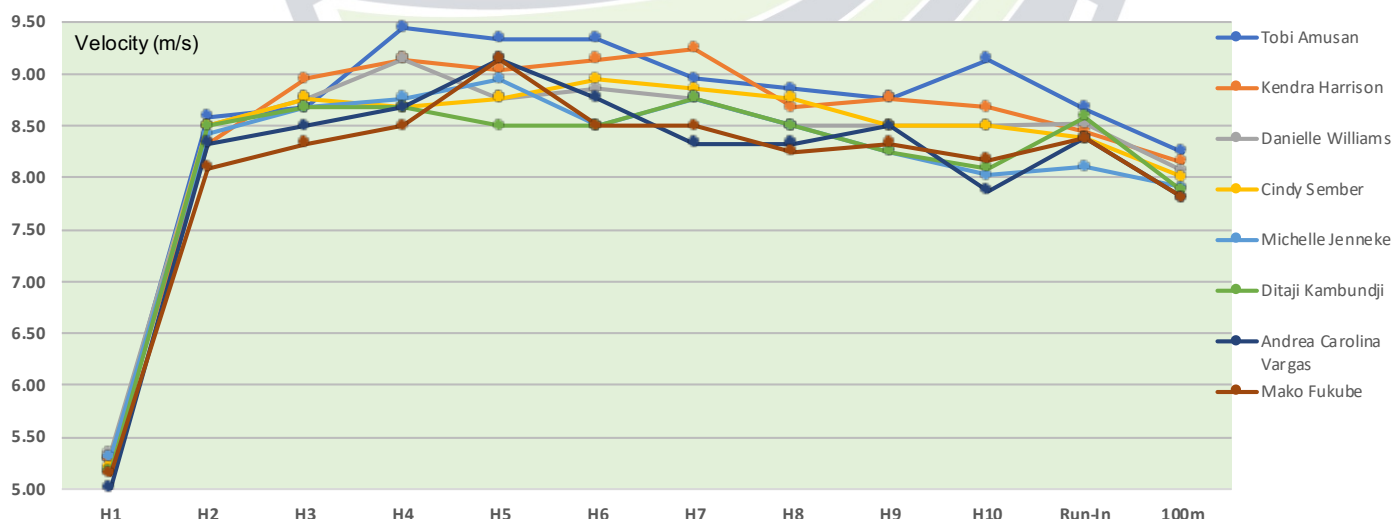
Hurdle Phases



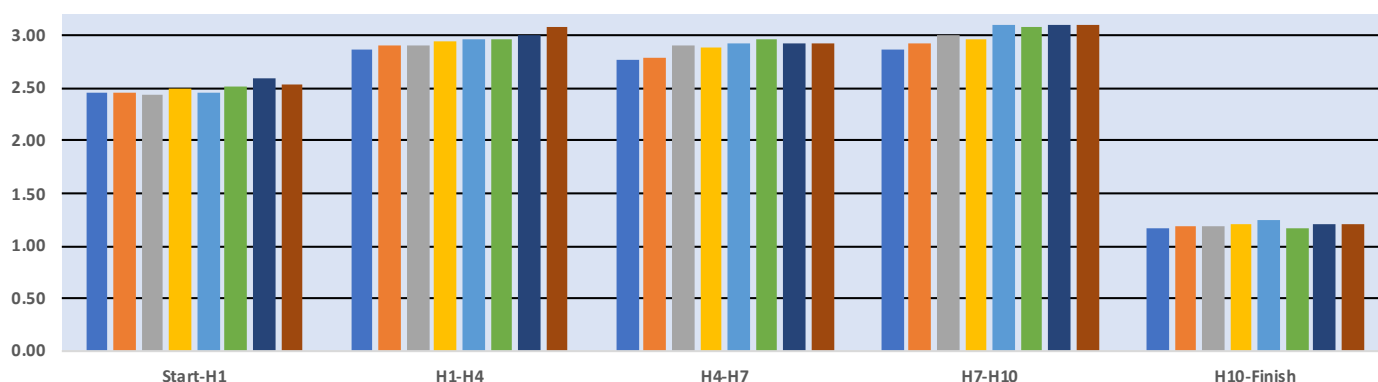
Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: Gun Flash
 Source: <https://www.youtube.com/watch?v=ZNooifS5lFdc&t=22s>

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

| 100m Hurdles | | Date: 2022.07.24 | Wind: 0.9 m/s | | | | | | | | | | Semi-Final 1 | | | | | |
|--------------------------------------|-------------------|------------------|---------------|------|------|------|------|------|------|------|-------|-------|--------------|-------|------------|-------|-------|--------|
| | | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
| Amusan, Tobi (NGR) (1997) | time | 0.144 | 2.46 | 3.45 | 4.43 | 5.33 | 6.24 | 7.15 | 8.10 | 9.06 | 10.03 | 10.96 | 12.12 | 12.12 | 4 / 1 | 2.87 | 2.77 | 2.86 |
| | reaction time | 0.144 | | | | | | | | | | | | WR | | 8.89 | 9.21 | 8.92 |
| | interval velocity | | 5.28 | 8.59 | 8.67 | 9.44 | 9.34 | 9.34 | 8.95 | 8.85 | 8.76 | 9.14 | 8.66 | 8.25 | | | | |
| Harrison, Kendra (USA) (1992) | time | 0.155 | 2.46 | 3.48 | 4.43 | 5.36 | 6.30 | 7.23 | 8.15 | 9.13 | 10.10 | 11.08 | 12.27 | 12.27 | 6 / 2 | 2.90 | 2.79 | 2.93 |
| | reaction time | 0.155 | | | | | | | | | | | | | | 8.79 | 9.14 | 8.70 |
| | interval velocity | | 5.28 | 8.33 | 8.95 | 9.14 | 9.04 | 9.14 | 9.24 | 8.67 | 8.76 | 8.67 | 8.45 | 8.15 | | | | |
| Williams, Danielle (JAM) (1992) | time | 0.105 | 2.43 | 3.43 | 4.40 | 5.33 | 6.30 | 7.26 | 8.23 | 9.23 | 10.23 | 11.23 | 12.41 | 12.41 | 3 / 3 | 2.90 | 2.90 | 3.00 |
| | reaction time | 0.105 | | | | | | | | | | | | | | 8.79 | 8.79 | 8.50 |
| | interval velocity | | 5.35 | 8.50 | 8.76 | 9.14 | 8.76 | 8.85 | 8.76 | 8.50 | 8.50 | 8.50 | 8.52 | 8.06 | | | | |
| Sember, Cindy (GBR) (1994) | time | 0.158 | 2.50 | 3.50 | 4.47 | 5.45 | 6.42 | 7.37 | 8.33 | 9.30 | 10.30 | 11.30 | 12.50 | 12.50 | 5 / 4 | 2.95 | 2.88 | 2.97 |
| | reaction time | 0.158 | | | | | | | | | | | | NR PB | | 8.64 | 8.85 | 8.59 |
| | interval velocity | | 5.20 | 8.50 | 8.76 | 8.67 | 8.76 | 8.95 | 8.85 | 8.76 | 8.50 | 8.50 | 8.38 | 8.00 | | | | |
| Jenneke, Michelle (AUS) (1993) | time | 0.120 | 2.45 | 3.46 | 4.44 | 5.41 | 6.36 | 7.36 | 8.33 | 9.33 | 10.36 | 11.42 | 12.66 | 12.66 | 7 / 5 | 2.96 | 2.92 | 3.09 |
| | reaction time | 0.120 | | | | | | | | | | | | PB | | 8.61 | 8.73 | 8.25 |
| | interval velocity | | 5.31 | 8.42 | 8.67 | 8.76 | 8.95 | 8.50 | 8.76 | 8.50 | 8.25 | 8.02 | 8.10 | 7.90 | | | | |
| Kambundji, Ditaji (SUI) (2002) | time | 0.134 | 2.52 | 3.52 | 4.50 | 5.48 | 6.48 | 7.48 | 8.45 | 9.45 | 10.48 | 11.53 | 12.70 | 12.70 | 2 / 6 | 2.96 | 2.97 | 3.08 |
| | reaction time | 0.134 | | | | | | | | | | | | PB | | 8.61 | 8.59 | 8.28 |
| | interval velocity | | 5.16 | 8.50 | 8.67 | 8.67 | 8.50 | 8.50 | 8.76 | 8.50 | 8.25 | 8.10 | 8.59 | 7.87 | | | | |
| Vargas, Andrea Carolina (CRC) (1996) | time | 0.154 | 2.60 | 3.62 | 4.62 | 5.60 | 6.53 | 7.50 | 8.52 | 9.54 | 10.54 | 11.62 | 12.82 | 12.82 | 8 / 7 | 3.00 | 2.92 | 3.10 |
| | reaction time | 0.154 | | | | | | | | | | | | | | 8.50 | 8.73 | 8.23 |
| | interval velocity | | 5.00 | 8.33 | 8.50 | 8.67 | 9.14 | 8.76 | 8.33 | 8.33 | 8.50 | 7.87 | 8.37 | 7.80 | | | | |
| Fukube, Mako (JPN) (1995) | time | 0.119 | 2.53 | 3.58 | 4.60 | 5.60 | 6.53 | 7.53 | 8.53 | 9.56 | 10.58 | 11.62 | 12.82 | 12.82 | 1 / 8 | 3.07 | 2.93 | 3.09 |
| | reaction time | 0.119 | | | | | | | | | | | | NR PB | | 8.31 | 8.70 | 8.25 |
| | interval velocity | | 5.14 | 8.10 | 8.33 | 8.50 | 9.14 | 8.50 | 8.50 | 8.25 | 8.33 | 8.17 | 8.37 | 7.80 | | | | |



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=ZNooifS5lFdc&t=22s>

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

100m Hurdles

Date: 2022.07.23

Wind: -0.4 m/s

Heat 6

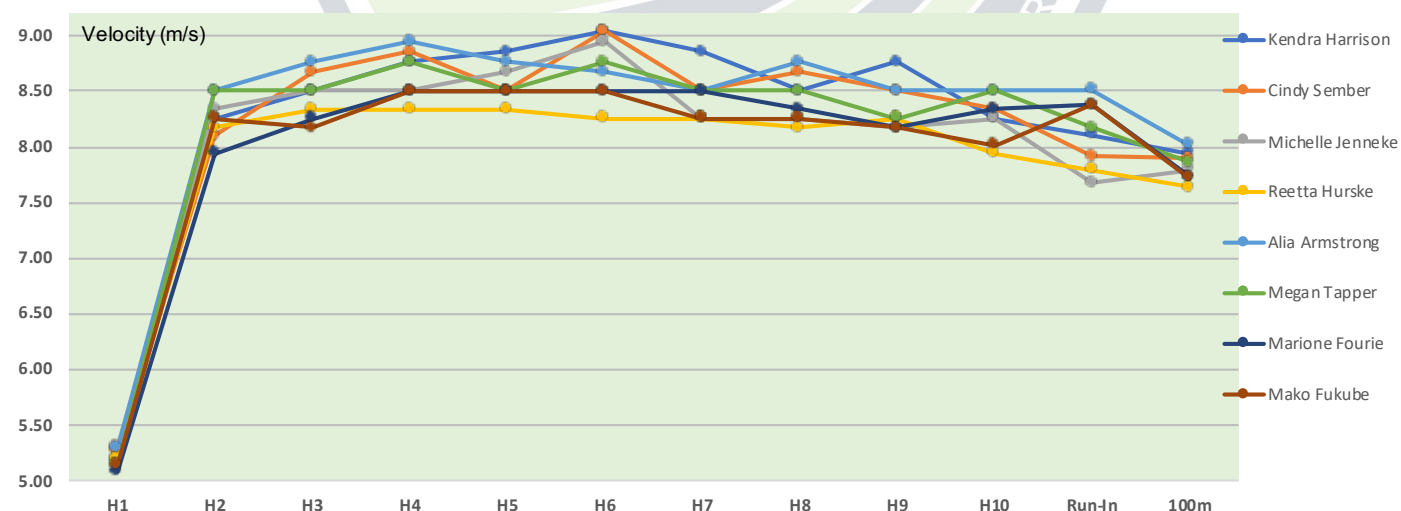
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Harrison, Kendra (USA) (1992) | time | 2.50 | 3.53 | 4.53 | 5.50 | 6.46 | 7.40 | 8.36 | 9.36 | 10.33 | 11.36 | | 12.60 | 4 / 1 | | | |
| | reaction time | 0.182 | | | | | | | | | | | | | 3.00 | 2.86 | 3.00 |
| | interval | | 1.03 | 1.00 | 0.97 | 0.96 | 0.94 | 0.96 | 1.00 | 0.97 | 1.03 | 1.24 | | | 8.50 | 8.92 | 8.50 |
| | velocity | 5.20 | 8.25 | 8.50 | 8.76 | 8.85 | 9.04 | 8.85 | 8.50 | 8.76 | 8.25 | 8.10 | 7.94 | | | | |
| Sember, Cindy (GBR) (1994) | time | 2.47 | 3.52 | 4.50 | 5.46 | 6.46 | 7.40 | 8.40 | 9.38 | 10.38 | 11.40 | | 12.67 | 5 / 2 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | 2.99 | 2.94 | 3.00 |
| | interval | | 1.05 | 0.98 | 0.96 | 1.00 | 0.94 | 1.00 | 0.98 | 1.00 | 1.02 | 1.27 | | | 8.53 | 8.67 | 8.50 |
| | velocity | 5.26 | 8.10 | 8.67 | 8.85 | 8.50 | 9.04 | 8.50 | 8.67 | 8.50 | 8.33 | 7.91 | 7.89 | | | | |
| Jenneke, Michelle (AUS) (1993) | time | 2.45 | 3.47 | 4.47 | 5.47 | 6.45 | 7.40 | 8.43 | 9.46 | 10.50 | 11.53 | | 12.84 | 3 / 3 | | | |
| | reaction time | 0.131 | | | | | | | | | | | | | 3.02 | 2.96 | 3.10 |
| | interval | | 1.02 | 1.00 | 1.00 | 0.98 | 0.95 | 1.03 | 1.03 | 1.04 | 1.03 | 1.31 | | | 8.44 | 8.61 | 8.23 |
| | velocity | 5.31 | 8.33 | 8.50 | 8.50 | 8.67 | 8.95 | 8.25 | 8.25 | 8.17 | 8.25 | 7.67 | 7.79 | | | | |
| Hurske, Reetta (FIN) (1995) | time | 2.50 | 3.54 | 4.56 | 5.58 | 6.60 | 7.63 | 8.66 | 9.70 | 10.73 | 11.80 | | 13.09 | 7 / 4 | | | |
| | reaction time | 0.129 | | | | | | | | | | | | | 3.08 | 3.08 | 3.14 |
| | interval | | 1.04 | 1.02 | 1.02 | 1.02 | 1.03 | 1.03 | 1.04 | 1.03 | 1.07 | 1.29 | | | 8.28 | 8.28 | 8.12 |
| | velocity | 5.20 | 8.17 | 8.33 | 8.33 | 8.33 | 8.25 | 8.25 | 8.17 | 8.25 | 7.94 | 7.79 | 7.64 | | | | |

Date: 2022.07.23

Wind: 0.5 m/s

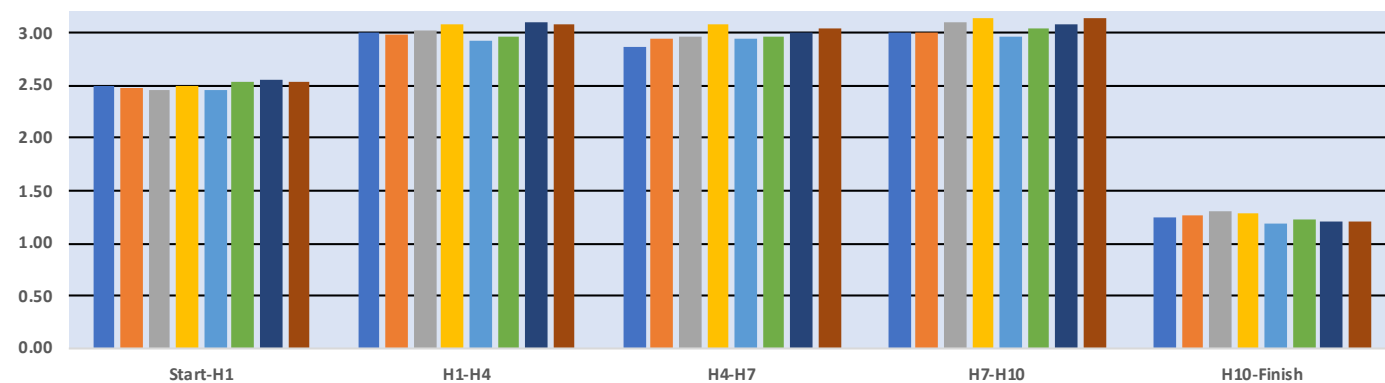
Heat 5

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|------------------------------|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Armstrong, Alia (USA) (2000) | time | 2.46 | 3.46 | 4.43 | 5.38 | 6.35 | 7.33 | 8.33 | 9.30 | 10.30 | 11.30 | | 12.48 | 3 / 1 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | 2.92 | 2.95 | 2.97 |
| | interval | | 1.00 | 0.97 | 0.95 | 0.97 | 0.98 | 0.97 | 1.00 | 0.97 | 1.00 | 1.18 | | | 8.73 | 8.64 | 8.59 |
| | velocity | 5.28 | 8.50 | 8.76 | 8.95 | 8.76 | 8.67 | 8.50 | 8.76 | 8.50 | 8.50 | 8.52 | 8.01 | | | | |
| Tapper, Megan (JAM) (1994) | time | 2.53 | 3.53 | 4.53 | 5.50 | 6.50 | 7.47 | 8.47 | 9.47 | 10.50 | 11.50 | | 12.73 | 2 / 2 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | 2.97 | 2.97 | 3.03 |
| | interval | | 1.00 | 1.00 | 0.97 | 1.00 | 0.97 | 1.00 | 1.00 | 1.03 | 1.00 | 1.23 | | | 8.59 | 8.59 | 8.42 |
| | velocity | 5.14 | 8.50 | 8.50 | 8.76 | 8.50 | 8.76 | 8.50 | 8.50 | 8.25 | 8.50 | 8.17 | 7.86 | | | | |
| Fourie, Marione (RSA) (2002) | time | 2.56 | 3.63 | 4.66 | 5.66 | 6.66 | 7.66 | 8.66 | 9.68 | 10.72 | 11.74 | | 12.94 | 6 / 3 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | 3.10 | 3.00 | 3.08 |
| | interval | | 1.07 | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.02 | 1.04 | 1.02 | 1.20 | | | 8.23 | 8.50 | 8.28 |
| | velocity | 5.08 | 7.94 | 8.25 | 8.50 | 8.50 | 8.50 | 8.50 | 8.33 | 8.17 | 8.33 | 8.38 | 7.73 | | | | |
| Fukube, Mako (JPN) (1995) | time | 2.53 | 3.56 | 4.60 | 5.60 | 6.60 | 7.60 | 8.63 | 9.66 | 10.70 | 11.76 | | 12.96 | 7 / 4 | | | |
| | reaction time | 0.108 | | | | | | | | | | | | | 3.07 | 3.03 | 3.13 |
| | interval | | 1.03 | 1.04 | 1.00 | 1.00 | 1.00 | 1.03 | 1.03 | 1.04 | 1.06 | 1.20 | | | 8.31 | 8.42 | 8.15 |
| | velocity | 5.14 | 8.25 | 8.17 | 8.50 | 8.50 | 8.50 | 8.25 | 8.25 | 8.17 | 8.02 | 8.37 | 7.72 | | | | |



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=ZyR47ms45Ag&t=19s>

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

100m Hurdles

Date: 2022.07.23

Wind: 0.7 m/s

Heat 4

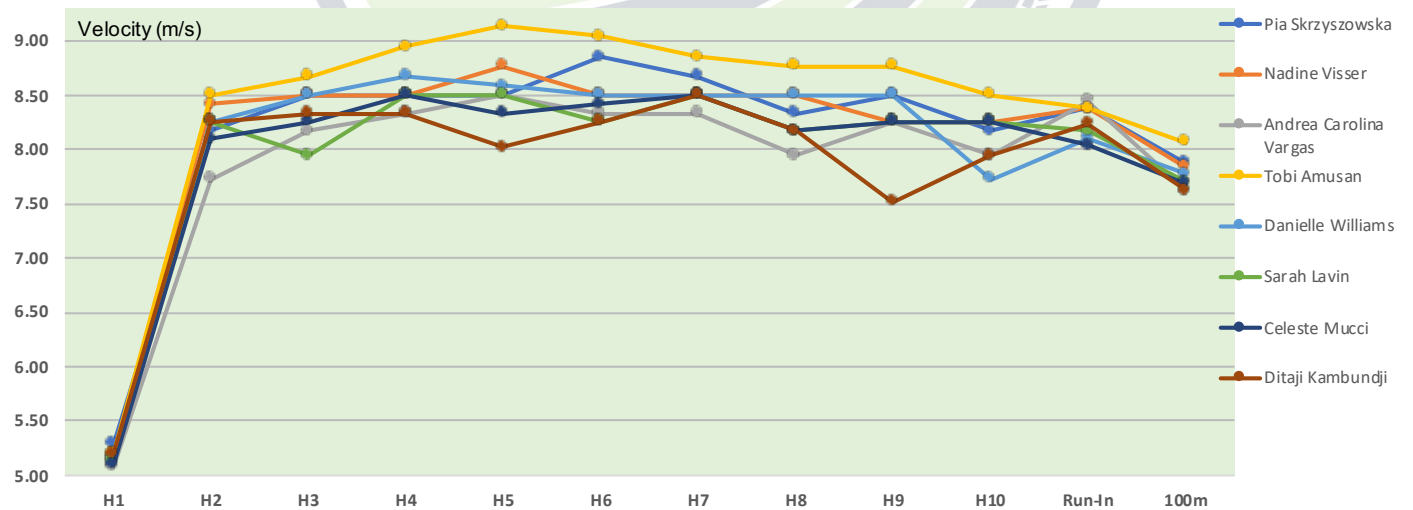
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------------|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Skrzyszowska, Pia (POL) (2001) | time | 2.46 | 3.50 | 4.50 | 5.50 | 6.50 | 7.46 | 8.44 | 9.46 | 10.46 | 11.50 | | 12.70 | 7 / 1 | | | |
| | reaction time | 0.131 | | | | | | | | | | | | | 3.04 | 2.94 | 3.06 |
| | interval | | 1.04 | 1.00 | 1.00 | 1.00 | 0.96 | 0.98 | 1.02 | 1.00 | 1.04 | 1.20 | | | 8.39 | 8.67 | 8.33 |
| Visser, Nadine (NED) (1995) | time | 2.52 | 3.53 | 4.53 | 5.53 | 6.50 | 7.50 | 8.50 | 9.50 | 10.53 | 11.56 | | 12.76 | 8 / 2 | | | |
| | reaction time | 0.136 | | | | | | | | | | | | | 3.01 | 2.97 | 3.06 |
| | interval | | 1.01 | 1.00 | 1.00 | 0.97 | 1.00 | 1.00 | 1.00 | 1.03 | 1.03 | 1.20 | | | 8.47 | 8.59 | 8.33 |
| Vargas, Andrea Carolina (CRC) (1996) | time | 2.56 | 3.66 | 4.70 | 5.72 | 6.72 | 7.74 | 8.76 | 9.83 | 10.86 | 11.93 | | 13.12 | 5 / 3 | | | |
| | reaction time | 0.122 | | | | | | | | | | | | | 3.16 | 3.04 | 3.17 |
| | interval | | 1.10 | 1.04 | 1.02 | 1.00 | 1.02 | 1.02 | 1.07 | 1.03 | 1.07 | 1.19 | | | 8.07 | 8.39 | 8.04 |

Date: 2022.07.23

Wind: 1.5 m/s

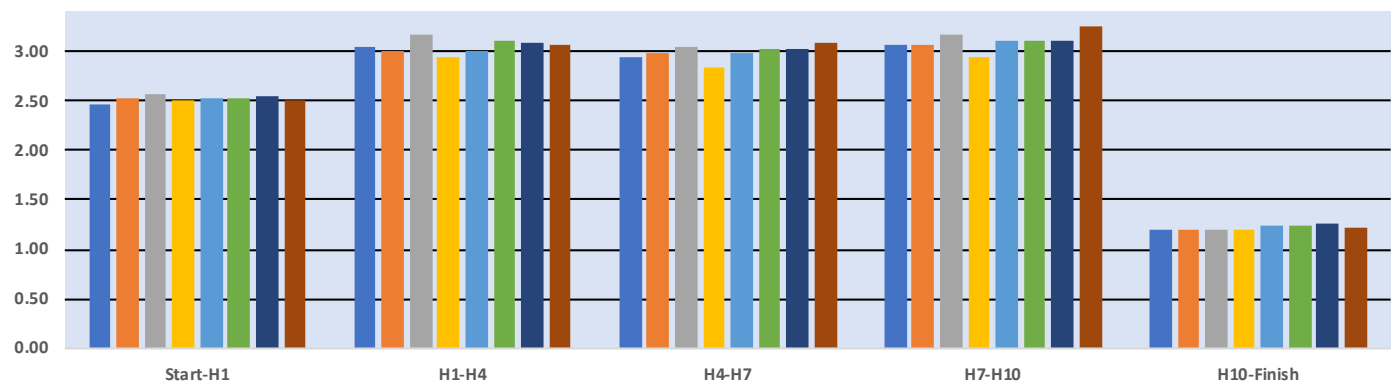
Heat 3

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---------------------------------|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Amusan, Tobi (NGR) (1997) | time | 2.50 | 3.50 | 4.48 | 5.43 | 6.36 | 7.30 | 8.26 | 9.23 | 10.20 | 11.20 | | 12.40 | 3 / 1 | | | |
| | reaction time | 0.135 | | | | | | | | | | | | | 2.93 | 2.83 | 2.94 |
| | interval | | 1.00 | 0.98 | 0.95 | 0.93 | 0.94 | 0.96 | 0.97 | 0.97 | 0.97 | 1.00 | | | 8.70 | 9.01 | 8.67 |
| Williams, Danielle (JAM) (1992) | time | 2.53 | 3.56 | 4.56 | 5.54 | 6.53 | 7.53 | 8.53 | 9.53 | 10.53 | 11.63 | | 12.87 | 8 / 2 | | | |
| | reaction time | 0.194 | | | | | | | | | | | | | 3.01 | 2.99 | 3.10 |
| | interval | | 1.03 | 1.00 | 0.98 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.10 | 1.24 | | | 8.47 | 8.53 | 8.23 |
| Lavin, Sarah (IRL) (1994) | time | 2.53 | 3.56 | 4.63 | 5.63 | 6.63 | 7.66 | 8.66 | 9.70 | 10.73 | 11.76 | | 12.99 | 4 / 3 | | | |
| | reaction time | 0.117 | | | | | | | | | | | | | 3.10 | 3.03 | 3.10 |
| | interval | | 1.03 | 1.07 | 1.00 | 1.00 | 1.03 | 1.00 | 1.04 | 1.03 | 1.03 | 1.23 | | | 8.23 | 8.42 | 8.23 |
| Mucci, Celeste (AUS) (1999) | time | 2.55 | 3.60 | 4.63 | 5.63 | 6.65 | 7.66 | 8.66 | 9.70 | 10.73 | 11.76 | | 13.01 | 5 / 4 | | | |
| | reaction time | 0.163 | | | | | | | | | | | | | 3.08 | 3.03 | 3.10 |
| | interval | | 1.05 | 1.03 | 1.00 | 1.02 | 1.01 | 1.00 | 1.04 | 1.03 | 1.03 | 1.25 | | | 8.28 | 8.42 | 8.23 |
| Kambundji, Ditaji (SUI) (2002) | time | 2.50 | 3.53 | 4.55 | 5.57 | 6.63 | 7.66 | 8.66 | 9.70 | 10.83 | 11.90 | | 13.12 | 7 / 5 | | | |
| | reaction time | 0.137 | | | | | | | | | | | | | 3.07 | 3.09 | 3.24 |
| | interval | | 1.03 | 1.02 | 1.02 | 1.06 | 1.03 | 1.00 | 1.04 | 1.13 | 1.07 | 1.22 | | | 8.31 | 8.25 | 7.87 |



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=ZyR47ms45Ag&t=19s>

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

100m Hurdles

Date: 2022.07.23

Wind: -0.4 m/s

Heat 2

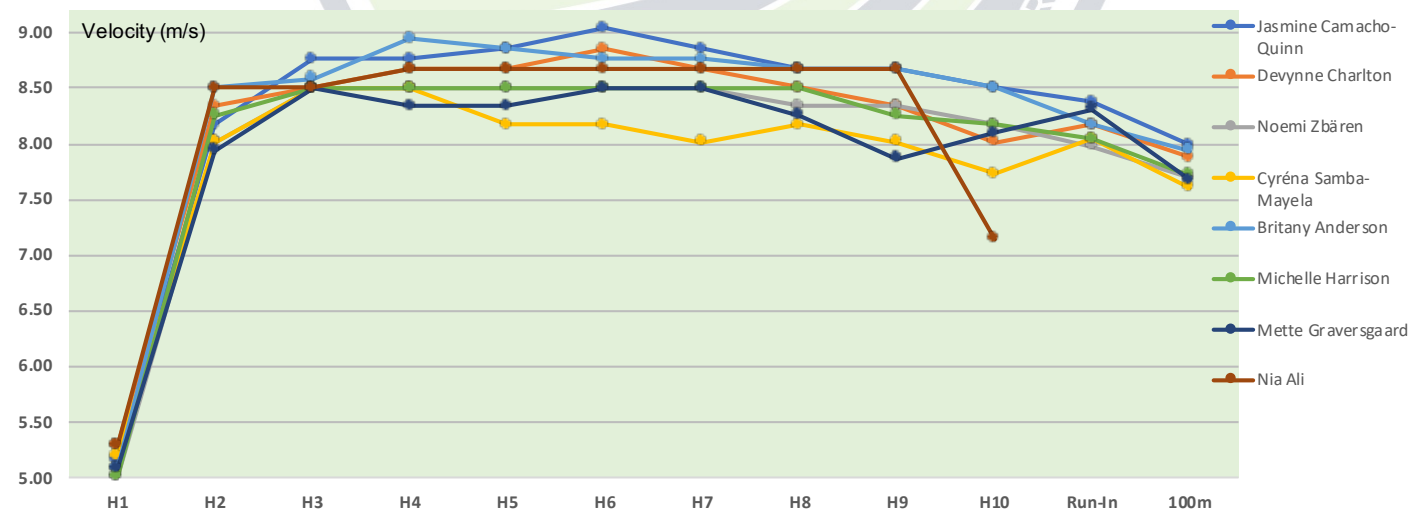
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.52 | 3.56 | 4.53 | 5.50 | 6.46 | 7.40 | 8.36 | 9.34 | 10.32 | 11.32 | | 12.52 | 7 / 1 | | | |
| | reaction time | 0.185 | | | | | | | | | | | | | 2.98 | 2.86 | 2.96 |
| | interval | | 1.04 | 0.97 | 0.97 | 0.96 | 0.94 | 0.96 | 0.98 | 0.98 | 1.00 | 1.20 | | | 8.56 | 8.92 | 8.61 |
| | velocity | 5.16 | 8.17 | 8.76 | 8.76 | 8.85 | 9.04 | 8.85 | 8.67 | 8.67 | 8.50 | 8.38 | 7.99 | | | | |
| Charlton, Devynne (BAH) (1995) | time | 2.46 | 3.48 | 4.48 | 5.46 | 6.44 | 7.40 | 8.38 | 9.38 | 10.40 | 11.46 | | 12.69 | 8 / 2 | | | |
| | reaction time | 0.124 | | | | | | | | | | | | | 3.00 | 2.92 | 3.08 |
| | interval | | 1.02 | 1.00 | 0.98 | 0.98 | 0.96 | 0.98 | 1.00 | 1.02 | 1.06 | 1.23 | | | 8.50 | 8.73 | 8.28 |
| | velocity | 5.28 | 8.33 | 8.50 | 8.67 | 8.67 | 8.85 | 8.67 | 8.50 | 8.33 | 8.02 | 8.17 | 7.88 | | | | |
| Zbären, Noemi (SUI) (1994) | time | 2.60 | 3.66 | 4.66 | 5.66 | 6.66 | 7.66 | 8.66 | 9.68 | 10.70 | 11.74 | | 13.00 | 6 / 3 | | | |
| | reaction time | 0.162 | | | | | | | | | | | | | 3.06 | 3.00 | 3.08 |
| | interval | | 1.06 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.02 | 1.02 | 1.04 | 1.26 | | | 8.33 | 8.50 | 8.28 |
| | velocity | 5.00 | 8.02 | 8.50 | 8.50 | 8.50 | 8.50 | 8.50 | 8.33 | 8.33 | 8.17 | 7.98 | 7.69 | | | | |
| Samba-Mayela, Cyréna (FRA) (2000) | time | 2.50 | 3.56 | 4.56 | 5.56 | 6.60 | 7.64 | 8.70 | 9.74 | 10.80 | 11.90 | | 13.15 | 2 / 4 | | | |
| | reaction time | 0.108 | | | | | | | | | | | | | 3.06 | 3.14 | 3.20 |
| | interval | | 1.06 | 1.00 | 1.00 | 1.04 | 1.04 | 1.06 | 1.04 | 1.06 | 1.10 | 1.25 | | | 8.33 | 8.12 | 7.97 |
| | velocity | 5.20 | 8.02 | 8.50 | 8.50 | 8.17 | 8.17 | 8.02 | 8.17 | 8.02 | 7.73 | 8.04 | 7.60 | | | | |

Date: 2022.07.23

Wind: -0.3 m/s

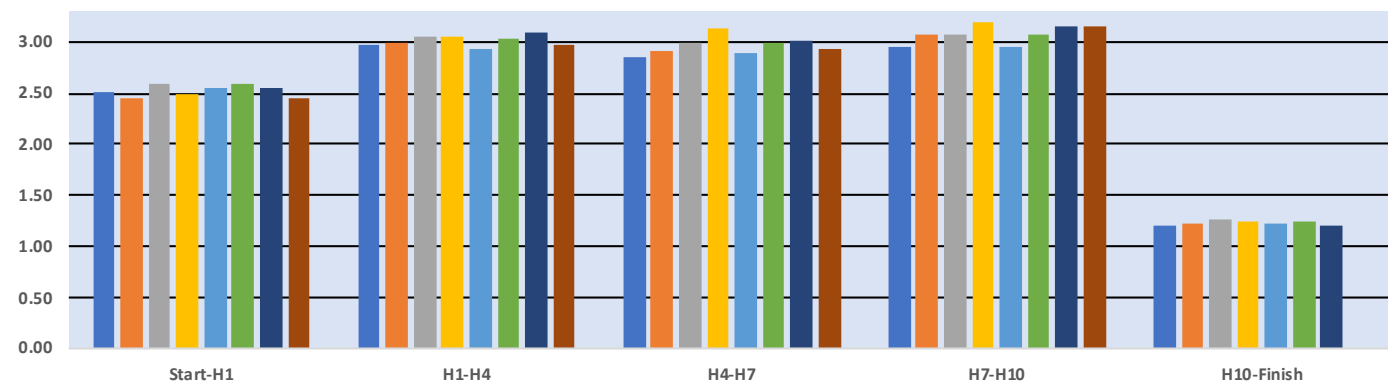
Heat 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Anderson, Britany (JAM) (2001) | time | 2.56 | 3.56 | 4.55 | 5.50 | 6.46 | 7.43 | 8.40 | 9.38 | 10.36 | 11.36 | | 12.59 | 4 / 1 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | 2.94 | 2.90 | 2.96 |
| | interval | | 1.00 | 0.99 | 0.95 | 0.96 | 0.97 | 0.98 | 0.98 | 0.98 | 1.00 | 1.23 | | | 8.67 | 8.79 | 8.61 |
| | velocity | 5.08 | 8.50 | 8.59 | 8.95 | 8.85 | 8.76 | 8.76 | 8.67 | 8.67 | 8.67 | 8.50 | 8.17 | 7.94 | | | |
| Harrison, Michelle (CAN) (1992) | time | 2.60 | 3.63 | 4.63 | 5.63 | 6.63 | 7.63 | 8.63 | 9.63 | 10.66 | 11.70 | | 12.95 | 2 / 2 | | | |
| | reaction time | 0.137 | | | | | | | | | | | | | 3.03 | 3.00 | 3.07 |
| | interval | | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.04 | 1.25 | | | 8.42 | 8.50 | 8.31 |
| | velocity | 5.00 | 8.25 | 8.50 | 8.50 | 8.50 | 8.50 | 8.50 | 8.50 | 8.25 | 8.17 | 8.04 | 7.72 | | | | |
| Graversgaard, Mette (DEN) (1995) | time | 2.56 | 3.63 | 4.63 | 5.65 | 6.67 | 7.67 | 8.67 | 9.70 | 10.78 | 11.83 | | 13.04 | 3 / 3 | | | |
| | reaction time | 0.130 | | | | | | | | | | | | | 3.09 | 3.02 | 3.16 |
| | interval | | 1.07 | 1.00 | 1.02 | 1.02 | 1.00 | 1.00 | 1.03 | 1.08 | 1.05 | 1.21 | | | 8.25 | 8.44 | 8.07 |
| | velocity | 5.08 | 7.94 | 8.50 | 8.33 | 8.33 | 8.50 | 8.50 | 8.25 | 7.87 | 8.10 | 8.31 | 7.67 | | | | |
| Ali, Nia (USA) (1988) | time | 2.46 | 3.46 | 4.46 | 5.44 | 6.42 | 7.40 | 8.38 | 9.36 | 10.34 | 11.53 | | dnf | 5 / -- | | | |
| | reaction time | 0.130 | | | | | | | | | | | | | 2.98 | 2.94 | 3.15 |
| | interval | | 1.00 | 1.00 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 1.19 | | | | 8.56 | 8.67 | 8.10 |
| | velocity | 5.28 | 8.50 | 8.50 | 8.67 | 8.67 | 8.67 | 8.67 | 8.67 | 8.67 | 7.14 | | | | | | |



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=ZyR47ms45Ag&t=19s>

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

Heptathlon - 100m Hurdles

Date: 2022.07.17

Wind: 0.7 m/s

Heat 2

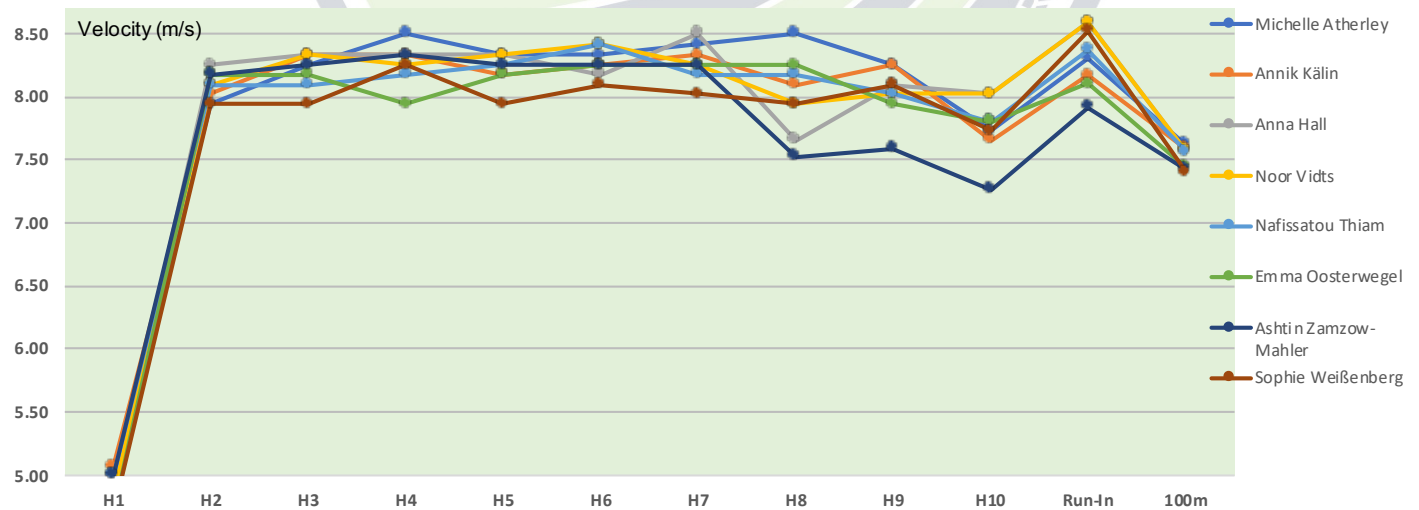
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-----------|------------|-------|-------|--------|
| Atherley, Michelle (USA) (1995) | time | 2.63 | 3.70 | 4.73 | 5.73 | 6.75 | 7.77 | 8.78 | 9.78 | 10.81 | 11.91 | | 13.12 | 4 / 1 | | | |
| | reaction time | 0.111 | | | | | | | | | | | | | 3.10 | 3.05 | 3.13 |
| | interval | | 1.07 | 1.03 | 1.00 | 1.02 | 1.02 | 1.01 | 1.00 | 1.03 | 1.10 | 1.21 | | | 8.23 | 8.36 | 8.15 |
| velocity | | 4.94 | 7.94 | 8.25 | 8.50 | 8.33 | 8.33 | 8.42 | 8.50 | 8.25 | 7.73 | 8.31 | 7.62 | | | | |
| Kälin, Annik (SUI) (2000) | time | 2.56 | 3.62 | 4.64 | 5.66 | 6.70 | 7.73 | 8.75 | 9.80 | 10.83 | 11.94 | | 13.17 | 1 / 2 | | | |
| | reaction time | 0.162 | | | | | | | | | | | | | 3.10 | 3.09 | 3.19 |
| | interval | | 1.06 | 1.02 | 1.02 | 1.04 | 1.03 | 1.02 | 1.05 | 1.03 | 1.11 | 1.23 | PB | | 8.23 | 8.25 | 7.99 |
| velocity | | 5.08 | 8.02 | 8.33 | 8.33 | 8.17 | 8.25 | 8.33 | 8.10 | 8.25 | 7.66 | 8.17 | 7.59 | | | | |
| Hall, Anna (USA) (2001) | time | 2.68 | 3.71 | 4.73 | 5.75 | 6.77 | 7.81 | 8.81 | 9.92 | 10.97 | 12.03 | | 13.20 | 8 / 3 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | 3.07 | 3.06 | 3.22 |
| | interval | | 1.03 | 1.02 | 1.02 | 1.02 | 1.04 | 1.00 | 1.11 | 1.05 | 1.06 | 1.17 | | | 8.31 | 8.33 | 7.92 |
| velocity | | 4.85 | 8.25 | 8.33 | 8.33 | 8.33 | 8.17 | 8.50 | 7.66 | 8.10 | 8.02 | 8.59 | 7.58 | | | | |
| Vidts, Noor (BEL) (1996) | time | 2.68 | 3.73 | 4.75 | 5.78 | 6.80 | 7.81 | 8.84 | 9.91 | 10.97 | 12.03 | | 13.20 | 5 / 4 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | 3.10 | 3.06 | 3.19 |
| | interval | | 1.05 | 1.02 | 1.03 | 1.02 | 1.01 | 1.03 | 1.07 | 1.06 | 1.06 | 1.17 | | | 8.23 | 8.33 | 7.99 |
| velocity | | 4.85 | 8.10 | 8.33 | 8.25 | 8.33 | 8.42 | 8.25 | 7.94 | 8.02 | 8.02 | 8.59 | 7.58 | | | | |

Date: 2022.07.17

Wind: 1.4 m/s

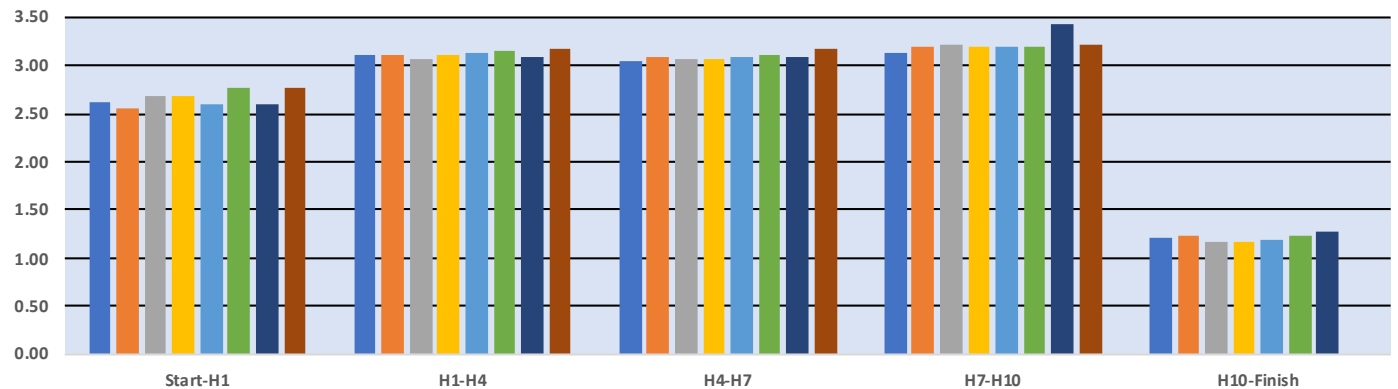
Heat 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|---------|------|------|------|------|------|-------|-------|-------|--------|-------|------------|-------|-------|--------|
| Thiam, Nafissatou (BEL) (1994) | time | 2.60 | 3.65 | 4.70 | 5.74 | 6.77 | 7.78 | 8.82 | 9.86 | 10.92 | 12.01 | | 13.21 | 4 / 1 | | | |
| | reaction time | 0.119 | | | | | | | | | | | | | 3.14 | 3.08 | 3.19 |
| | interval | | 7 steps | 1.05 | 1.05 | 1.04 | 1.03 | 1.01 | 1.04 | 1.04 | 1.06 | 1.09 | 1.20 | PB | 8.12 | 8.28 | 7.99 |
| velocity | | 5.00 | 8.10 | 8.10 | 8.17 | 8.25 | 8.42 | 8.17 | 8.17 | 8.02 | 7.80 | 8.37 | 7.57 | | | | |
| Oosterwegel, Emma (NED) (1998) | time | 2.76 | 3.80 | 4.84 | 5.91 | 6.95 | 7.98 | 9.01 | 10.04 | 11.11 | 12.20 | | 13.44 | 1 / 2 | | | |
| | reaction time | 0.172 | | | | | | | | | | | | | 3.15 | 3.10 | 3.19 |
| | interval | | 1.04 | 1.04 | 1.07 | 1.04 | 1.03 | 1.03 | 1.03 | 1.03 | 1.07 | 1.09 | 1.24 | | 8.10 | 8.23 | 7.99 |
| velocity | | 4.71 | 8.17 | 8.17 | 7.94 | 8.17 | 8.25 | 8.25 | 8.25 | 7.94 | 7.80 | 8.10 | 7.44 | | | | |
| Zamzow-Mahler, Ashtin (USA) (1996) | time | 2.60 | 3.64 | 4.67 | 5.69 | 6.72 | 7.75 | 8.78 | 9.91 | 11.03 | 12.20 | | 13.47 | 8 / 3 | | | |
| | reaction time | 0.141 | | | | | | | | | | | | | 3.09 | 3.09 | 3.42 |
| | interval | | 1.04 | 1.03 | 1.02 | 1.03 | 1.03 | 1.03 | 1.13 | 1.12 | 1.17 | 1.27 | | | 8.25 | 8.25 | 7.46 |
| velocity | | 5.00 | 8.17 | 8.25 | 8.33 | 8.25 | 8.25 | 8.25 | 7.52 | 7.59 | 7.26 | 7.91 | 7.42 | | | | |
| Weißenberg, Sophie (GER) (1997) | time | 2.76 | 3.83 | 4.90 | 5.93 | 7.00 | 8.05 | 9.11 | 10.18 | 11.23 | 12.33 | | 13.51 | 6 / 4 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | 3.17 | 3.18 | 3.22 |
| | interval | | 7 steps | 1.07 | 1.07 | 1.03 | 1.07 | 1.05 | 1.06 | 1.07 | 1.05 | 1.10 | 1.18 | PB | 8.04 | 8.02 | 7.92 |
| velocity | | 4.71 | 7.94 | 7.94 | 8.25 | 7.94 | 8.10 | 8.02 | 7.94 | 8.10 | 7.73 | 8.52 | 7.40 | | | | |



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=w3rXusDFstA&list=PLz-gfY4so9kYmaYY5iANqk0HOYKY-NbzB&index=32&pp=iAQB>

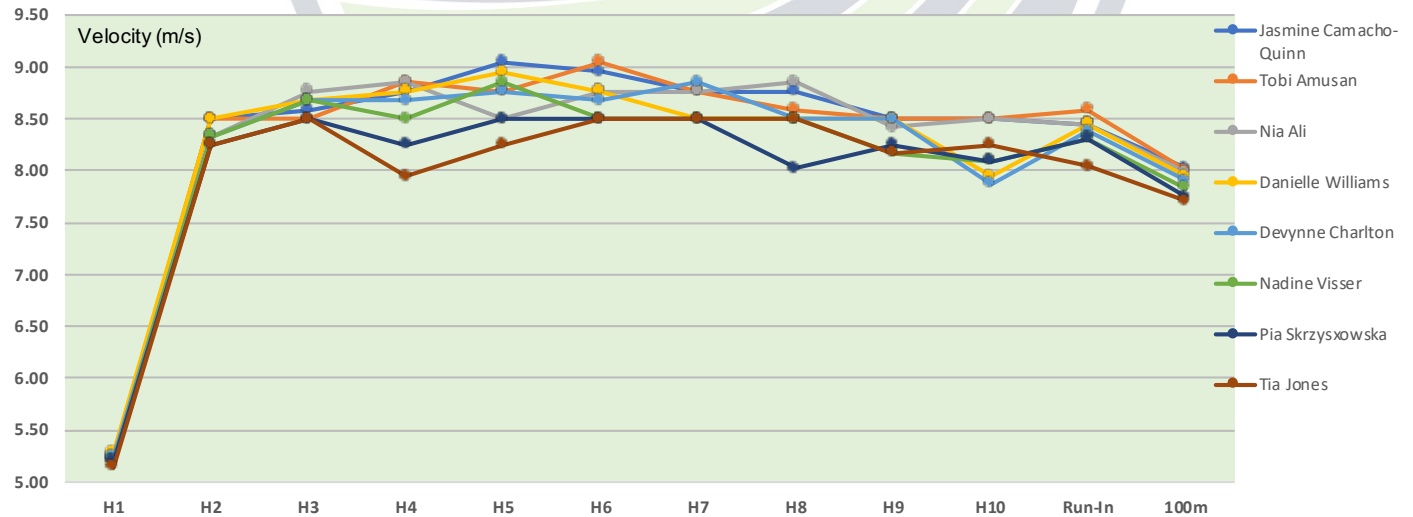
2022 Bauhaus Galan (Stockholm, SWE) (TV Analysis)

100m Hurdles

Date: 2022.06.30 Wind: -0.5 m/s

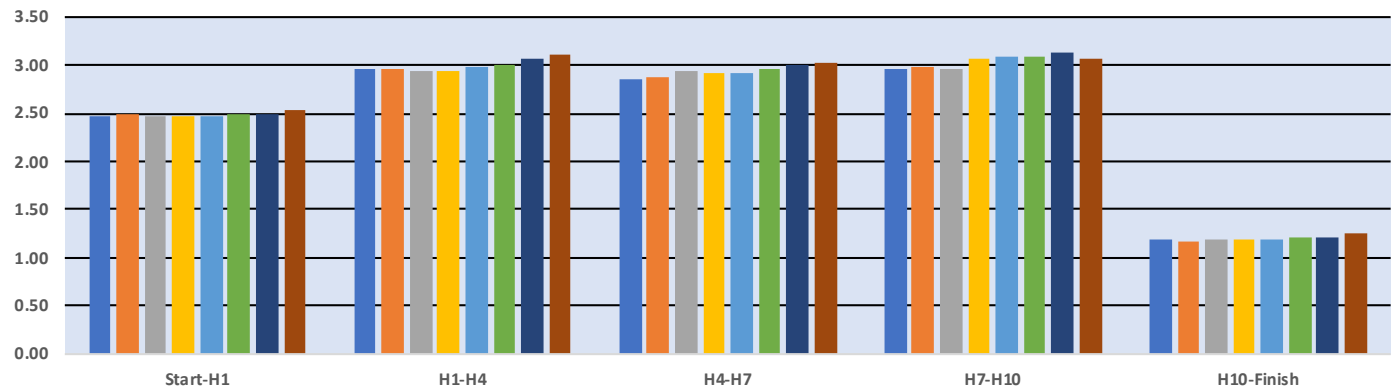
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.48 | 3.48 | 4.47 | 5.44 | 6.38 | 7.33 | 8.30 | 9.27 | 10.27 | 11.27 | | 12.46 | 5 / 1 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | 2.96 | 2.86 | 2.97 |
| | interval | | 1.00 | 0.99 | 0.97 | 0.94 | 0.95 | 0.97 | 0.97 | 1.00 | 1.00 | 1.19 | | | 8.61 | 8.92 | 8.59 |
| | velocity | 5.24 | 8.50 | 8.59 | 8.76 | 9.04 | 8.95 | 8.76 | 8.76 | 8.50 | 8.50 | 8.45 | 8.03 | | | | |
| Amusan, Tobi (NGR) (1997) | time | 2.50 | 3.50 | 4.50 | 5.46 | 6.43 | 7.37 | 8.34 | 9.33 | 10.33 | 11.33 | | 12.50 | 4 / 2 | | | |
| | reaction time | 0.147 | | | | | | | | | | | | | 2.96 | 2.88 | 2.99 |
| | interval | | 1.00 | 1.00 | 0.96 | 0.97 | 0.94 | 0.97 | 0.99 | 1.00 | 1.00 | 1.17 | | | 8.61 | 8.85 | 8.53 |
| | velocity | 5.20 | 8.50 | 8.50 | 8.85 | 8.76 | 9.04 | 8.76 | 8.59 | 8.50 | 8.50 | 8.59 | 8.00 | | | | |
| Ali, Nia (USA) (1988) | time | 2.48 | 3.50 | 4.47 | 5.43 | 6.43 | 7.40 | 8.37 | 9.33 | 10.34 | 11.34 | | 12.53 | 6 / 3 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | 2.95 | 2.94 | 2.97 |
| | interval | | 1.02 | 0.97 | 0.96 | 1.00 | 0.97 | 0.97 | 0.96 | 1.01 | 1.00 | 1.19 | | | 8.64 | 8.67 | 8.59 |
| | velocity | 5.24 | 8.33 | 8.76 | 8.85 | 8.50 | 8.76 | 8.76 | 8.85 | 8.42 | 8.50 | 8.45 | 7.98 | | | | |
| Williams, Danielle (JAM) (1992) | time | 2.46 | 3.46 | 4.44 | 5.41 | 6.36 | 7.33 | 8.33 | 9.33 | 10.33 | 11.40 | | 12.59 | 2 / 4 | | | |
| | reaction time | 0.130 | | | | | | | | | | | | | 2.95 | 2.92 | 3.07 |
| | interval | | 1.00 | 0.98 | 0.97 | 0.95 | 0.97 | 1.00 | 1.00 | 1.00 | 1.07 | 1.19 | | | 8.64 | 8.73 | 8.31 |
| | velocity | 5.28 | 8.50 | 8.67 | 8.76 | 8.95 | 8.76 | 8.50 | 8.50 | 8.50 | 7.94 | 8.45 | 7.94 | | | | |
| Charlton, Devynne (BAH) (1995) | time | 2.48 | 3.50 | 4.48 | 5.46 | 6.43 | 7.41 | 8.37 | 9.37 | 10.37 | 11.45 | | 12.65 | 7 / 5 | | | |
| | reaction time | 0.145 | | | | | | | | | | | | | 2.98 | 2.91 | 3.08 |
| | interval | | 1.02 | 0.98 | 0.98 | 0.97 | 0.98 | 0.96 | 1.00 | 1.00 | 1.08 | 1.20 | | | 8.56 | 8.76 | 8.28 |
| | velocity | 5.24 | 8.33 | 8.67 | 8.67 | 8.76 | 8.67 | 8.85 | 8.50 | 8.50 | 7.87 | 8.37 | 7.91 | | | | |
| Visser, Nadine (NED) (1995) | time | 2.50 | 3.52 | 4.50 | 5.50 | 6.46 | 7.46 | 8.46 | 9.46 | 10.50 | 11.55 | | 12.76 | 1 / 6 | | | |
| | reaction time | 0.136 | | | | | | | | | | | | | 3.00 | 2.96 | 3.09 |
| | interval | | 1.02 | 0.98 | 1.00 | 0.96 | 1.00 | 1.00 | 1.00 | 1.04 | 1.05 | 1.21 | | | 8.50 | 8.61 | 8.25 |
| | velocity | 5.20 | 8.33 | 8.67 | 8.50 | 8.85 | 8.50 | 8.50 | 8.50 | 8.17 | 8.10 | 8.31 | 7.84 | | | | |
| Skrzysowska, Pia (POL) (2001) | time | 2.50 | 3.53 | 4.53 | 5.56 | 6.56 | 7.56 | 8.56 | 9.62 | 10.65 | 11.70 | | 12.91 | 8 / 7 | | | |
| | reaction time | 0.132 | | | | | | | | | | | | | 3.06 | 3.00 | 3.14 |
| | interval | | 1.03 | 1.00 | 1.03 | 1.00 | 1.00 | 1.00 | 1.06 | 1.03 | 1.05 | 1.21 | | | 8.33 | 8.50 | 8.12 |
| | velocity | 5.20 | 8.25 | 8.50 | 8.25 | 8.50 | 8.50 | 8.50 | 8.02 | 8.25 | 8.10 | 8.31 | 7.75 | | | | |
| Jones, Tia (USA) (2000) | time | 2.53 | 3.56 | 4.56 | 5.63 | 6.66 | 7.66 | 8.66 | 9.66 | 10.70 | 11.73 | | 12.98 | 3 / 8 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | 3.10 | 3.03 | 3.07 |
| | interval | | 1.03 | 1.00 | 1.07 | 1.03 | 1.00 | 1.00 | 1.00 | 1.04 | 1.03 | 1.25 | | | 8.23 | 8.42 | 8.31 |
| | velocity | 5.14 | 8.25 | 8.50 | 7.94 | 8.25 | 8.50 | 8.50 | 8.50 | 8.17 | 8.25 | 8.04 | 7.70 | | | | |



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=qa0M92wRqBM&t=19s>

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

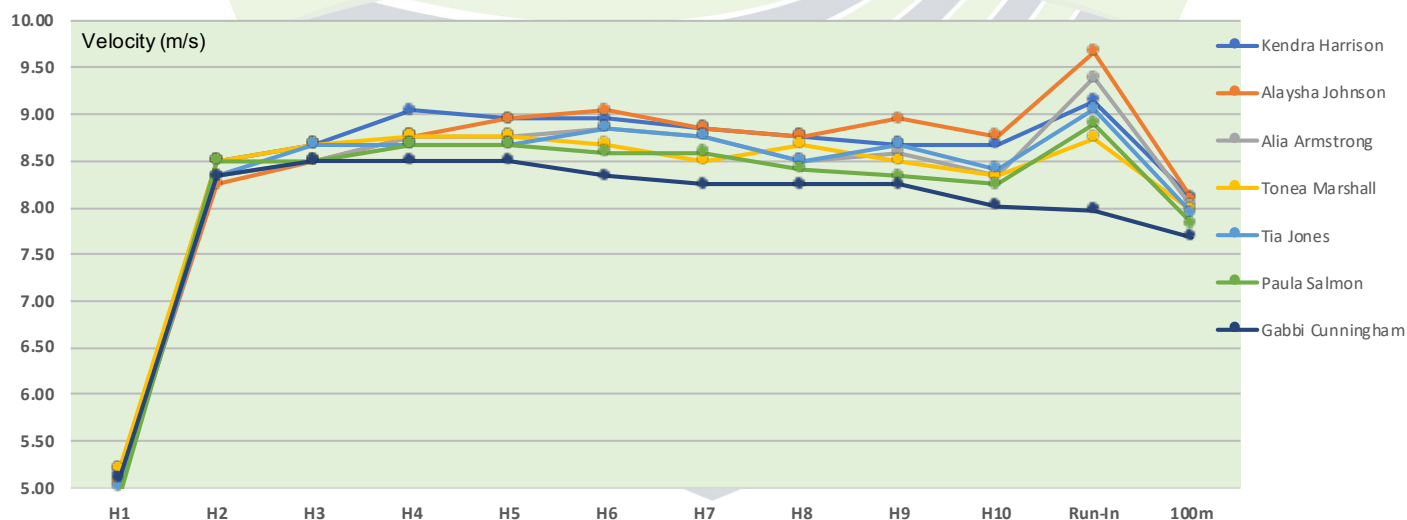
100m Hurdles

Date: 2022.06.25

Wind: -1.4 m/s

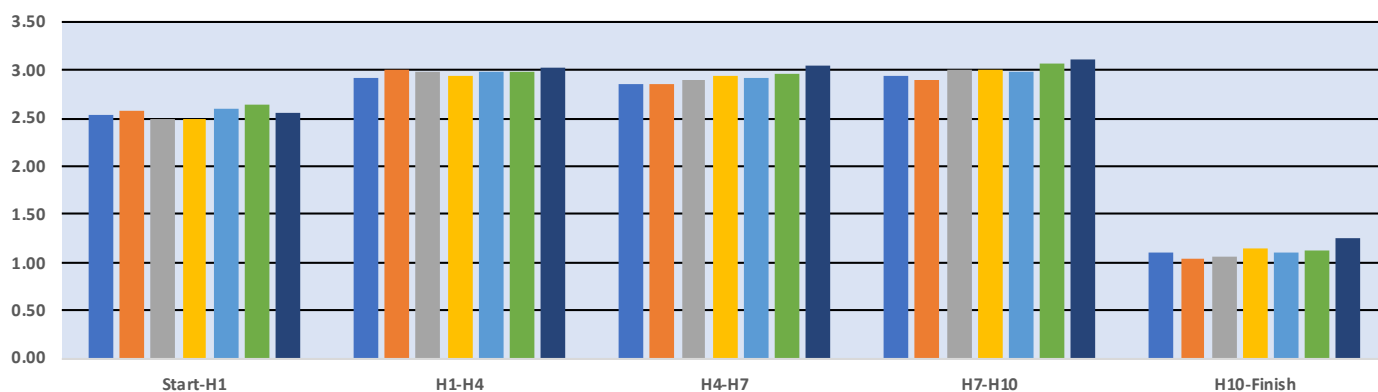
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|------|------|------|------|------|------|------|------|-------|-------|--------|-----------|------------|-------|-------|--------|
| Harrison, Kendra (USA) (1992) | time | 2.53 | 3.53 | 4.51 | 5.45 | 6.40 | 7.35 | 8.31 | 9.28 | 10.26 | 11.24 | | 12.34 | 5 / 1 | | | |
| | reaction time | | | | | | | | | | | | | | 2.92 | 2.86 | 2.93 |
| | interval | | 1.00 | 0.98 | 0.94 | 0.95 | 0.95 | 0.96 | 0.97 | 0.98 | 0.98 | 1.10 | | | 8.73 | 8.92 | 8.70 |
| | velocity | 5.14 | 8.50 | 8.67 | 9.04 | 8.95 | 8.95 | 8.85 | 8.76 | 8.67 | 8.67 | 9.14 | 8.10 | | | | |
| Johnson, Alaysha (USA) (1996) | time | 2.57 | 3.60 | 4.60 | 5.57 | 6.52 | 7.46 | 8.42 | 9.39 | 10.34 | 11.31 | | 12.35 | 7 / 2 | | | |
| | reaction time | | | | | | | | | | | | | | 3.00 | 2.85 | 2.89 |
| | interval | | 1.03 | 1.00 | 0.97 | 0.95 | 0.94 | 0.96 | 0.97 | 0.95 | 0.97 | 1.04 | PB | | 8.50 | 8.95 | 8.82 |
| | velocity | 5.06 | 8.25 | 8.50 | 8.76 | 8.95 | 9.04 | 8.85 | 8.76 | 8.95 | 8.76 | 9.66 | 8.10 | | | | |
| Armstrong, Alia (USA) (2000) | time | 2.50 | 3.52 | 4.52 | 5.49 | 6.46 | 7.42 | 8.39 | 9.39 | 10.38 | 11.40 | | 12.47 | 8 / 3 | | | |
| | reaction time | | | | | | | | | | | | | | 2.99 | 2.90 | 3.01 |
| | interval | | 1.02 | 1.00 | 0.97 | 0.97 | 0.96 | 0.97 | 1.00 | 0.99 | 1.02 | 1.07 | PB | | 8.53 | 8.79 | 8.47 |
| | velocity | 5.20 | 8.33 | 8.50 | 8.76 | 8.76 | 8.85 | 8.76 | 8.50 | 8.59 | 8.33 | 9.39 | 8.02 | | | | |
| Marshall, Tonea (USA) (1998) | time | 2.50 | 3.50 | 4.48 | 5.45 | 6.42 | 7.40 | 8.40 | 9.38 | 10.38 | 11.40 | | 12.55 | 3 / 4 | | | |
| | reaction time | | | | | | | | | | | | | | 2.95 | 2.95 | 3.00 |
| | interval | | 1.00 | 0.98 | 0.97 | 0.97 | 0.98 | 1.00 | 0.98 | 1.00 | 1.02 | 1.15 | | | 8.64 | 8.64 | 8.50 |
| | velocity | 5.20 | 8.50 | 8.67 | 8.76 | 8.76 | 8.67 | 8.50 | 8.67 | 8.50 | 8.33 | 8.74 | 7.97 | | | | |
| Jones, Tia (USA) (2000) | time | 2.60 | 3.62 | 4.60 | 5.58 | 6.56 | 7.52 | 8.49 | 9.49 | 10.47 | 11.48 | | 12.59 | 4 / 5 | | | |
| | reaction time | | | | | | | | | | | | | | 2.98 | 2.91 | 2.99 |
| | interval | | 1.02 | 0.98 | 0.98 | 0.98 | 0.96 | 0.97 | 1.00 | 0.98 | 1.01 | 1.11 | | | 8.56 | 8.76 | 8.53 |
| | velocity | 5.00 | 8.33 | 8.67 | 8.67 | 8.67 | 8.85 | 8.76 | 8.50 | 8.67 | 8.42 | 9.05 | 7.94 | | | | |
| Salmon, Paula (USA) (1999) | time | 2.65 | 3.65 | 4.65 | 5.63 | 6.61 | 7.60 | 8.59 | 9.60 | 10.62 | 11.65 | | 12.78 | 2 / 6 | | | |
| | reaction time | | | | | | | | | | | | | | 2.98 | 2.96 | 3.06 |
| | interval | | 1.00 | 1.00 | 0.98 | 0.98 | 0.99 | 0.99 | 1.01 | 1.02 | 1.03 | 1.13 | | | 8.56 | 8.61 | 8.33 |
| | velocity | 4.91 | 8.50 | 8.50 | 8.67 | 8.67 | 8.59 | 8.59 | 8.42 | 8.33 | 8.25 | 8.89 | 7.82 | | | | |
| Cunningham, Gabriele (USA) (1998) | time | 2.55 | 3.57 | 4.57 | 5.57 | 6.57 | 7.59 | 8.62 | 9.65 | 10.68 | 11.74 | | 13.00 | 9 / 7 | | | |
| | reaction time | | | | | | | | | | | | | | 3.02 | 3.05 | 3.12 |
| | interval | | 1.02 | 1.00 | 1.00 | 1.00 | 1.02 | 1.03 | 1.03 | 1.03 | 1.03 | 1.06 | 1.26 | | 8.44 | 8.36 | 8.17 |
| | velocity | 5.10 | 8.33 | 8.50 | 8.50 | 8.50 | 8.33 | 8.25 | 8.25 | 8.25 | 8.02 | 7.98 | 7.69 | | | | |



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=qa0M92wRqBM&t=19s>

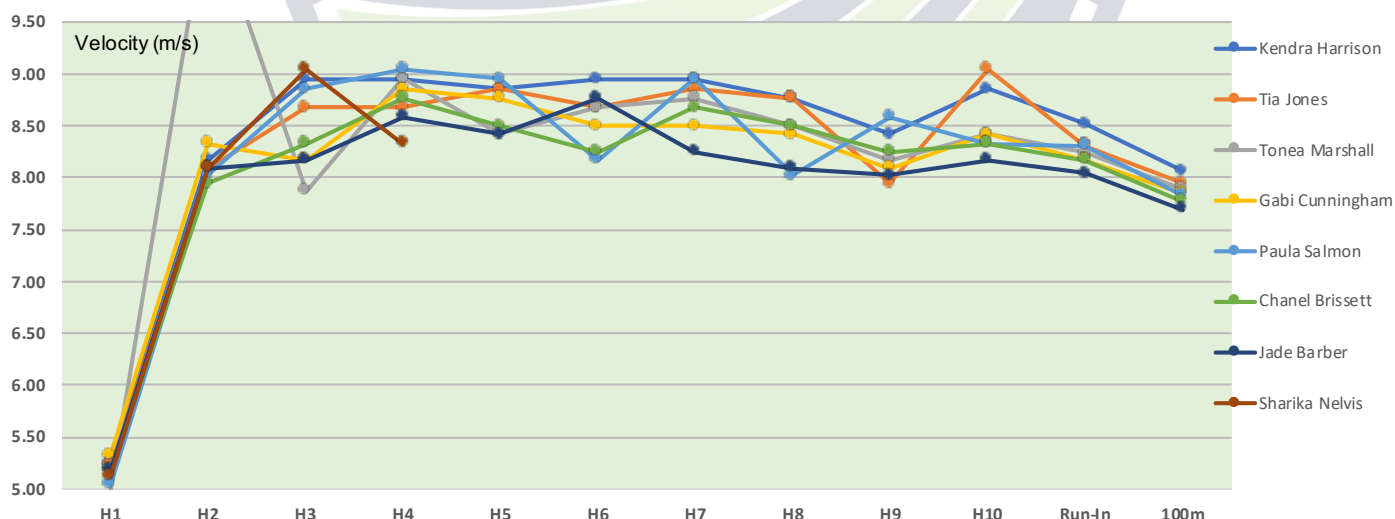
2022 USATF National Championships (Eugene, OR)

100m Hurdles

Date: 2022.06.25 Wind: -0.1 m/s

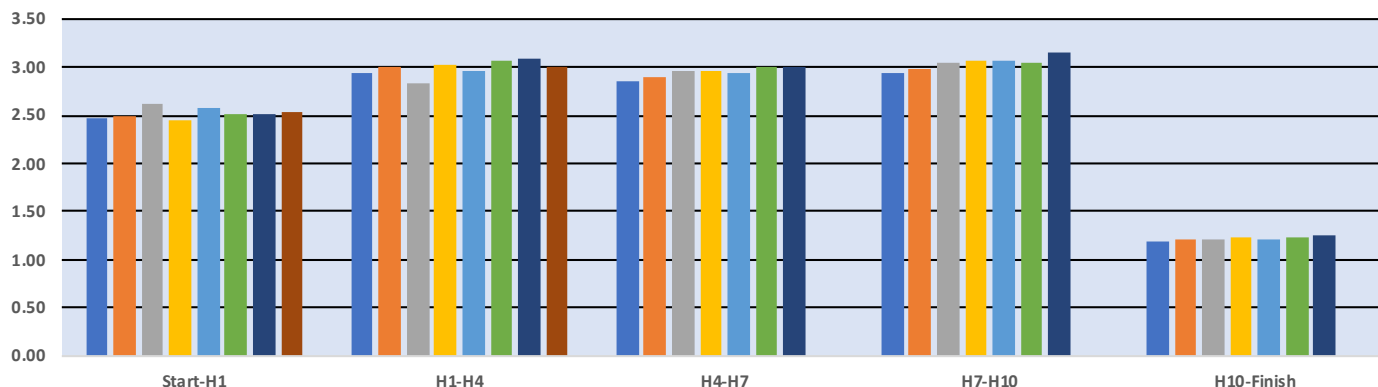
Semi-Final 2

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|-----------------------------------|---------------|------|-------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Harrison, Kendra (USA) (1992) | time | 2.48 | 3.52 | 4.47 | 5.42 | 6.38 | 7.33 | 8.28 | 9.25 | 10.26 | 11.22 | 12.40 | 12.40 | 6 / 1 | 2.94 | 2.86 | 2.94 |
| | reaction time | | 1.04 | 0.95 | 0.95 | 0.96 | 0.95 | 0.95 | 0.97 | 1.01 | 0.96 | 1.18 | | | | | |
| | velocity | 5.24 | 8.17 | 8.95 | 8.95 | 8.85 | 8.95 | 8.95 | 8.76 | 8.42 | 8.85 | 8.52 | 8.06 | | | | |
| Jones, Tia (USA) (2000) | time | 2.49 | 3.54 | 4.52 | 5.50 | 6.46 | 7.44 | 8.40 | 9.37 | 10.44 | 11.38 | 12.59 | 12.59 | 5 / 2 | 3.01 | 2.90 | 2.98 |
| | reaction time | | 1.05 | 0.98 | 0.98 | 0.96 | 0.98 | 0.96 | 0.97 | 1.07 | 0.94 | 1.21 | | | | | |
| | velocity | 5.22 | 8.10 | 8.67 | 8.67 | 8.85 | 8.67 | 8.85 | 8.76 | 7.94 | 9.04 | 8.31 | 7.94 | | | | |
| Marshall, Tonea (USA) (1998) | time | 2.61 | 3.41 | 4.49 | 5.44 | 6.45 | 7.43 | 8.40 | 9.40 | 10.44 | 11.45 | 12.67 | 12.67 | 4 / 3 | 2.83 | 2.96 | 3.05 |
| | reaction time | | 0.80 | 1.08 | 0.95 | 1.01 | 0.98 | 0.97 | 1.00 | 1.04 | 1.01 | 1.22 | | | | | |
| | velocity | 4.98 | 10.63 | 7.87 | 8.95 | 8.42 | 8.67 | 8.76 | 8.50 | 8.17 | 8.42 | 8.24 | 7.89 | | | | |
| Cunningham, Gabriele (USA) (1998) | time | 2.44 | 3.46 | 4.50 | 5.46 | 6.43 | 7.43 | 8.43 | 9.44 | 10.49 | 11.50 | 12.73 | 12.73 | 3 / 4 | 3.02 | 2.97 | 3.07 |
| | reaction time | | 1.02 | 1.04 | 0.96 | 0.97 | 1.00 | 1.00 | 1.01 | 1.05 | 1.01 | 1.23 | | | | | |
| | velocity | 5.33 | 8.33 | 8.17 | 8.85 | 8.76 | 8.50 | 8.50 | 8.42 | 8.10 | 8.42 | 8.17 | 7.86 | | | | |
| Salmon, Paula (USA) (1999) | time | 2.58 | 3.64 | 4.60 | 5.54 | 6.49 | 7.53 | 8.48 | 9.54 | 10.53 | 11.55 | 12.76 | 12.76 | 7 / 5 | 2.96 | 2.94 | 3.07 |
| | reaction time | | 1.06 | 0.96 | 0.94 | 0.95 | 1.04 | 0.95 | 1.06 | 0.99 | 1.02 | 1.21 | | | | | |
| | velocity | 5.04 | 8.02 | 8.85 | 9.04 | 8.95 | 8.17 | 8.95 | 8.02 | 8.59 | 8.33 | 8.31 | 7.84 | | | | |
| Brissett, Chanel (USA) (1999) | time | 2.51 | 3.58 | 4.60 | 5.57 | 6.57 | 7.60 | 8.58 | 9.58 | 10.61 | 11.63 | 12.86 | 12.86 | 8 / 6 | 3.06 | 3.01 | 3.05 |
| | reaction time | | 1.07 | 1.02 | 0.97 | 1.00 | 1.03 | 0.98 | 1.00 | 1.03 | 1.02 | 1.23 | | | | | |
| | velocity | 5.18 | 7.94 | 8.33 | 8.76 | 8.50 | 8.25 | 8.67 | 8.50 | 8.25 | 8.33 | 8.17 | 7.78 | | | | |
| Barber, Jade (USA) (1993) | time | 2.51 | 3.56 | 4.60 | 5.59 | 6.60 | 7.57 | 8.60 | 9.65 | 10.71 | 11.75 | 13.00 | 13.00 | 2 / 7 | 3.08 | 3.01 | 3.15 |
| | reaction time | | 1.05 | 1.04 | 0.99 | 1.01 | 0.97 | 1.03 | 1.05 | 1.06 | 1.04 | 1.25 | | | | | |
| | velocity | 5.18 | 8.10 | 8.17 | 8.59 | 8.42 | 8.76 | 8.25 | 8.10 | 8.02 | 8.17 | 8.04 | 7.69 | | | | |
| Nelvis, Sharika (USA) (1990) | time | 2.54 | 3.59 | 4.53 | 5.55 | | | | | | | | | 9 / -- | 3.01 | 8.47 | |
| | reaction time | | 1.05 | 0.94 | 1.02 | | | | | | | | | | | | |
| | velocity | 5.12 | 8.10 | 9.04 | 8.33 | | | | | | | | | | | | |



Time Intervals (s)

Hurdle Phases



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

Video: No Video Found

2022 USATF National Championships (Eugene, OR)

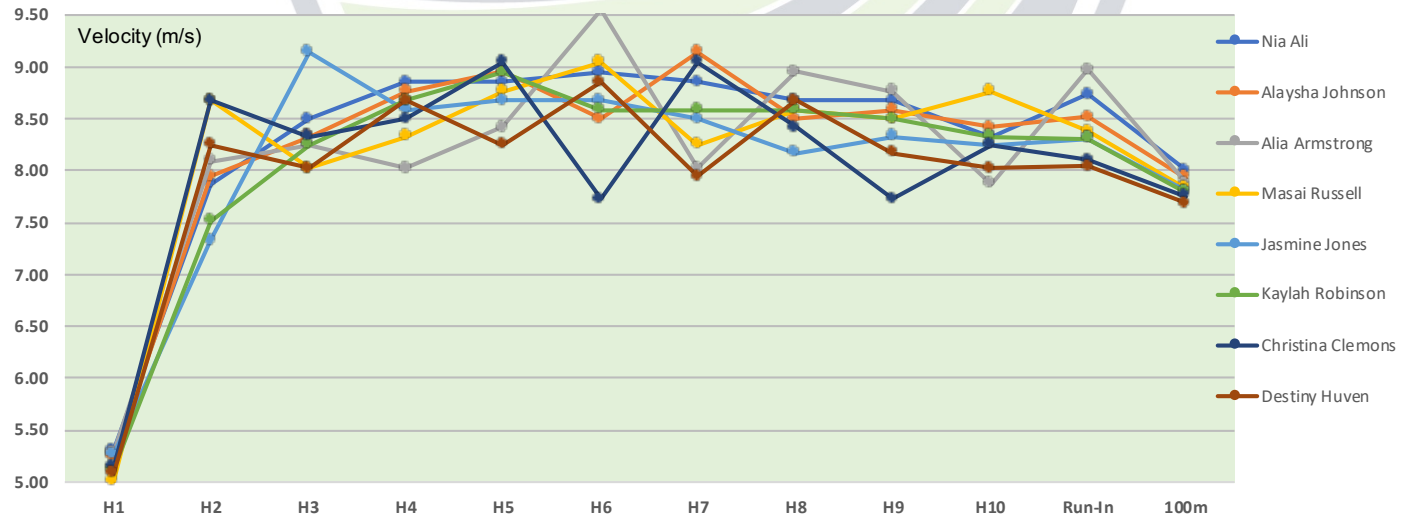
100m Hurdles

Date: 2022.06.25

Wind: 0.8 m/s

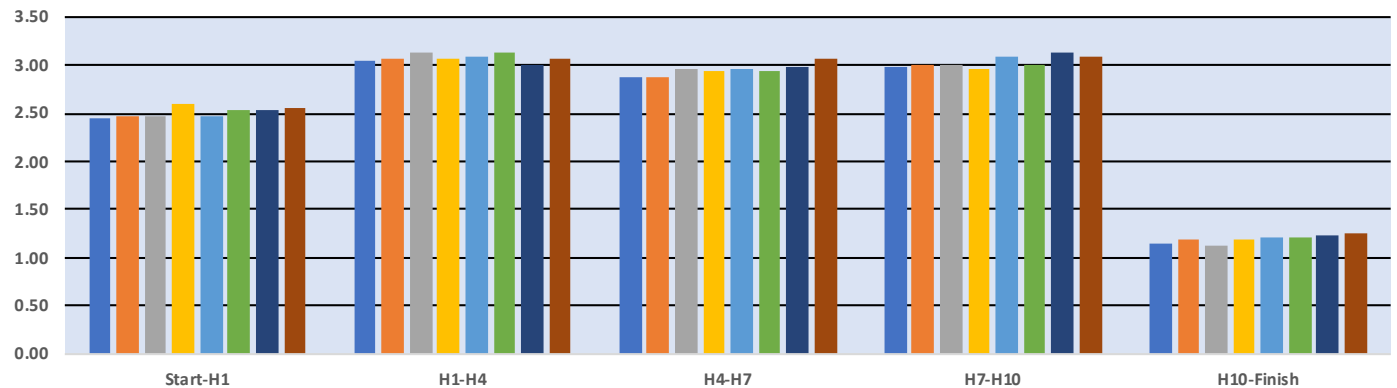
Semi-Final 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---------------------------------|---------------|------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Ali, Nia (USA) (1988) | time | 2.45 | 3.53 | 4.53 | 5.49 | 6.45 | 7.40 | 8.36 | 9.34 | 10.32 | 11.34 | 12.49 | 12.49 | 6 / 1 | 3.04 | 2.87 | 2.98 |
| | reaction time | | 1.08 | 1.00 | 0.96 | 0.96 | 0.95 | 0.96 | 0.98 | 0.98 | 1.02 | 1.15 | | | | | |
| | velocity | 5.31 | 7.87 | 8.50 | 8.85 | 8.85 | 8.95 | 8.85 | 8.67 | 8.67 | 8.33 | 8.74 | 8.01 | | | | |
| Johnson, Alaysha (USA) (1996) | time | 2.48 | 3.55 | 4.57 | 5.54 | 6.49 | 7.49 | 8.42 | 9.42 | 10.41 | 11.42 | 12.60 | 12.60 | 4 / 2 | 3.06 | 2.88 | 3.00 |
| | reaction time | | 1.07 | 1.02 | 0.97 | 0.95 | 1.00 | 0.93 | 1.00 | 0.99 | 1.01 | 1.18 | | | | | |
| | velocity | 5.24 | 7.94 | 8.33 | 8.76 | 8.95 | 8.50 | 9.14 | 8.50 | 8.59 | 8.42 | 8.52 | 7.94 | | | | |
| Armstrong, Alia (USA) (2000) | time | 2.46 | 3.51 | 4.54 | 5.60 | 6.61 | 7.50 | 8.56 | 9.51 | 10.48 | 11.56 | 12.68 | 12.68 | 7 / 3 | 3.14 | 2.96 | 3.00 |
| | reaction time | | 1.05 | 1.03 | 1.06 | 1.01 | 0.89 | 1.06 | 0.95 | 0.97 | 1.08 | 1.12 | | | | | |
| | velocity | 5.28 | 8.10 | 8.25 | 8.02 | 8.42 | 9.55 | 8.02 | 8.95 | 8.76 | 7.87 | 8.97 | 7.89 | | | | |
| Russell, Masai (USA) (2000) | time | 2.60 | 3.58 | 4.64 | 5.66 | 6.63 | 7.57 | 8.60 | 9.59 | 10.59 | 11.56 | 12.76 | 12.76 | 5 / 4 | 3.06 | 2.94 | 2.96 |
| | reaction time | | 0.98 | 1.06 | 1.02 | 0.97 | 0.94 | 1.03 | 0.99 | 1.00 | 0.97 | 1.20 | | | | | |
| | velocity | 5.00 | 8.67 | 8.02 | 8.33 | 8.76 | 9.04 | 8.25 | 8.59 | 8.50 | 8.76 | 8.38 | 7.84 | | | | |
| Jones, Jasmine (USA) (2001) | time | 2.47 | 3.63 | 4.56 | 5.55 | 6.53 | 7.51 | 8.51 | 9.55 | 10.57 | 11.60 | 12.81 | 12.81 | 8 / 5 | 3.08 | 2.96 | 3.09 |
| | reaction time | | 1.16 | 0.93 | 0.99 | 0.98 | 0.98 | 1.00 | 1.04 | 1.02 | 1.03 | 1.21 | | | | | |
| | velocity | 5.26 | 7.33 | 9.14 | 8.59 | 8.67 | 8.67 | 8.50 | 8.17 | 8.33 | 8.25 | 8.31 | 7.81 | | | | |
| Robinson, Kaylah (USA) (1999) | time | 2.54 | 3.67 | 4.70 | 5.68 | 6.63 | 7.62 | 8.61 | 9.60 | 10.60 | 11.62 | 12.83 | 12.83 | 9 / 6 | 3.14 | 2.93 | 3.01 |
| | reaction time | | 1.13 | 1.03 | 0.98 | 0.95 | 0.99 | 0.99 | 1.00 | 1.02 | 1.02 | 1.21 | | | | | |
| | velocity | 5.12 | 7.52 | 8.25 | 8.67 | 8.95 | 8.59 | 8.59 | 8.59 | 8.50 | 8.33 | 8.31 | 7.79 | | | | |
| Clemons, Christina (USA) (1990) | time | 2.53 | 3.51 | 4.53 | 5.53 | 6.47 | 7.57 | 8.51 | 9.52 | 10.62 | 11.65 | 12.89 | 12.89 | 3 / 7 | 3.00 | 2.98 | 3.14 |
| | reaction time | | 0.98 | 1.02 | 1.00 | 0.94 | 1.10 | 0.94 | 1.01 | 1.10 | 1.03 | 1.24 | | | | | |
| | velocity | 5.14 | 8.67 | 8.33 | 8.50 | 9.04 | 7.73 | 9.04 | 8.42 | 7.73 | 8.25 | 8.10 | 7.76 | | | | |
| Huven, Destiny (USA) (2001) | time | 2.56 | 3.59 | 4.65 | 5.63 | 6.66 | 7.62 | 8.69 | 9.67 | 10.71 | 11.77 | 13.02 | 13.02 | 2 / 8 | 3.07 | 3.06 | 3.08 |
| | reaction time | | 1.03 | 1.06 | 0.98 | 1.03 | 0.96 | 1.07 | 0.98 | 1.04 | 1.06 | 1.25 | | | | | |
| | velocity | 5.08 | 8.25 | 8.02 | 8.67 | 8.25 | 8.85 | 7.94 | 8.67 | 8.17 | 8.02 | 8.04 | 7.68 | | | | |



Time Intervals (s)

Hurdle Phases



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

Video: No Video Found

2022 Meeting de Paris (Paris, FRA) (TV Analysis)

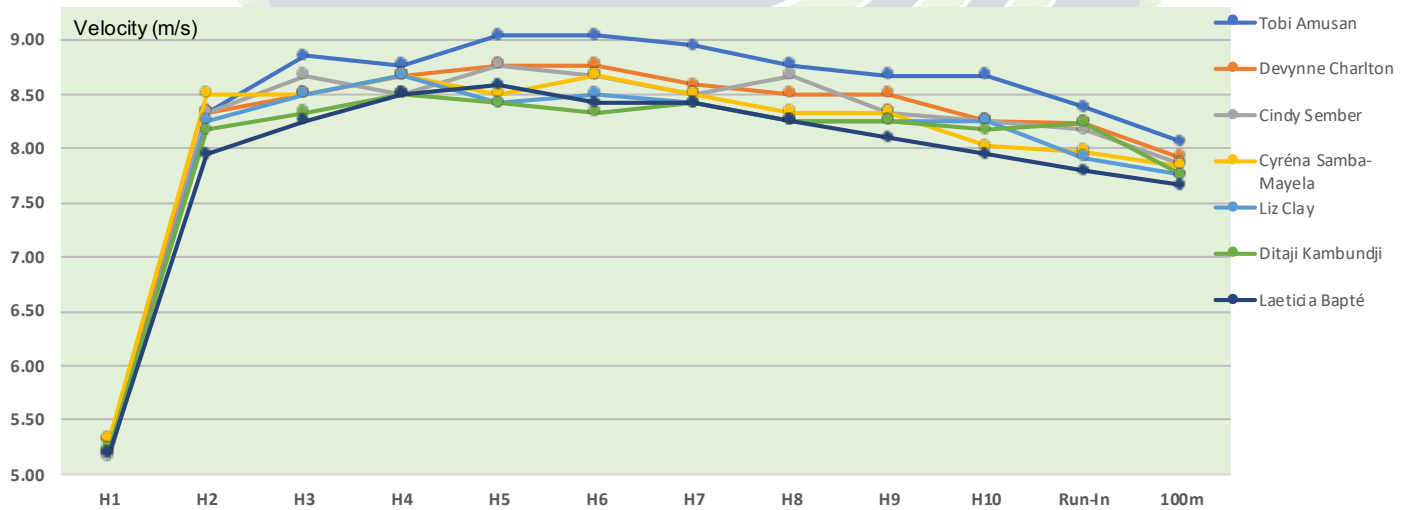
100m Hurdles

Date: 2022.06.18

Wind: -0.4 m/s

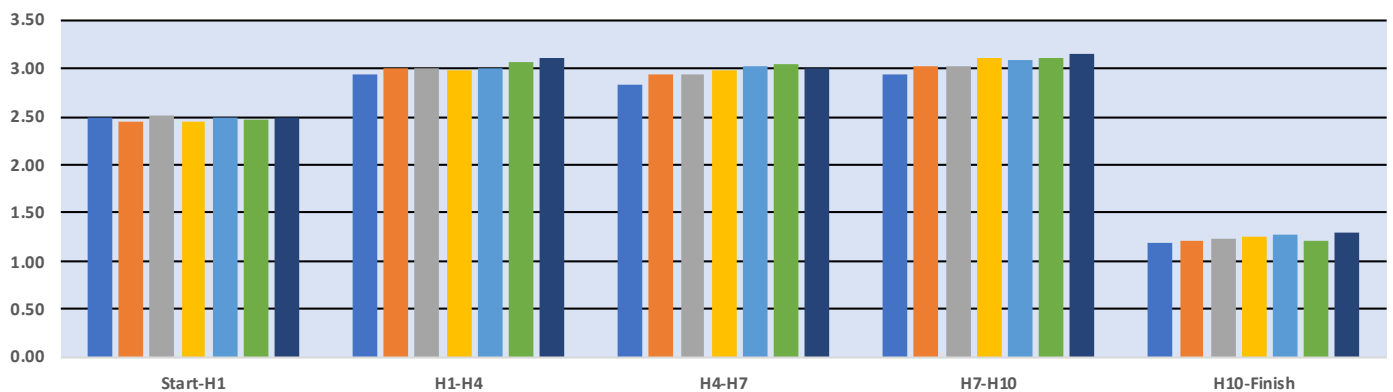
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|--------------|------------|-------|-------|--------|
| Amusan, Tobi (NGR) (1997) | time | 2.50 | 3.52 | 4.48 | 5.45 | 6.39 | 7.33 | 8.28 | 9.25 | 10.23 | 11.21 | 12.41 | 12.41 | 5 / 1 | | | |
| | reaction time | 0.159 | | | | | | | | | | | NR PB | | 2.95 | 2.83 | 2.93 |
| | interval | | 1.02 | 0.96 | 0.97 | 0.94 | 0.94 | 0.95 | 0.97 | 0.98 | 0.98 | 1.20 | 8.06 | | 8.64 | 9.01 | 8.70 |
| | velocity | 5.20 | 8.33 | 8.85 | 8.76 | 9.04 | 9.04 | 8.95 | 8.76 | 8.67 | 8.67 | 8.38 | 8.06 | | | | |
| Charlton, Devynne (BAH) (1995) | time | 2.45 | 3.47 | 4.47 | 5.45 | 6.42 | 7.39 | 8.38 | 9.38 | 10.38 | 11.41 | 12.63 | 12.63 | 7 / 2 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | 3.00 | 2.93 | 3.03 |
| | interval | | 1.02 | 1.00 | 0.98 | 0.97 | 0.97 | 0.99 | 1.00 | 1.00 | 1.03 | 1.22 | 7.92 | | 8.50 | 8.70 | 8.42 |
| | velocity | 5.31 | 8.33 | 8.50 | 8.67 | 8.76 | 8.76 | 8.59 | 8.50 | 8.50 | 8.25 | 8.24 | 7.92 | | | | |
| Sember, Cindy (GBR) (1994) | time | 2.52 | 3.54 | 4.52 | 5.52 | 6.49 | 7.47 | 8.47 | 9.45 | 10.47 | 11.50 | 12.73 | 12.73 | 3 / 3 | | | |
| | reaction time | 0.161 | | | | | | | | | | | | | 3.00 | 2.95 | 3.03 |
| | interval | | 1.02 | 0.98 | 1.00 | 0.97 | 0.98 | 1.00 | 0.98 | 1.02 | 1.03 | 1.23 | 7.86 | | 8.50 | 8.64 | 8.42 |
| | velocity | 5.16 | 8.33 | 8.67 | 8.50 | 8.76 | 8.67 | 8.50 | 8.67 | 8.33 | 8.25 | 8.17 | 7.86 | | | | |
| Samba-Mayela, Cyréna (FRA) (2000) | time | 2.44 | 3.44 | 4.44 | 5.42 | 6.42 | 7.40 | 8.40 | 9.42 | 10.44 | 11.50 | 12.76 | 12.76 | 4 / 4 | | | |
| | reaction time | 0.123 | | | | | | | | | | | | | 2.98 | 2.98 | 3.10 |
| | interval | | 1.00 | 1.00 | 0.98 | 1.00 | 0.98 | 1.00 | 1.02 | 1.02 | 1.06 | 1.26 | 7.84 | | 8.56 | 8.56 | 8.23 |
| | velocity | 5.33 | 8.50 | 8.50 | 8.67 | 8.50 | 8.67 | 8.50 | 8.33 | 8.33 | 8.02 | 7.98 | 7.84 | | | | |
| Clay, Liz (AUS) (1995) | time | 2.50 | 3.53 | 4.53 | 5.51 | 6.52 | 7.52 | 8.53 | 9.56 | 10.59 | 11.62 | 12.89 | 12.89 | 6 / 5 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | 3.01 | 3.02 | 3.09 |
| | interval | | 1.03 | 1.00 | 0.98 | 1.01 | 1.00 | 1.01 | 1.03 | 1.03 | 1.03 | 1.27 | 7.76 | | 8.47 | 8.44 | 8.25 |
| | velocity | 5.20 | 8.25 | 8.50 | 8.67 | 8.42 | 8.50 | 8.42 | 8.25 | 8.25 | 8.25 | 7.91 | 7.76 | | | | |
| Kambundji, Ditaji (SUI) (2002) | time | 2.48 | 3.52 | 4.54 | 5.54 | 6.55 | 7.57 | 8.58 | 9.61 | 10.64 | 11.68 | 12.90 | 12.90 | 1 / 6 | | | |
| | reaction time | 0.145 | | | | | | | | | | | | | 3.06 | 3.04 | 3.10 |
| | interval | | 1.04 | 1.02 | 1.00 | 1.01 | 1.02 | 1.01 | 1.03 | 1.03 | 1.04 | 1.22 | 7.75 | | 8.33 | 8.39 | 8.23 |
| | velocity | 5.24 | 8.17 | 8.33 | 8.50 | 8.42 | 8.33 | 8.42 | 8.25 | 8.25 | 8.17 | 8.24 | 7.75 | | | | |
| Bapté, Laetitia (FRA) (1999) | time | 2.50 | 3.57 | 4.60 | 5.60 | 6.59 | 7.60 | 8.61 | 9.64 | 10.69 | 11.76 | 13.05 | 13.05 | 2 / 7 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | 3.10 | 3.01 | 3.15 |
| | interval | | 1.07 | 1.03 | 1.00 | 0.99 | 1.01 | 1.01 | 1.03 | 1.05 | 1.07 | 1.29 | 7.66 | | 8.23 | 8.47 | 8.10 |
| | velocity | 5.20 | 7.94 | 8.25 | 8.50 | 8.59 | 8.42 | 8.42 | 8.25 | 8.10 | 7.94 | 7.79 | 7.66 | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1280 x 720 @ 50fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=0Onww33Czs>

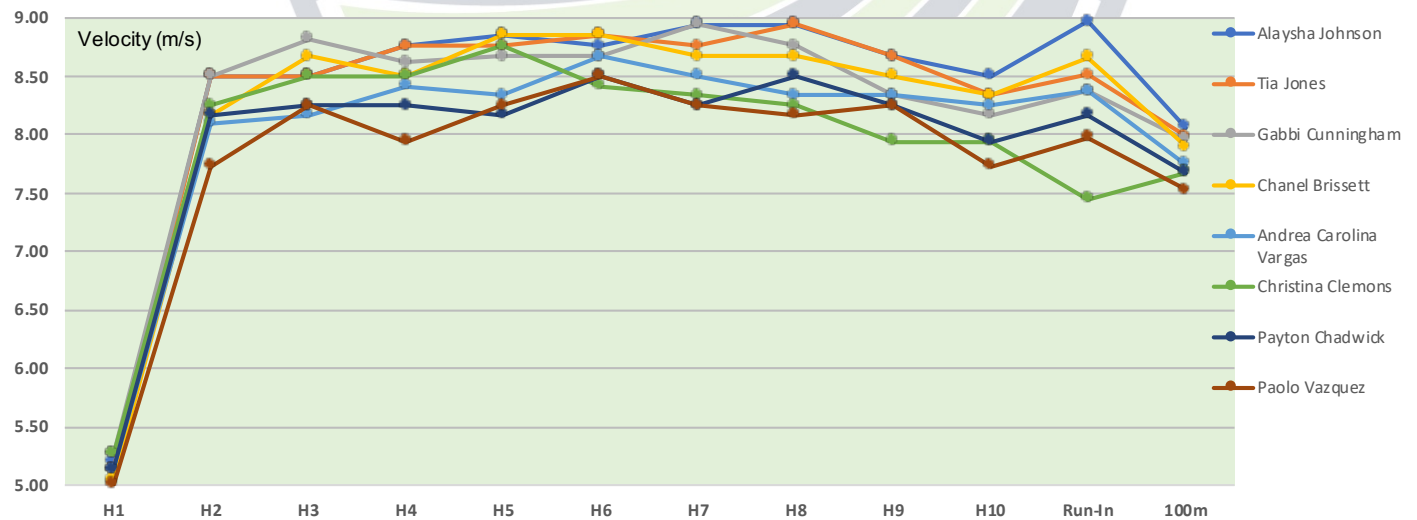
2022 New York Grand Prix (New York, NY) (TV Analysis)

100m Hurdles

Date: 2022.06.12 Wind: 2.0 m/s

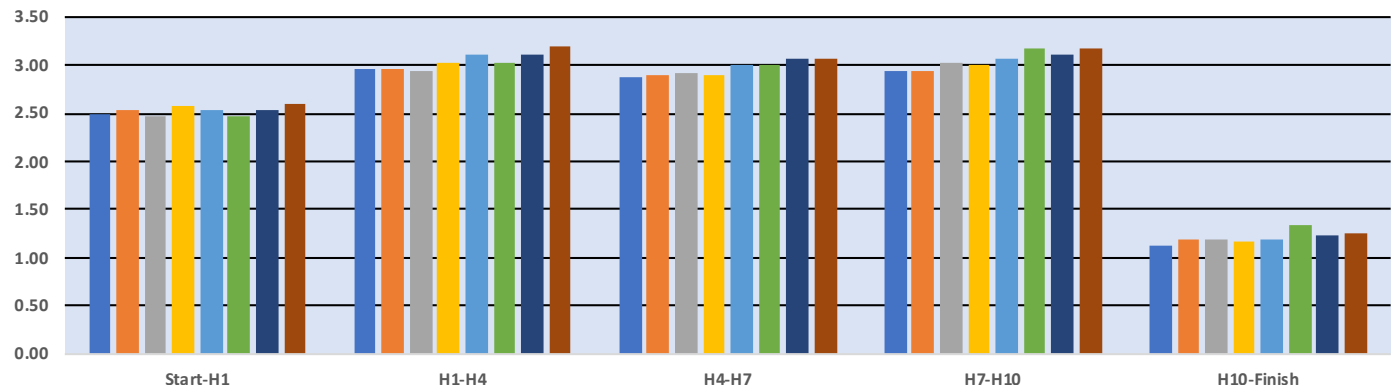
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Johnson, Alaysha (USA) (1996) | time | 2.50 | 3.50 | 4.50 | 5.47 | 6.43 | 7.40 | 8.35 | 9.30 | 10.28 | 11.28 | 12.40 | 12.40 | 4 / 1 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | 2.97 | 2.88 | 2.93 |
| | interval | | 1.00 | 1.00 | 0.97 | 0.96 | 0.97 | 0.95 | 0.95 | 0.98 | 1.00 | 1.12 | PB | | 8.59 | 8.85 | 8.70 |
| | velocity | 5.20 | 8.50 | 8.50 | 8.76 | 8.85 | 8.76 | 8.95 | 8.95 | 8.67 | 8.50 | 8.97 | 8.06 | | | | |
| Jones, Tia (USA) (2000) | time | 2.53 | 3.53 | 4.53 | 5.50 | 6.47 | 7.43 | 8.40 | 9.35 | 10.33 | 11.35 | 12.53 | 12.53 | 6 / 2 | | | |
| | reaction time | 0.161 | | | | | | | | | | | | | 2.97 | 2.90 | 2.95 |
| | interval | | 1.00 | 1.00 | 0.97 | 0.97 | 0.96 | 0.97 | 0.95 | 0.98 | 1.02 | 1.18 | | | 8.59 | 8.79 | 8.64 |
| | velocity | 5.14 | 8.50 | 8.50 | 8.76 | 8.76 | 8.85 | 8.76 | 8.95 | 8.67 | 8.33 | 8.52 | 7.98 | | | | |
| Cunningham, Gabriele (USA) (1998) | time | 2.47 | 3.47 | 4.43 | 5.42 | 6.40 | 7.38 | 8.33 | 9.30 | 10.32 | 11.36 | 12.56 | 12.56 | 5 / 3 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | 2.95 | 2.91 | 3.03 |
| | interval | | 1.00 | 0.96 | 0.99 | 0.98 | 0.98 | 0.95 | 0.97 | 1.02 | 1.04 | 1.20 | | | 8.64 | 8.76 | 8.42 |
| | velocity | 5.26 | 8.50 | 8.82 | 8.62 | 8.67 | 8.67 | 8.95 | 8.76 | 8.33 | 8.17 | 8.37 | 7.96 | | | | |
| Brissett, Chanel (USA) (1999) | time | 2.58 | 3.62 | 4.60 | 5.60 | 6.56 | 7.52 | 8.50 | 9.48 | 10.48 | 11.50 | 12.66 | 12.66 | 8 / 4 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | 3.02 | 2.90 | 3.00 |
| | interval | | 1.04 | 0.98 | 1.00 | 0.96 | 0.96 | 0.98 | 0.98 | 1.00 | 1.02 | 1.16 | | | 8.44 | 8.79 | 8.50 |
| | velocity | 5.04 | 8.17 | 8.67 | 8.50 | 8.85 | 8.85 | 8.67 | 8.67 | 8.50 | 8.33 | 8.66 | 7.90 | | | | |
| Vargas, Andrea Carolina (CRC) (1996) | time | 2.53 | 3.58 | 4.62 | 5.63 | 6.65 | 7.63 | 8.63 | 9.65 | 10.67 | 11.70 | 12.90 | 12.90 | 7 / 5 | | | |
| | reaction time | 0.124 | | | | | | | | | | | | | 3.10 | 3.00 | 3.07 |
| | interval | | 1.05 | 1.04 | 1.01 | 1.02 | 0.98 | 1.00 | 1.02 | 1.02 | 1.03 | 1.20 | | | 8.23 | 8.50 | 8.31 |
| | velocity | 5.14 | 8.10 | 8.17 | 8.42 | 8.33 | 8.67 | 8.50 | 8.33 | 8.33 | 8.25 | 8.37 | 7.75 | | | | |
| Clemons, Christina (USA) (1990) | time | 2.47 | 3.50 | 4.50 | 5.50 | 6.47 | 7.48 | 8.50 | 9.53 | 10.60 | 11.67 | 13.02 | 13.02 | 3 / 6 | | | |
| | reaction time | 0.127 | | | | | | | | | | | | | 3.03 | 3.00 | 3.17 |
| | interval | | 1.03 | 1.00 | 1.00 | 0.97 | 1.01 | 1.02 | 1.03 | 1.07 | 1.07 | 1.35 | | | 8.42 | 8.50 | 8.04 |
| | velocity | 5.26 | 8.25 | 8.50 | 8.50 | 8.76 | 8.42 | 8.33 | 8.25 | 7.94 | 7.94 | 7.44 | 7.68 | | | | |
| Chadwick, Payton (USA) (1995) | time | 2.53 | 3.57 | 4.60 | 5.63 | 6.67 | 7.67 | 8.70 | 9.70 | 10.73 | 11.80 | 13.03 | 13.03 | 2 / 7 | | | |
| | reaction time | 0.159 | | | | | | | | | | | | | 3.10 | 3.07 | 3.10 |
| | interval | | 1.04 | 1.03 | 1.03 | 1.04 | 1.00 | 1.03 | 1.00 | 1.03 | 1.07 | 1.23 | | | 8.23 | 8.31 | 8.23 |
| | velocity | 5.14 | 8.17 | 8.25 | 8.25 | 8.17 | 8.50 | 8.25 | 8.50 | 8.25 | 7.94 | 8.17 | 7.67 | | | | |
| Vazquez, Paolo (PUR) (1998) | time | 2.60 | 3.70 | 4.73 | 5.80 | 6.83 | 7.83 | 8.86 | 9.90 | 10.93 | 12.03 | 13.29 | 13.29 | 1 / 8 | | | |
| | reaction time | 0.179 | | | | | | | | | | | | | 3.20 | 3.06 | 3.17 |
| | interval | | 1.10 | 1.03 | 1.07 | 1.03 | 1.00 | 1.03 | 1.04 | 1.03 | 1.10 | 1.26 | | | 7.97 | 8.33 | 8.04 |
| | velocity | 5.00 | 7.73 | 8.25 | 7.94 | 8.25 | 8.50 | 8.25 | 8.17 | 8.25 | 7.73 | 7.98 | 7.52 | | | | |



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=9PMsox9_mYA&t=20s

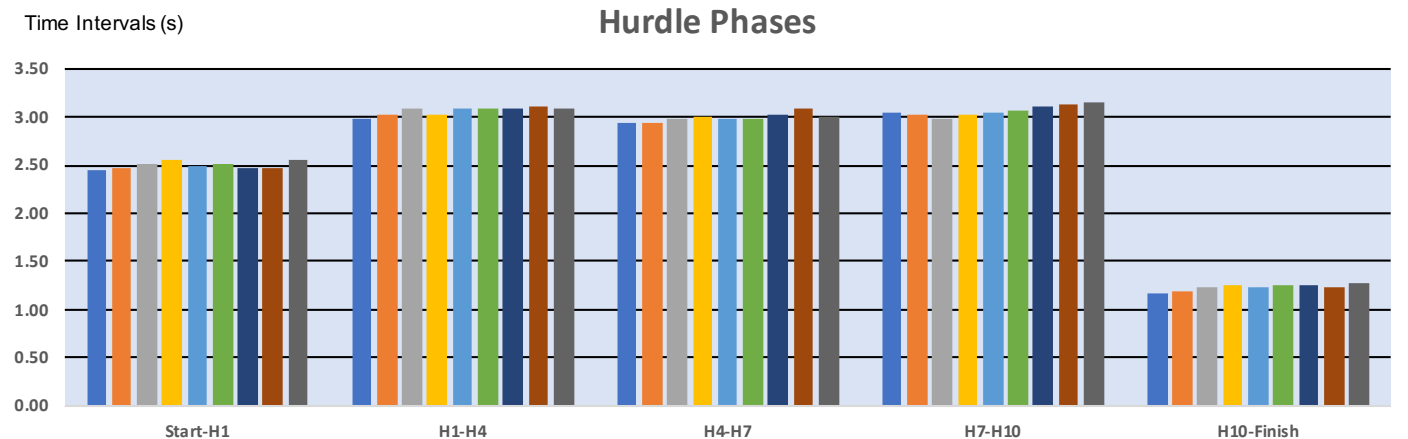
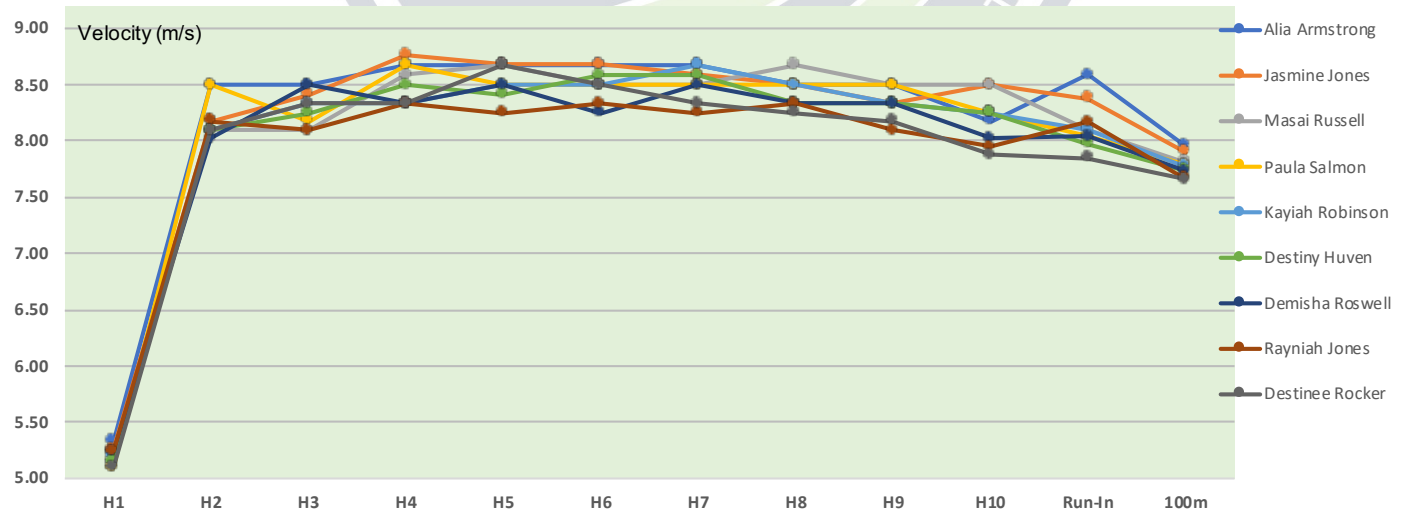
2022 NCAA Championships (Eugene, OR) (TV Analysis)

100m Hurdles

Date: 2022.06.11 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 |
|-------------------------------|---------------|------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------------|-------|-------|--------|
| Armstrong, Alia (USA) (2000) | time | 2.44 | 3.44 | 4.44 | 5.42 | 6.40 | 7.38 | 8.36 | 9.36 | 10.36 | 11.40 | | 12.57 | 5 / 1 | | | |
| | reaction time | | | | | | | | | | | | | | 2.98 | 2.94 | 3.04 |
| | interval | | 1.00 | 1.00 | 0.98 | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.04 | 1.17 | | | 8.56 | 8.67 | 8.39 |
| Jones, Jasmine (USA) (2001) | time | 2.47 | 3.51 | 4.52 | 5.49 | 6.47 | 7.45 | 8.44 | 9.44 | 10.46 | 11.46 | | 12.66 | 7 / 2 | | | |
| | reaction time | | | | | | | | | | | | | | 3.02 | 2.95 | 3.02 |
| | interval | | 1.04 | 1.01 | 0.97 | 0.98 | 0.98 | 0.99 | 1.00 | 1.02 | 1.00 | 1.20 | | | 8.44 | 8.64 | 8.44 |
| Russell, Masai (USA) (2000) | time | 2.52 | 3.57 | 4.62 | 5.61 | 6.59 | 7.59 | 8.59 | 9.57 | 10.57 | 11.57 | | 12.81 | 4 / 3 | | | |
| | reaction time | | | | | | | | | | | | | | 3.09 | 2.98 | 2.98 |
| | interval | | 1.05 | 1.05 | 0.99 | 0.98 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 | 1.24 | | | 8.25 | 8.56 | 8.56 |
| Salmon, Paula (USA) (1999) | time | 2.55 | 3.55 | 4.59 | 5.57 | 6.57 | 7.57 | 8.57 | 9.57 | 10.57 | 11.60 | | 12.85 | 6 / 4 | | | |
| | reaction time | | | | | | | | | | | | | | 3.02 | 3.00 | 3.03 |
| | interval | | 1.00 | 1.04 | 0.98 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.25 | | | 8.44 | 8.50 | 8.42 |
| Robinson, Kaylah (USA) (1999) | time | 2.50 | 3.55 | 4.57 | 5.59 | 6.59 | 7.59 | 8.57 | 9.57 | 10.59 | 11.62 | | 12.86 | 3 / 5 | | | |
| | reaction time | | | | | | | | | | | | | | 3.09 | 2.98 | 3.05 |
| | interval | | 1.05 | 1.02 | 1.02 | 1.00 | 1.00 | 0.98 | 1.00 | 1.02 | 1.03 | 1.24 | | | 8.25 | 8.56 | 8.36 |
| Huven, Destiny (USA) (2001) | time | 2.52 | 3.57 | 4.60 | 5.60 | 6.61 | 7.60 | 8.59 | 9.61 | 10.63 | 11.66 | | 12.92 | 2 / 6 | | | |
| | reaction time | | | | | | | | | | | | | | 3.08 | 2.99 | 3.07 |
| | interval | | 1.05 | 1.03 | 1.00 | 1.01 | 0.99 | 0.99 | 1.02 | 1.02 | 1.03 | 1.26 | | | 8.28 | 8.53 | 8.31 |
| Roswell, Demisha (JAM) (1998) | time | 2.48 | 3.54 | 4.54 | 5.56 | 6.56 | 7.59 | 8.59 | 9.61 | 10.63 | 11.69 | | 12.94 | 8 / 7 | | | |
| | reaction time | | | | | | | | | | | | | | 3.08 | 3.03 | 3.10 |
| | interval | | 1.06 | 1.00 | 1.02 | 1.00 | 1.03 | 1.00 | 1.02 | 1.02 | 1.06 | 1.25 | | | 8.28 | 8.42 | 8.23 |
| Jones, Rayniah (USA) (2001) | time | 2.48 | 3.52 | 4.57 | 5.59 | 6.62 | 7.64 | 8.67 | 9.69 | 10.74 | 11.81 | | 13.04 | 9 / 8 | | | |
| | reaction time | | | | | | | | | | | | | | 3.11 | 3.08 | 3.14 |
| | interval | | 1.04 | 1.05 | 1.02 | 1.03 | 1.02 | 1.03 | 1.02 | 1.05 | 1.07 | 1.23 | | | 8.20 | 8.28 | 8.12 |
| Rocker, Destinee (USA) (1999) | time | 2.55 | 3.60 | 4.62 | 5.64 | 6.62 | 7.62 | 8.64 | 9.67 | 10.71 | 11.79 | | 13.07 | 1 / 8 | | | |
| | reaction time | | | | | | | | | | | | | | 3.09 | 3.00 | 3.15 |
| | interval | | 1.05 | 1.02 | 1.02 | 0.98 | 1.00 | 1.02 | 1.03 | 1.04 | 1.08 | 1.28 | | | 8.25 | 8.50 | 8.10 |
| velocity | | 5.10 | 8.10 | 8.33 | 8.33 | 8.67 | 8.50 | 8.33 | 8.25 | 8.17 | 7.87 | 7.85 | 7.65 | | | | |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1280 x 720 @ 60fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=WxuljnYqrN4&t=2s>

2022 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis)

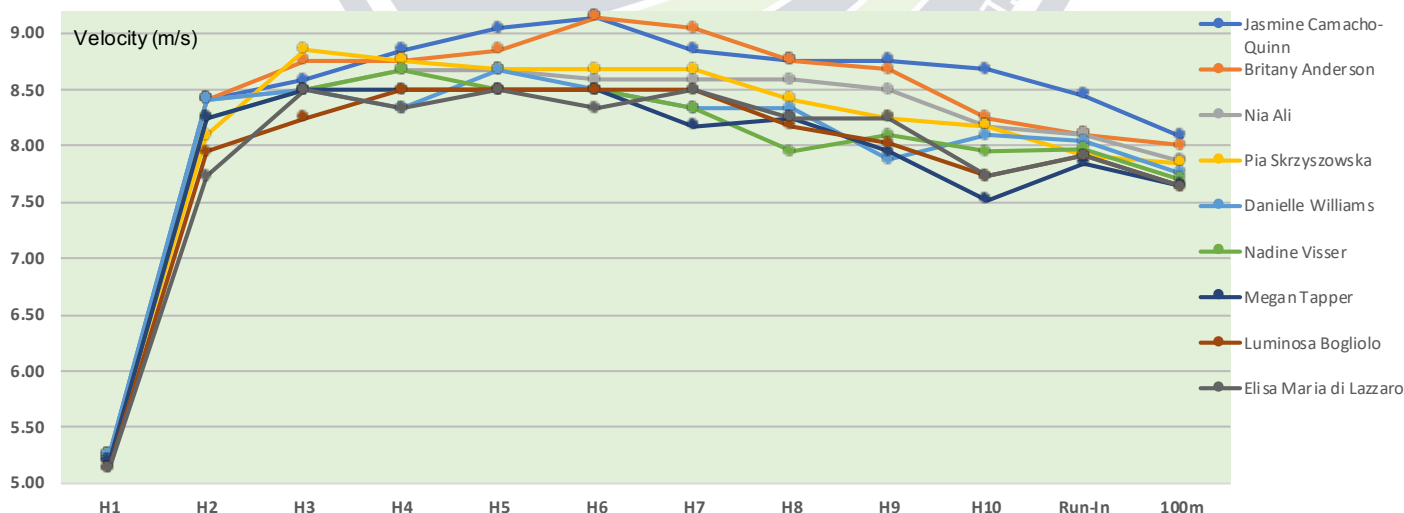
100m Hurdles

Date: 2022.06.09

Wind: 0.1 m/s

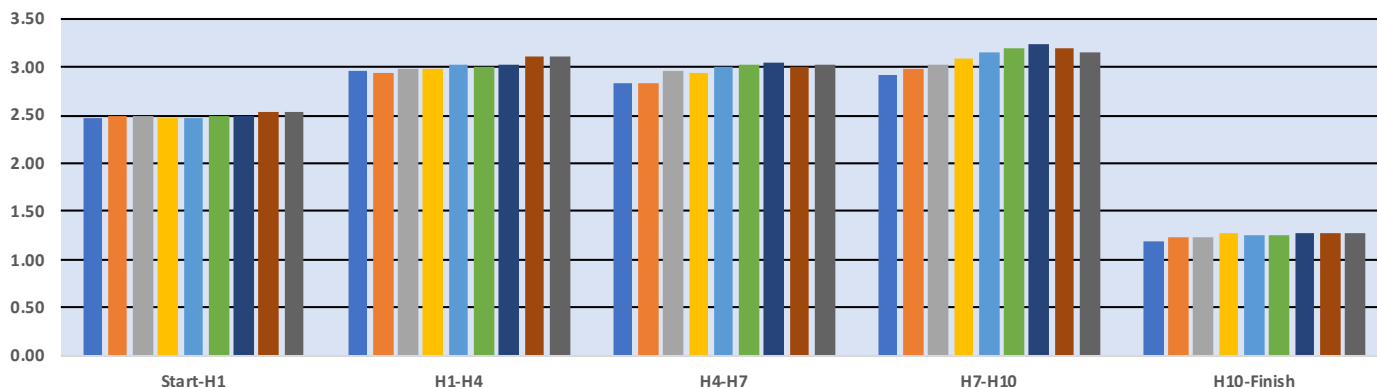
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|-------------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.47 | 3.48 | 4.47 | 5.43 | 6.37 | 7.30 | 8.26 | 9.23 | 10.20 | 11.18 | | 12.37 | 5/1 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | 2.96 | 2.83 | 2.92 |
| | interval velocity | 5.26 | 8.42 | 8.59 | 8.85 | 9.04 | 9.14 | 8.85 | 8.76 | 8.76 | 8.67 | 8.45 | 8.08 | | 8.61 | 9.01 | 8.73 |
| Anderson, Britany (JAM) (2001) | time | 2.50 | 3.51 | 4.48 | 5.45 | 6.41 | 7.34 | 8.28 | 9.25 | 10.23 | 11.26 | | 12.50 | 4/2 | | | |
| | reaction time | 0.182 | | | | | | | | | | | | | 2.95 | 2.83 | 2.98 |
| | interval velocity | 5.20 | 8.42 | 8.76 | 8.76 | 8.85 | 9.14 | 9.04 | 8.76 | 8.67 | 8.25 | 8.10 | 8.00 | | 8.64 | 9.01 | 8.56 |
| Ali, Nia (USA) (1988) | time | 2.49 | 3.50 | 4.50 | 5.48 | 6.46 | 7.45 | 8.44 | 9.43 | 10.43 | 11.47 | | 12.71 | 6/3 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | 2.99 | 2.96 | 3.03 |
| | interval velocity | 5.22 | 8.42 | 8.50 | 8.67 | 8.67 | 8.59 | 8.59 | 8.59 | 8.50 | 8.17 | 8.10 | 7.87 | | 8.53 | 8.61 | 8.42 |
| Skrzysowska, Pia (POL) (2001) | time | 2.47 | 3.52 | 4.48 | 5.45 | 6.43 | 7.41 | 8.39 | 9.40 | 10.43 | 11.47 | | 12.74 | 1/4 | | | |
| | reaction time | 0.132 | | | | | | | | | | | | | 2.98 | 2.94 | 3.08 |
| | interval velocity | 5.26 | 8.10 | 8.85 | 8.76 | 8.67 | 8.67 | 8.67 | 8.42 | 8.25 | 8.17 | 7.91 | 7.85 | | 8.56 | 8.67 | 8.28 |
| Williams, Danielle (JAM) (1992) | time | 2.47 | 3.48 | 4.48 | 5.50 | 6.48 | 7.48 | 8.50 | 9.52 | 10.60 | 11.65 | | 12.90 | 7/5 | | | |
| | reaction time | 0.131 | | | | | | | | | | | | | 3.03 | 3.00 | 3.15 |
| | interval velocity | 5.26 | 8.42 | 8.50 | 8.33 | 8.67 | 8.50 | 8.33 | 8.33 | 7.87 | 8.10 | 8.04 | 7.75 | | 8.42 | 8.50 | 8.10 |
| Visser, Nadine (NED) (1995) | time | 2.50 | 3.53 | 4.53 | 5.51 | 6.51 | 7.51 | 8.53 | 9.60 | 10.65 | 11.72 | | 12.98 | 8/6 | | | |
| | reaction time | 0.146 | | | | | | | | | | | | | 3.01 | 3.02 | 3.19 |
| | interval velocity | 5.20 | 8.25 | 8.50 | 8.67 | 8.50 | 8.50 | 8.33 | 7.94 | 8.10 | 7.94 | 7.98 | 7.70 | | 8.47 | 8.44 | 7.99 |
| Tapper, Megan (JAM) (1994) | time | 2.50 | 3.53 | 4.53 | 5.53 | 6.53 | 7.53 | 8.57 | 9.60 | 10.67 | 11.80 | | 13.08 | 3/7 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | 3.03 | 3.04 | 3.23 |
| | interval velocity | 5.20 | 8.25 | 8.50 | 8.50 | 8.50 | 8.50 | 8.17 | 8.25 | 7.94 | 7.52 | 7.85 | 7.65 | | 8.42 | 8.39 | 7.89 |
| Bogliolo, Luminosa (ITA) (1995) | time | 2.53 | 3.60 | 4.63 | 5.63 | 6.63 | 7.63 | 8.63 | 9.67 | 10.73 | 11.83 | | 13.10 | 2/8 | | | |
| | reaction time | 0.163 | | | | | | | | | | | | | 3.10 | 3.00 | 3.20 |
| | interval velocity | 5.14 | 7.94 | 8.25 | 8.50 | 8.50 | 8.50 | 8.50 | 8.17 | 8.02 | 7.73 | 7.91 | 7.63 | | 8.23 | 8.50 | 7.97 |
| di Lazzaro, Elisa Maria (ITA) (1998) | time | 2.53 | 3.63 | 4.63 | 5.65 | 6.65 | 7.67 | 8.67 | 9.70 | 10.73 | 11.83 | | 13.10 | 9/9 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | 3.12 | 3.02 | 3.16 |
| | interval velocity | 5.14 | 7.73 | 8.50 | 8.33 | 8.50 | 8.33 | 8.50 | 8.25 | 8.25 | 7.73 | 7.91 | 7.63 | | 8.17 | 8.44 | 8.07 |



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=iYFvace8BPc>

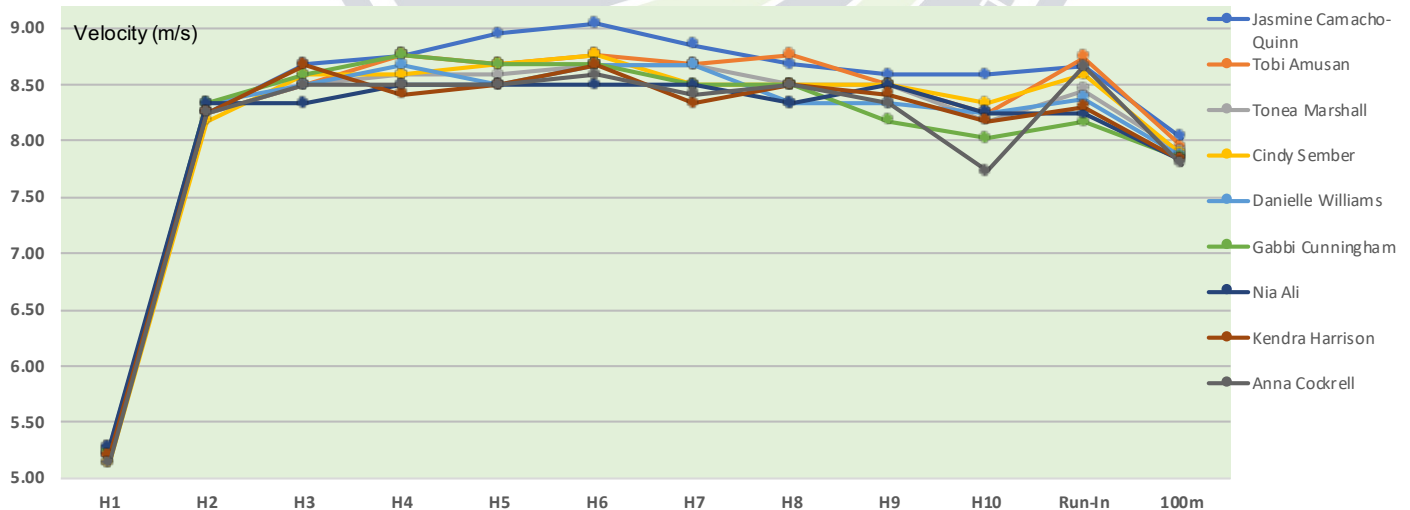
2022 Prefontaine Classic (Eugene, OR) (TV Analysis)

100m Hurdles

Date: 2022.05.28 Wind: -0.7 m/s

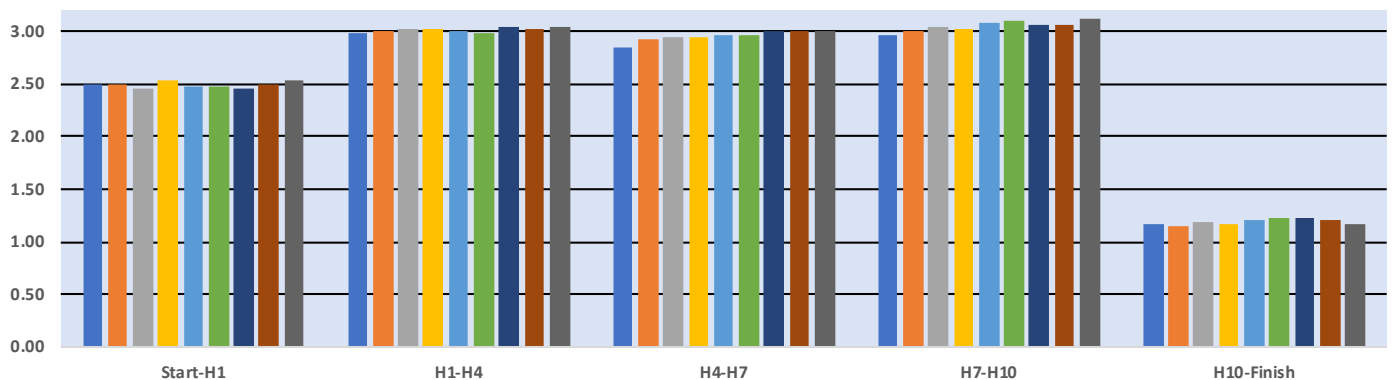
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.50 | 3.53 | 4.51 | 5.48 | 6.43 | 7.37 | 8.33 | 9.31 | 10.30 | 11.29 | | 12.45 | 5 / 1 | | | |
| | reaction time | 0.132 | | | | | | | | | | | | | 2.98 | 2.85 | 2.96 |
| | interval | | 1.03 | 0.98 | 0.97 | 0.95 | 0.94 | 0.96 | 0.98 | 0.99 | 0.99 | 1.16 | | | 8.56 | 8.95 | 8.61 |
| | velocity | 5.20 | 8.25 | 8.67 | 8.76 | 8.95 | 9.04 | 8.85 | 8.67 | 8.59 | 8.59 | 8.66 | 8.03 | | | | |
| Amusan, Tobi (NGR) (1997) | time | 2.50 | 3.53 | 4.53 | 5.50 | 6.48 | 7.45 | 8.43 | 9.40 | 10.40 | 11.43 | | 12.58 | 8 / 2 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | 3.00 | 2.93 | 3.00 |
| | interval | | 1.03 | 1.00 | 0.97 | 0.98 | 0.97 | 0.98 | 0.97 | 1.00 | 1.03 | 1.15 | | | 8.50 | 8.70 | 8.50 |
| | velocity | 5.20 | 8.25 | 8.50 | 8.76 | 8.67 | 8.76 | 8.67 | 8.76 | 8.50 | 8.25 | 8.74 | 7.95 | | | | |
| Marshall, Tonea (USA) (1998) | time | 2.46 | 3.49 | 4.49 | 5.48 | 6.47 | 7.45 | 8.43 | 9.43 | 10.43 | 11.47 | | 12.66 | 4 / 3 | | | |
| | reaction time | 0.127 | | | | | | | | | | | | | 3.02 | 2.95 | 3.04 |
| | interval | | 1.03 | 1.00 | 0.99 | 0.99 | 0.98 | 0.98 | 1.00 | 1.00 | 1.04 | 1.19 | | | 8.44 | 8.64 | 8.39 |
| | velocity | 5.28 | 8.25 | 8.50 | 8.59 | 8.59 | 8.67 | 8.67 | 8.50 | 8.50 | 8.17 | 8.45 | 7.90 | | | | |
| Sember, Cindy (GBR) (1994) | time | 2.53 | 3.57 | 4.56 | 5.55 | 6.53 | 7.50 | 8.50 | 9.50 | 10.50 | 11.52 | | 12.69 | 2 / 4 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | 3.02 | 2.95 | 3.02 |
| | interval | | 1.04 | 0.99 | 0.99 | 0.98 | 0.97 | 1.00 | 1.00 | 1.00 | 1.02 | 1.17 | | | 8.44 | 8.64 | 8.44 |
| | velocity | 5.14 | 8.17 | 8.59 | 8.59 | 8.67 | 8.76 | 8.50 | 8.50 | 8.50 | 8.33 | 8.59 | 7.88 | | | | |
| Williams, Danielle (JAM) (1992) | time | 2.48 | 3.50 | 4.50 | 5.48 | 6.48 | 7.46 | 8.44 | 9.46 | 10.48 | 11.51 | | 12.71 | 3 / 5 | | | |
| | reaction time | 0.139 | | | | | | | | | | | | | 3.00 | 2.96 | 3.07 |
| | interval | | 1.02 | 1.00 | 0.98 | 1.00 | 0.98 | 0.98 | 1.02 | 1.02 | 1.03 | 1.20 | | | 8.50 | 8.61 | 8.31 |
| | velocity | 5.24 | 8.33 | 8.50 | 8.67 | 8.50 | 8.67 | 8.67 | 8.33 | 8.33 | 8.25 | 8.37 | 7.87 | | | | |
| Cunningham, Gabbi (USA) (1998) | time | 2.48 | 3.50 | 4.49 | 5.46 | 6.44 | 7.42 | 8.42 | 9.42 | 10.46 | 11.52 | | 12.75 | 1 / 6 | | | |
| | reaction time | 0.170 | | | | | | | | | | | | | 2.98 | 2.96 | 3.10 |
| | interval | | 1.02 | 0.99 | 0.97 | 0.98 | 0.98 | 1.00 | 1.00 | 1.04 | 1.06 | 1.23 | | | 8.56 | 8.61 | 8.23 |
| | velocity | 5.24 | 8.33 | 8.59 | 8.76 | 8.67 | 8.67 | 8.50 | 8.50 | 8.17 | 8.02 | 8.17 | 7.84 | | | | |
| Ali, Nia (USA) (1988) | time | 2.46 | 3.48 | 4.50 | 5.50 | 6.50 | 7.50 | 8.50 | 9.52 | 10.52 | 11.55 | | 12.77 | 7 / 7 | | | |
| | reaction time | 0.144 | | | | | | | | | | | | | 3.04 | 3.00 | 3.05 |
| | interval | | 1.02 | 1.02 | 1.00 | 1.00 | 1.00 | 1.00 | 1.02 | 1.00 | 1.03 | 1.22 | | | 8.39 | 8.50 | 8.36 |
| | velocity | 5.28 | 8.33 | 8.33 | 8.50 | 8.50 | 8.50 | 8.50 | 8.33 | 8.50 | 8.25 | 8.24 | 7.83 | | | | |
| Harrison, Kendra (USA) (1992) | time | 2.50 | 3.53 | 4.51 | 5.52 | 6.52 | 7.50 | 8.52 | 9.52 | 10.53 | 11.57 | | 12.78 | 6 / 8 | | | |
| | reaction time | 0.144 | | | | | | | | | | | | | 3.02 | 3.00 | 3.05 |
| | interval | | 1.03 | 0.98 | 1.01 | 1.00 | 0.98 | 1.02 | 1.00 | 1.01 | 1.04 | 1.21 | | | 8.44 | 8.50 | 8.36 |
| | velocity | 5.20 | 8.25 | 8.67 | 8.42 | 8.50 | 8.67 | 8.33 | 8.50 | 8.42 | 8.17 | 8.31 | 7.82 | | | | |
| Cockrell, Anna (USA) (1997) | time | 2.53 | 3.56 | 4.56 | 5.56 | 6.56 | 7.55 | 8.56 | 9.56 | 10.58 | 11.68 | | 12.84 | 9 / 9 | | | |
| | reaction time | 0.115 | | | | | | | | | | | | | 3.03 | 3.00 | 3.12 |
| | interval | | 1.03 | 1.00 | 1.00 | 1.00 | 0.99 | 1.01 | 1.00 | 1.02 | 1.10 | 1.16 | | | 8.42 | 8.50 | 8.17 |
| | velocity | 5.14 | 8.25 | 8.50 | 8.50 | 8.50 | 8.59 | 8.42 | 8.50 | 8.33 | 7.73 | 8.66 | 7.79 | | | | |



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=KZZSTexdh0&t=29s>

2022 Doha Diamond League (Doha, QAT) (TV Analysis)

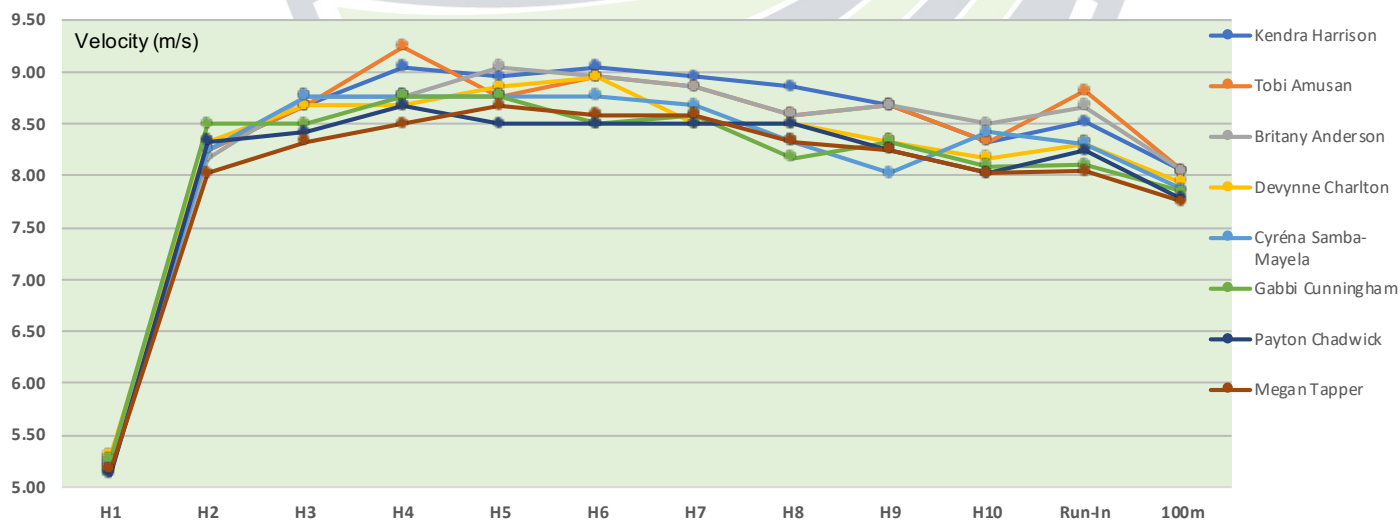
100m Hurdles

Date: 2022.05.13

Wind: 3.8 m/s

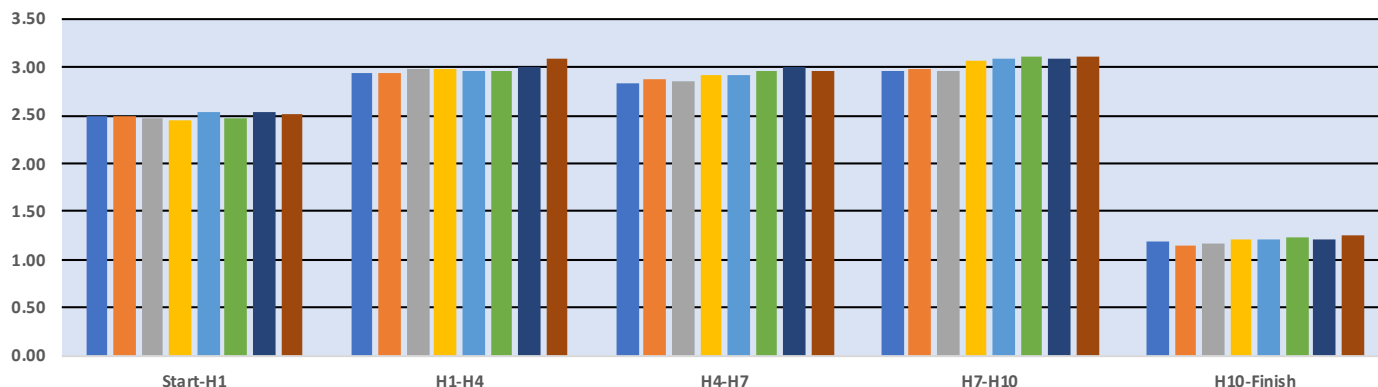
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|-----------------------------------|---------------|-------|------|------|------|------|------|------|------|-------|-------|--------|-------|------------|-------|-------|--------|
| Harrison, Kendra (USA) (1992) | time | 2.50 | 3.53 | 4.51 | 5.45 | 6.40 | 7.34 | 8.29 | 9.25 | 10.23 | 11.25 | | 12.43 | 4 / 1 | | | |
| | reaction time | 0.159 | | | | | | | | | | | | | 2.95 | 2.84 | 2.96 |
| | interval | | 1.03 | 0.98 | 0.94 | 0.95 | 0.94 | 0.95 | 0.96 | 0.98 | 1.02 | 1.18 | | | 8.64 | 8.98 | 8.61 |
| | velocity | 5.20 | 8.25 | 8.67 | 9.04 | 8.95 | 9.04 | 8.95 | 8.85 | 8.67 | 8.33 | 8.52 | 8.05 | | | | |
| Amusan, Tobi (NGR) (1997) | time | 2.50 | 3.53 | 4.51 | 5.43 | 6.40 | 7.35 | 8.31 | 9.30 | 10.28 | 11.30 | | 12.44 | 6 / 2 | | | |
| | reaction time | 0.171 | | | | | | | | | | | | | 2.93 | 2.88 | 2.99 |
| | interval | | 1.03 | 0.98 | 0.92 | 0.97 | 0.95 | 0.96 | 0.99 | 0.98 | 1.02 | 1.14 | | | 8.70 | 8.85 | 8.53 |
| | velocity | 5.20 | 8.25 | 8.67 | 9.24 | 8.76 | 8.95 | 8.85 | 8.59 | 8.67 | 8.33 | 8.82 | 8.04 | | | | |
| Anderson, Britany (JAM) (2001) | time | 2.48 | 3.52 | 4.49 | 5.46 | 6.40 | 7.35 | 8.31 | 9.30 | 10.28 | 11.28 | | 12.44 | 2 / 3 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | 2.98 | 2.85 | 2.97 |
| | interval | | 1.04 | 0.97 | 0.97 | 0.94 | 0.95 | 0.96 | 0.99 | 0.98 | 1.00 | 1.16 | | | 8.56 | 8.95 | 8.59 |
| | velocity | 5.24 | 8.17 | 8.76 | 8.76 | 9.04 | 8.95 | 8.85 | 8.59 | 8.67 | 8.50 | 8.66 | 8.04 | | | | |
| Charlton, Devynne (BAH) (1995) | time | 2.45 | 3.47 | 4.45 | 5.43 | 6.39 | 7.34 | 8.34 | 9.34 | 10.36 | 11.40 | | 12.61 | 7 / 4 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | 2.98 | 2.91 | 3.06 |
| | interval | | 1.02 | 0.98 | 0.98 | 0.96 | 0.95 | 1.00 | 1.00 | 1.02 | 1.04 | 1.21 | | | 8.56 | 8.76 | 8.33 |
| | velocity | 5.31 | 8.33 | 8.67 | 8.67 | 8.85 | 8.95 | 8.50 | 8.50 | 8.33 | 8.17 | 8.31 | 7.93 | | | | |
| Samba-Mayela, Cyréna (FRA) (2000) | time | 2.53 | 3.56 | 4.53 | 5.50 | 6.47 | 7.44 | 8.42 | 9.44 | 10.50 | 11.51 | | 12.72 | 5 / 5 | | | |
| | reaction time | 0.169 | | | | | | | | | | | | | 2.97 | 2.92 | 3.09 |
| | interval | | 1.03 | 0.97 | 0.97 | 0.97 | 0.97 | 0.98 | 1.02 | 1.06 | 1.01 | 1.21 | | | 8.59 | 8.73 | 8.25 |
| | velocity | 5.14 | 8.25 | 8.76 | 8.76 | 8.76 | 8.76 | 8.67 | 8.33 | 8.02 | 8.42 | 8.31 | 7.86 | | | | |
| Cunningham, Gabriele (USA) (1998) | time | 2.47 | 3.47 | 4.47 | 5.44 | 6.41 | 7.41 | 8.40 | 9.44 | 10.46 | 11.51 | | 12.75 | 8 / 6 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | 2.97 | 2.96 | 3.11 |
| | interval | | 1.00 | 1.00 | 0.97 | 0.97 | 1.00 | 0.99 | 1.04 | 1.02 | 1.05 | 1.24 | | | 8.59 | 8.61 | 8.20 |
| | velocity | 5.26 | 8.50 | 8.50 | 8.76 | 8.76 | 8.50 | 8.59 | 8.17 | 8.33 | 8.10 | 8.10 | 7.84 | | | | |
| Chadwick, Payton (USA) (1995) | time | 2.54 | 3.56 | 4.57 | 5.55 | 6.55 | 7.55 | 8.55 | 9.55 | 10.58 | 11.64 | | 12.86 | 1 / 7 | | | |
| | reaction time | 0.156 | | | | | | | | | | | | | 3.01 | 3.00 | 3.09 |
| | interval | | 1.02 | 1.01 | 0.98 | 1.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.06 | 1.22 | | | 8.47 | 8.50 | 8.25 |
| | velocity | 5.12 | 8.33 | 8.42 | 8.67 | 8.50 | 8.50 | 8.50 | 8.50 | 8.25 | 8.02 | 8.24 | 7.78 | | | | |
| Tapper, Megan (JAM) (1994) | time | 2.52 | 3.58 | 4.60 | 5.60 | 6.58 | 7.57 | 8.56 | 9.58 | 10.61 | 11.67 | | 12.92 | 3 / 8 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | 3.08 | 2.96 | 3.11 |
| | interval | | 1.06 | 1.02 | 1.00 | 0.98 | 0.99 | 0.99 | 1.02 | 1.03 | 1.06 | 1.25 | | | 8.28 | 8.61 | 8.20 |
| | velocity | 5.16 | 8.02 | 8.33 | 8.50 | 8.67 | 8.59 | 8.59 | 8.33 | 8.25 | 8.02 | 8.04 | 7.74 | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1078 @ 30fps
 Timing From: First Movement
 Source: https://www.youtube.com/watch?v=hghnuRk_eY0

2022 Puerto Rico International Athletics Classic (Ponce, PUR) (TV Analysis)

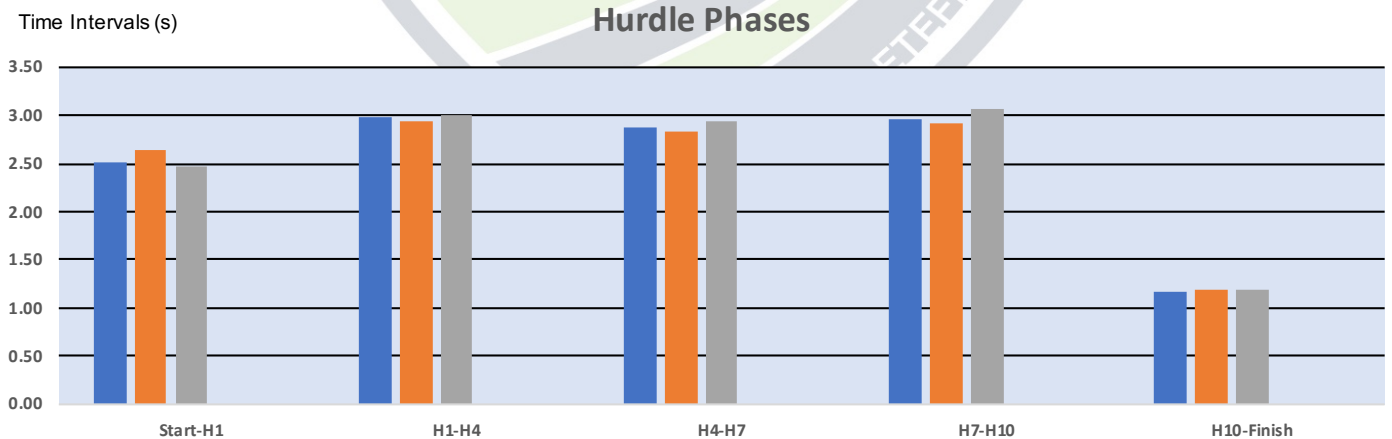
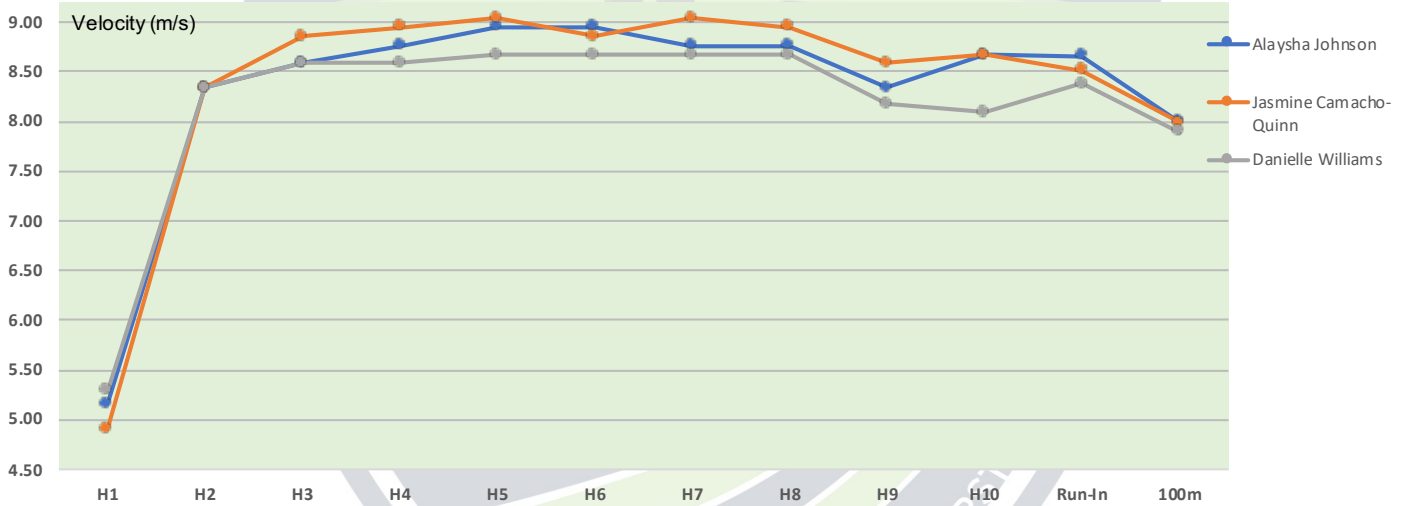
100m Hurdles

Date: 2022.05.12

Wind: 0.3 m/s

FINAL

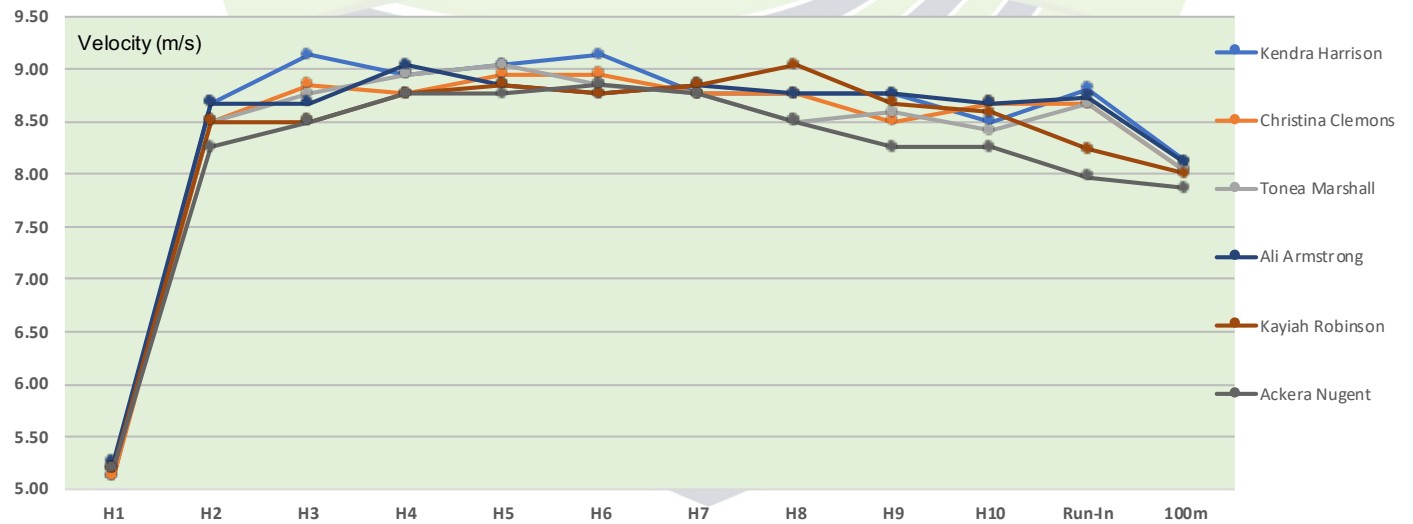
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
|------------------------------------|-------------------|-------|------|------|------|------|------|------|------|-------|-------|--------|------|------------|-------|-------|--------|
| Johnson, Alaysha (USA) (1996) | time | 2.52 | 3.54 | 4.53 | 5.50 | 6.45 | 7.40 | 8.37 | 9.34 | 10.36 | 11.34 | 12.50 | | 2 / 1 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | 2.98 | 2.87 | 2.97 |
| | interval velocity | | 1.02 | 0.99 | 0.97 | 0.95 | 0.95 | 0.97 | 0.97 | 1.02 | 0.98 | 1.16 | PB | | 8.56 | 8.89 | 8.59 |
| Camacho-Quinn, Jasmine (PUR) (199) | time | 2.65 | 3.67 | 4.63 | 5.58 | 6.52 | 7.48 | 8.42 | 9.37 | 10.36 | 11.34 | 12.52 | | 5 / 2 | | | |
| | reaction time | 0.367 | | | | | | | | | | | | | 2.93 | 2.84 | 2.92 |
| | interval velocity | | 1.02 | 0.96 | 0.95 | 0.94 | 0.96 | 0.94 | 0.95 | 0.99 | 0.98 | 1.18 | | | 8.70 | 8.98 | 8.73 |
| Williams, Danielle (JAM) (1992) | time | 2.46 | 3.48 | 4.47 | 5.46 | 6.44 | 7.42 | 8.40 | 9.38 | 10.42 | 11.47 | 12.67 | | 4 / 3 | | | |
| | reaction time | 0.172 | | | | | | | | | | | | | 3.00 | 2.94 | 3.07 |
| | interval velocity | | 1.02 | 0.99 | 0.99 | 0.98 | 0.98 | 0.98 | 0.98 | 1.04 | 1.05 | 1.20 | | | 8.50 | 8.67 | 8.31 |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=5jFiWqo8Xt0>

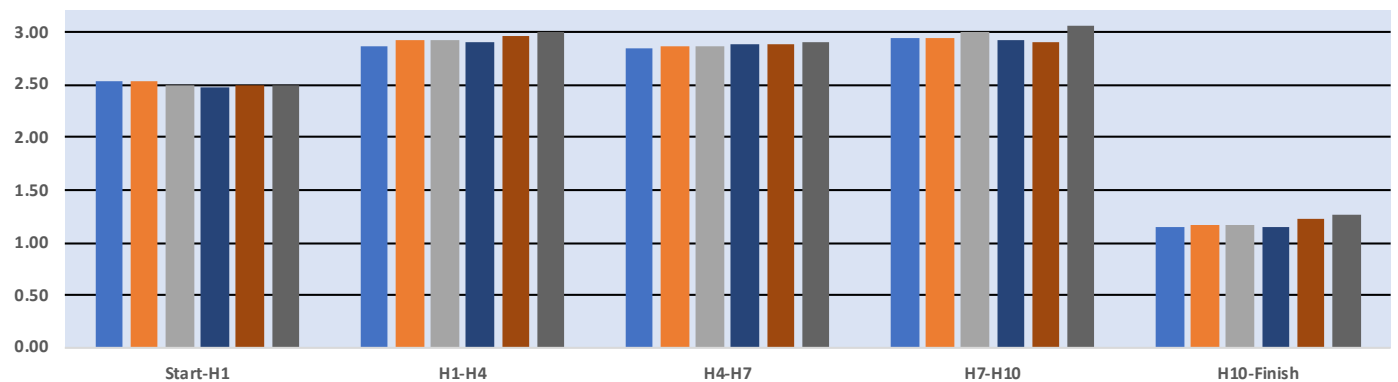
2022 Texas Relays (Austin, TX) (TV Analysis)

| 100m Hurdles | | | | | | | | | | | | | Invitational FINAL | | | | |
|---------------------------------|---------------|------|------|------|------|------|------|------|------|-------|-------|--------|--------------------|------------|-------|-------|--------|
| Date: 2022.03.26 Wind: 3.9 m/s | | | | | | | | | | | | | | | | | |
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
| Harrison, Kendra (USA) (1992) | time | 2.54 | 3.52 | 4.45 | 5.40 | 6.34 | 7.27 | 8.24 | 9.21 | 10.18 | 11.18 | | 12.32 | 5 / 1 | | | |
| | reaction time | | | | | | | | | | | | | | 2.86 | 2.84 | 2.94 |
| | interval | | 0.98 | 0.93 | 0.95 | 0.94 | 0.93 | 0.97 | 0.97 | 0.97 | 1.00 | 1.14 | | | 8.92 | 8.98 | 8.67 |
| | velocity | 5.12 | 8.67 | 9.14 | 8.95 | 9.04 | 9.14 | 8.76 | 8.76 | 8.76 | 8.50 | 8.82 | 8.12 | | | | |
| Clemons, Christina (USA) (1990) | time | 2.54 | 3.54 | 4.50 | 5.47 | 6.42 | 7.37 | 8.34 | 9.31 | 10.31 | 11.29 | | 12.45 | 7 / 2 | | | |
| | reaction time | | | | | | | | | | | | | | 2.93 | 2.87 | 2.95 |
| | interval | | 1.00 | 0.96 | 0.97 | 0.95 | 0.95 | 0.97 | 0.97 | 1.00 | 0.98 | 1.16 | | | 8.70 | 8.89 | 8.64 |
| | velocity | 5.12 | 8.50 | 8.85 | 8.76 | 8.95 | 8.95 | 8.76 | 8.76 | 8.50 | 8.67 | 8.66 | 8.03 | | | | |
| Marshall, Tonea (USA) (1998) | time | 2.50 | 3.50 | 4.47 | 5.42 | 6.36 | 7.32 | 8.29 | 9.29 | 10.28 | 11.29 | | 12.45 | 6 / 3 | | | |
| | reaction time | | | | | | | | | | | | | | 2.92 | 2.87 | 3.00 |
| | interval | | 1.00 | 0.97 | 0.95 | 0.94 | 0.96 | 0.97 | 1.00 | 0.99 | 1.01 | 1.16 | | | 8.73 | 8.89 | 8.50 |
| | velocity | 5.20 | 8.50 | 8.76 | 8.95 | 9.04 | 8.85 | 8.76 | 8.50 | 8.59 | 8.42 | 8.66 | 8.03 | | | | |
| 100m Hurdles | | | | | | | | | | | | | University FINAL | | | | |
| Date: 2022.03.26 Wind: 2.5 m/s | | | | | | | | | | | | | | | | | |
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 100m | Lane/Place | H1-H4 | H4-H7 | H7-H10 |
| Armstrong, Alia (USA) (2000) | time | 2.47 | 3.45 | 4.43 | 5.37 | 6.33 | 7.30 | 8.26 | 9.23 | 10.20 | 11.18 | | 12.33 | 4 / 1 | | | |
| | reaction time | | | | | | | | | | | | | | 2.90 | 2.89 | 2.92 |
| | interval | | 0.98 | 0.98 | 0.94 | 0.96 | 0.97 | 0.96 | 0.97 | 0.97 | 0.98 | 1.15 | | | 8.79 | 8.82 | 8.73 |
| | velocity | 5.26 | 8.67 | 8.67 | 9.04 | 8.85 | 8.76 | 8.85 | 8.76 | 8.76 | 8.67 | 8.74 | 8.11 | | | | |
| Robinson, Kaylah (USA) (1999) | time | 2.50 | 3.50 | 4.50 | 5.47 | 6.43 | 7.40 | 8.36 | 9.30 | 10.28 | 11.27 | | 12.49 | 5 / 2 | | | |
| | reaction time | | | | | | | | | | | | | | 2.97 | 2.89 | 2.91 |
| | interval | | 1.00 | 1.00 | 0.97 | 0.96 | 0.97 | 0.96 | 0.94 | 0.98 | 0.99 | 1.22 | | | 8.59 | 8.82 | 8.76 |
| | velocity | 5.20 | 8.50 | 8.50 | 8.76 | 8.85 | 8.76 | 8.85 | 9.04 | 8.67 | 8.59 | 8.24 | 8.01 | | | | |
| Nugent, Ackera (JAM) (2002) | time | 2.50 | 3.53 | 4.53 | 5.50 | 6.47 | 7.43 | 8.40 | 9.40 | 10.43 | 11.46 | | 12.72 | 6 / 3 | | | |
| | reaction time | | | | | | | | | | | | | | 3.00 | 2.90 | 3.06 |
| | interval | | 1.03 | 1.00 | 0.97 | 0.97 | 0.96 | 0.97 | 1.00 | 1.03 | 1.03 | 1.26 | | | 8.50 | 8.79 | 8.33 |
| | velocity | 5.20 | 8.25 | 8.50 | 8.76 | 8.76 | 8.85 | 8.76 | 8.50 | 8.25 | 8.25 | 7.98 | 7.86 | | | | |



Time Intervals (s)

Hurdle Phases



Invitational Final
 Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 60fps
 Timing From: Gun Smoke
 Source: <https://www.youtube.com/watch?v=xikuuTrq0rk>

University Final
 Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1280 x 720 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=a-tL-GyuM654>

Biomechanical Analysis

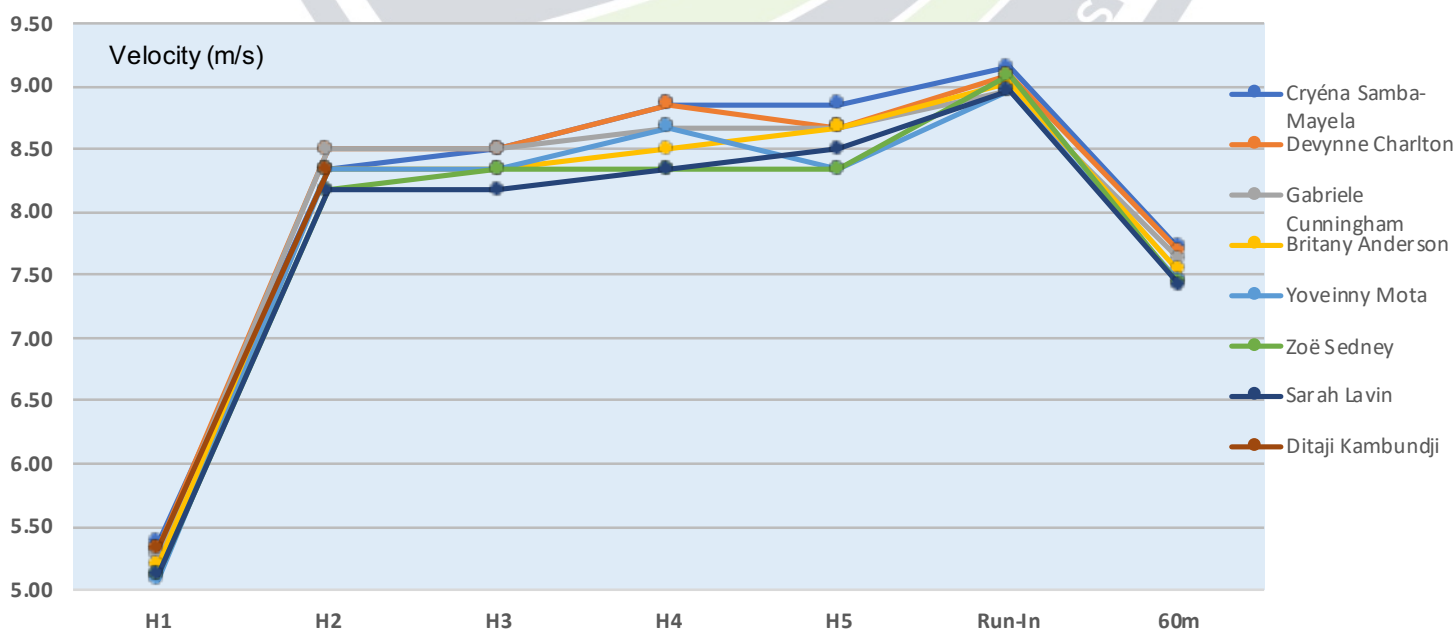
World Athletics Indoor Championships (Belgrade, SRB) (TV Analysis)

Women's 60m Hurdles

Date: 2022.03.19

FINAL

| | | H1 | H2 | H3 | H4 | H5 | Run-In | 60m | Lane / Place |
|--|-------------------|-------|------|------|------|------|--------|------|--------------|
| Samba-Mayela, Cyréna (FRA) (2000) | time | 2.42 | 3.44 | 4.44 | 5.40 | 6.36 | | 7.78 | 5 / 1 |
| | reaction time | 0.119 | | | | | | | |
| | interval velocity | | 1.02 | 1.00 | 0.96 | 0.96 | 1.42 | NR | |
| | velocity | 5.37 | 8.33 | 8.50 | 8.85 | 8.85 | 9.15 | 7.71 | |
| Charlton, Devynne (BAH) (1995) | time | 2.44 | 3.44 | 4.44 | 5.40 | 6.38 | | 7.81 | 4 / 2 |
| | reaction time | 0.157 | | | | | | | |
| | interval velocity | | 1.00 | 1.00 | 0.96 | 0.98 | 1.43 | NR | |
| | velocity | 5.33 | 8.50 | 8.50 | 8.85 | 8.67 | 9.09 | 7.68 | |
| Cunningham, Gabriele (USA) (1998) | time | 2.46 | 3.46 | 4.46 | 5.44 | 6.42 | | 7.87 | 2 / 3 |
| | reaction time | 0.164 | | | | | | | |
| | interval velocity | | 1.00 | 1.00 | 0.98 | 0.98 | 1.45 | | |
| | velocity | 5.28 | 8.50 | 8.50 | 8.67 | 8.67 | 8.97 | 7.62 | |
| Anderson, Britany (JAM) (2001) | time | 2.50 | 3.52 | 4.54 | 5.54 | 6.52 | | 7.96 | 3 / 4 |
| | reaction time | 0.140 | | | | | | | |
| | interval velocity | | 1.02 | 1.02 | 1.00 | 0.98 | 1.44 | | |
| | velocity | 5.20 | 8.33 | 8.33 | 8.50 | 8.67 | 9.03 | 7.54 | |
| Mota, Yoveinny (VEN) (2000) | time | 2.56 | 3.58 | 4.60 | 5.58 | 6.60 | | 8.05 | 1 / 5 |
| | reaction time | 0.147 | | | | | | | |
| | interval velocity | | 1.02 | 1.02 | 0.98 | 1.02 | 1.45 | NR | |
| | velocity | 5.08 | 8.33 | 8.33 | 8.67 | 8.33 | 8.97 | 7.45 | |
| Sedney, Zoë (NED) (2001) | time | 2.54 | 3.58 | 4.60 | 5.62 | 6.64 | | 8.07 | 6 / 6 |
| | reaction time | 0.169 | | | | | | | |
| | interval velocity | | 1.04 | 1.02 | 1.02 | 1.02 | 1.43 | | |
| | velocity | 5.12 | 8.17 | 8.33 | 8.33 | 8.33 | 9.09 | 7.43 | |
| Lavin, Sarah (IRL) (1994) | time | 2.54 | 3.58 | 4.62 | 5.64 | 6.64 | | 8.09 | 7 / 7 |
| | reaction time | 0.152 | | | | | | | |
| | interval velocity | | 1.04 | 1.04 | 1.02 | 1.00 | 1.45 | | |
| | velocity | 5.12 | 8.17 | 8.17 | 8.33 | 8.50 | 8.97 | 7.42 | |
| Kambundji, Ditaji (SUI) (2002) | time | 2.44 | 3.46 | | | | | dnf | 8 / -- |
| | reaction time | 0.108 | | | | | | | |
| | interval velocity | | 1.02 | | | | | | |
| | velocity | 5.33 | 8.33 | | | | | | |



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 25fps

Timing From: First Movement

Source: <https://www.youtube.com/watch?v=knhOokfHv7g>

Men's 400m Hurdles

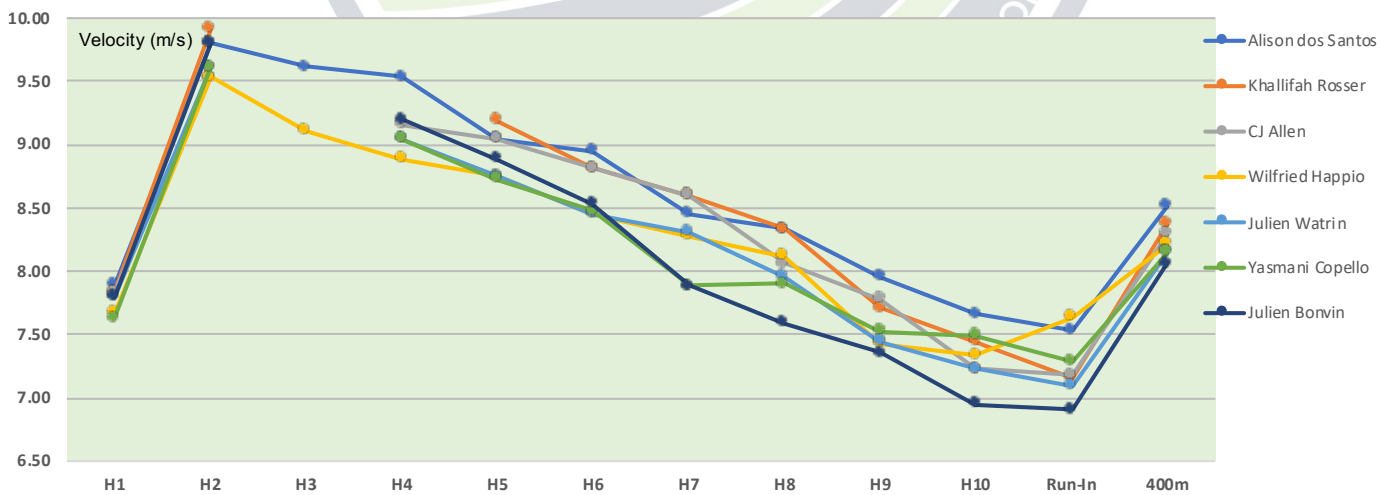
2022 Weltklasse (Zürich, SUI) (TV Analysis)

Men's 400m Hurdles

Date: 2022.09.08

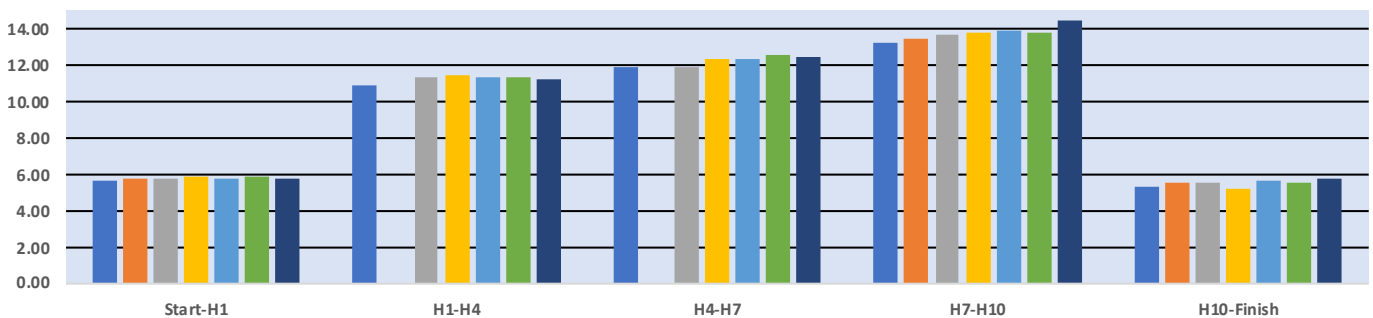
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| dos Santos, Alison (BRA) (2000) | time | 5.70 | 9.27 | 12.91 | 16.58 | 20.45 | 24.36 | 28.50 | 32.70 | 37.10 | 41.67 | | 46.98 | 6 / 1 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | | | |
| | interval | | 3.57 | 3.64 | 3.67 | 3.87 | 3.91 | 4.14 | 4.20 | 4.40 | 4.57 | 5.31 | | | 10.88 | 11.92 | 13.17 |
| | velocity | 7.89 | 9.80 | 9.62 | 9.54 | 9.04 | 8.95 | 8.45 | 8.33 | 7.95 | 7.66 | 7.53 | 8.51 | | 9.65 | 8.81 | 7.97 |
| H1 lead leg | L | | 20 | 13 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 16 | 149 | | | | |
| Rosser, Khalifah (USA) (1995) | time | 5.74 | 9.27 | | | 20.69 | 24.66 | 28.73 | 32.93 | 37.47 | 42.17 | | 47.76 | 5 / 2 | | | |
| | reaction time | 0.169 | | | | | | | | | | | | | | | |
| | interval | | 3.53 | | | 11.42 | 3.97 | 4.07 | 4.20 | 4.54 | 4.70 | 5.59 | | | | | 13.44 |
| | velocity | 7.84 | 9.92 | | | 9.19 | 8.82 | 8.60 | 8.33 | 7.71 | 7.45 | 7.16 | 8.38 | | | | 7.81 |
| H1 lead leg | R | | 21 | 13 | | | 13 | 13 | 13 | 14 | 14 | 18 | 119 | | | | |
| Allen, CJ (USA) (1995) | time | 5.74 | 9.41 | | 17.05 | 20.92 | 24.89 | 28.96 | 33.30 | 37.80 | 42.64 | | 48.21 | 3 / 3 | | | |
| | reaction time | 0.159 | | | | | | | | | | | | | | | |
| | interval | | 3.67 | | 7.64 | 3.87 | 3.97 | 4.07 | 4.34 | 4.50 | 4.84 | 5.57 | | | 11.31 | 11.91 | 13.68 |
| | velocity | 7.84 | 9.54 | | 9.16 | 9.04 | 8.82 | 8.60 | 8.06 | 7.78 | 7.23 | 7.18 | 8.30 | | 9.28 | 8.82 | 7.68 |
| H1 lead leg | L | | 20 | 13 | | 13 | 13 | 13 | 14 | 14 | 15 | 17.5 | 132.5 | | | | |
| Happio, Wilfried (FRA) (1998) | time | 5.87 | 9.54 | 13.38 | 17.32 | 21.32 | 25.46 | 29.69 | 34.00 | 38.71 | 43.48 | | 48.72 | 7 / 4 | | | |
| | reaction time | 0.130 | | | | | | | | | | | | | | | |
| | interval | | 3.67 | 3.84 | 3.94 | 4.00 | 4.14 | 4.23 | 4.31 | 4.71 | 4.77 | 5.24 | | | 11.45 | 12.37 | 13.79 |
| | velocity | 7.67 | 9.54 | 9.11 | 8.88 | 8.75 | 8.45 | 8.27 | 8.12 | 7.43 | 7.34 | 7.63 | 8.21 | | 9.17 | 8.49 | 7.61 |
| H1 lead leg | L | | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 15 | 15 | 17.5 | 158.5 | | | | |
| Watrin, Julien (BEL) (1992) | time | 5.77 | 9.41 | | 17.15 | 21.15 | 25.29 | 29.50 | 33.90 | 38.60 | 43.44 | | 49.08 | 8 / 5 | | | |
| | reaction time | 0.183 | | | | | | | | | | | | | | | |
| | interval | | 3.64 | | 7.74 | 4.01 | 4.13 | 4.21 | 4.43 | 4.65 | 4.84 | 5.64 | | | 11.38 | 12.35 | 13.94 |
| | velocity | 7.80 | 9.62 | | 9.04 | 8.75 | 8.45 | 8.31 | 7.95 | 7.45 | 7.23 | 7.09 | 8.15 | | 9.23 | 8.50 | 7.53 |
| H1 lead leg | R | | 20 | 13 | | 13 | 13 | 13 | 14 | 15 | 15 | 17.7 | 133.7 | | | | |
| Copello, Yasmani (TUR) (1987) | time | 5.90 | 9.54 | | 17.28 | 21.29 | 25.42 | 29.86 | 34.29 | 38.94 | 43.61 | | 49.10 | 4 / 6 | | | |
| | reaction time | 0.172 | | | | | | | | | | | | | | | |
| | interval | | 3.64 | | 7.74 | 4.01 | 4.13 | 4.21 | 4.43 | 4.65 | 4.67 | 5.49 | | | 11.38 | 12.58 | 13.75 |
| | velocity | 7.63 | 9.62 | | 9.04 | 8.73 | 8.47 | 7.88 | 7.90 | 7.53 | 7.49 | 7.29 | 8.15 | | 9.23 | 8.35 | 7.64 |
| H1 lead leg | R | | 20 | 13 | | 13 | 13 | 14 | 14 | 14 | 14 | 17.5 | 132.5 | | | | |
| Bonvin, Julien (SUI) (1999) | time | 5.77 | 9.34 | | 16.95 | 20.89 | 24.99 | 29.43 | 34.04 | 38.80 | 43.84 | | 49.63 | 2 / 7 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | | | |
| | interval | | 3.57 | | 7.61 | 3.94 | 4.10 | 4.44 | 4.61 | 4.76 | 5.04 | 5.79 | | | 11.18 | 12.48 | 14.41 |
| | velocity | 7.80 | 9.80 | | 9.20 | 8.88 | 8.54 | 7.88 | 7.59 | 7.35 | 6.94 | 6.91 | 8.06 | | 9.39 | 8.41 | 7.29 |
| H1 lead leg | L | | 20 | 13 | | 13 | 13 | 14 | 14 | 15 | 15 | 18.2 | 135.2 | | | | |



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=KVFoxnqJtIs>

2022 ISTAF (Berlin, GER) (TV Analysis)

Men's 400m Hurdles

Date: 2022.09.04

FINAL

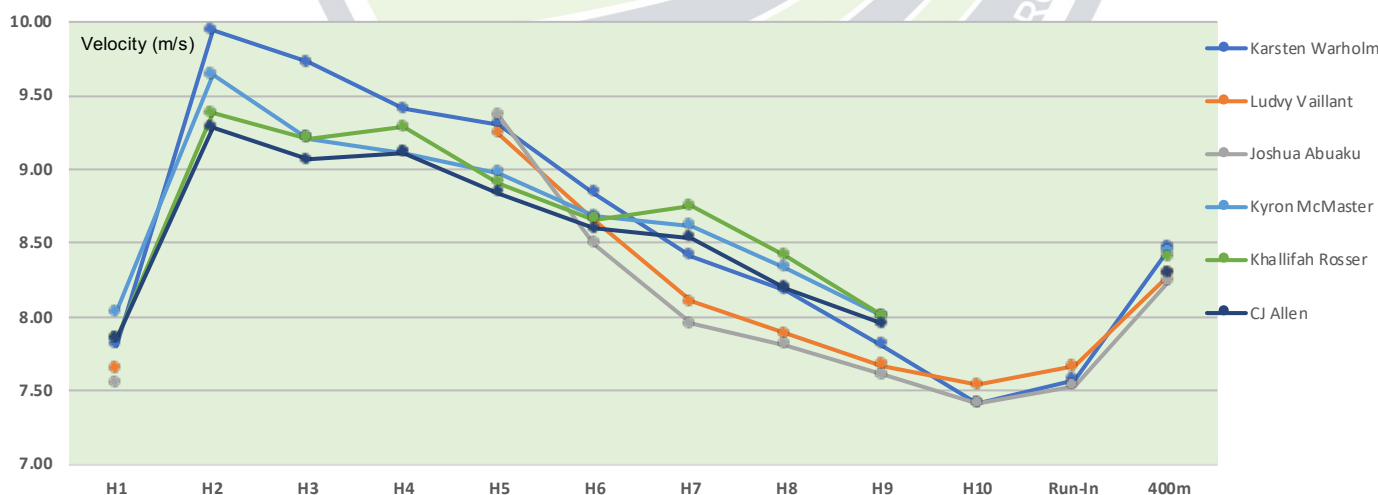
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------------|---------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Warholm, Karsten (NOR) (1996) | time | 5.76 | 9.28 | 12.88 | 16.60 | 20.36 | 24.32 | 28.48 | 32.76 | 37.24 | 41.96 | | 47.24 | 7 / 1 | | | |
| | reaction time | 0.139 | | | | | | | | | | | | | | | |
| | interval | | 3.52 | 3.60 | 3.72 | 3.76 | 3.96 | 4.16 | 4.28 | 4.48 | 4.72 | 5.28 | | | 10.84 | 11.88 | 13.48 |
| | velocity | 7.81 | 9.94 | 9.72 | 9.41 | 9.31 | 8.84 | 8.41 | 8.18 | 7.81 | 7.42 | 7.58 | 8.47 | | 9.69 | 8.84 | 7.79 |
| H1 lead leg | L | | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 15 | 18 | 157 | | | | |
| Vaillant, Ludvy (FRA) (1995) | time | 5.88 | | | | 21.04 | 25.08 | 29.40 | 33.84 | 38.40 | 43.04 | | 48.26 | 6 / 2 | | | |
| | reaction time | 0.120 | | | | | 15.16 | 4.04 | 4.32 | 4.44 | 4.56 | 5.22 | PB | | | | 13.64 |
| | interval | | 7.65 | | | 9.23 | 8.66 | 8.10 | 7.88 | 7.68 | 7.54 | 7.66 | 8.29 | | | | 7.70 |
| | velocity | 7.81 | 9.94 | 9.72 | 9.41 | 9.31 | 8.84 | 8.41 | 8.18 | 7.81 | 7.42 | 7.58 | 8.47 | | | | 7.79 |
| H1 lead leg | R | | 21 | | | 13 | 13 | 14 | 14 | 14 | 14 | 17 | 107 | | | | |
| Abuaku, Joshua (GER) (1996) | time | 5.96 | | | | 20.92 | 25.04 | 29.44 | 33.92 | 38.52 | 43.24 | | 48.55 | 5 / 3 | | | |
| | reaction time | 0.174 | | | | | 14.96 | 4.12 | 4.40 | 4.48 | 4.60 | 5.31 | PB | | | | 13.80 |
| | interval | | 7.55 | | | 9.36 | 8.50 | 7.95 | 7.81 | 7.61 | 7.42 | 7.53 | 8.24 | | | | 7.61 |
| | velocity | 7.81 | 9.94 | 9.72 | 9.41 | 9.31 | 8.84 | 8.41 | 8.18 | 7.81 | 7.42 | 7.58 | 8.47 | | | | 7.79 |
| H1 lead leg | R | | 20 | | | 13 | 13 | 14 | 14 | 15 | 15 | 18 | 109 | | | | |

2022 NACAC Championships (Freeport, BAH) (TV Analysis)

Date: 2022.08.21

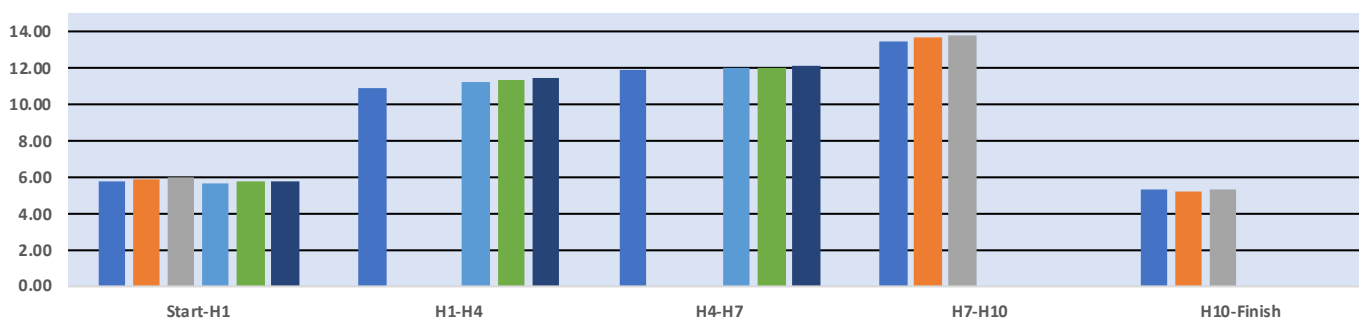
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|---------------------------------------|---------------|------|------|-------|-------|-------|-------|-------|-------|-------|------|--------|-------|--------------|-------|-------|--------|
| McMaster, Kyron (IVB) (1997) | time | 5.60 | 9.23 | 13.03 | 16.87 | 20.77 | 24.80 | 28.86 | 33.06 | 37.43 | | | 47.34 | 6 / 1 | | | |
| | reaction time | | | 3.63 | 3.80 | 3.84 | 3.90 | 4.03 | 4.06 | 4.20 | 4.37 | | CR | | 11.27 | 11.99 | |
| | interval | | 8.04 | 9.64 | 9.21 | 9.11 | 8.97 | 8.68 | 8.62 | 8.33 | 8.01 | | 8.45 | | 9.32 | 8.76 | |
| | velocity | 7.81 | 9.94 | 9.72 | 9.41 | 9.31 | 8.84 | 8.41 | 8.18 | 7.81 | 7.42 | 7.58 | 8.47 | | | | 7.79 |
| H1 lead leg | L | | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | | 105 | | | | | |
| Rosser, Khallifah (USA) (1995) | time | 5.73 | 9.46 | 13.26 | 17.03 | 20.96 | 25.00 | 29.00 | 33.16 | 37.53 | | | 47.59 | 4 / 2 | | | |
| | reaction time | | | 3.73 | 3.80 | 3.77 | 3.93 | 4.04 | 4.16 | 4.37 | | | PB | | 11.30 | 11.97 | |
| | interval | | 7.85 | 9.38 | 9.21 | 9.28 | 8.91 | 8.66 | 8.75 | 8.41 | 8.01 | | 8.41 | | 9.29 | 8.77 | |
| | velocity | 7.81 | 9.94 | 9.72 | 9.41 | 9.31 | 8.84 | 8.41 | 8.18 | 7.81 | 7.42 | 7.58 | 8.47 | | | | 7.79 |
| H1 lead leg | R | | 21 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | | 126 | | | | | |
| Allen, CJ (USA) (1995) | time | 5.73 | 9.50 | 13.36 | 17.20 | 21.16 | 25.23 | 29.33 | 33.60 | 38.00 | | | 48.23 | 3 / 3 | | | |
| | reaction time | | | 3.77 | 3.86 | 3.84 | 3.96 | 4.07 | 4.10 | 4.27 | 4.40 | | 8.29 | | 11.47 | 12.13 | |
| | interval | | 7.85 | 9.28 | 9.07 | 9.11 | 8.84 | 8.60 | 8.54 | 8.20 | 7.95 | | 8.29 | | 9.15 | 8.66 | |
| | velocity | 7.81 | 9.94 | 9.72 | 9.41 | 9.31 | 8.84 | 8.41 | 8.18 | 7.81 | 7.42 | 7.58 | 8.47 | | | | 7.79 |
| H1 lead leg | L | | 13 | 13 | 13 | 13 | 13 | | 14 | 14 | | 93 | | | | | |



Time Intervals (s)

Hurdle Phases



ISTAF

Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1280 x 720 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=6HsAuNVsOXU&t=20s>

NACAC

Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=ws8YQzQ7i6Q&t=33s>

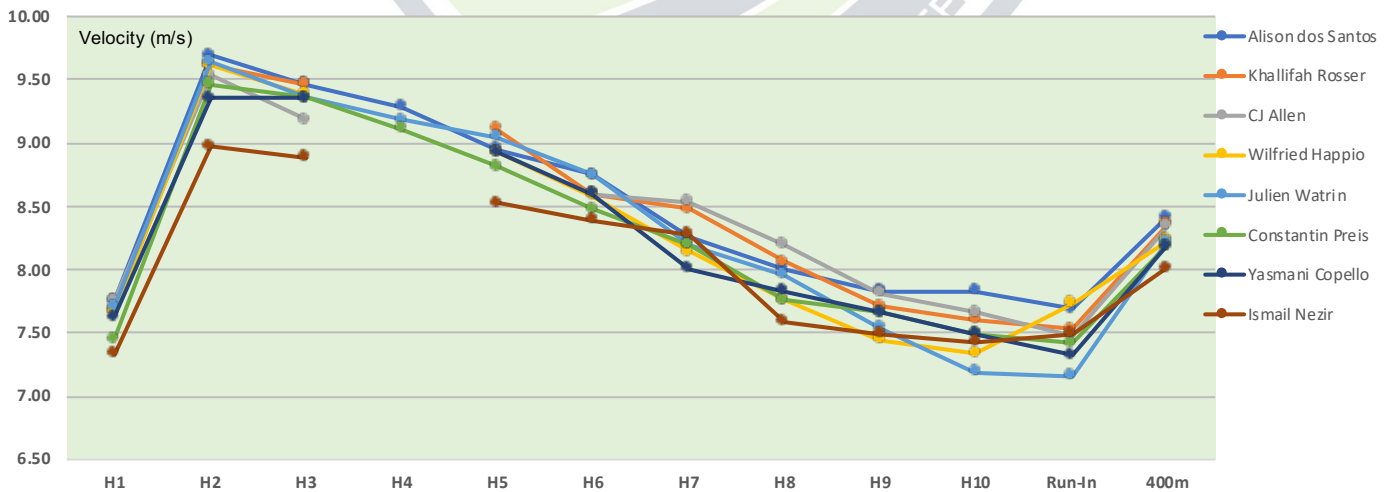
2022 Memorial van Damme (Brussels, BEL) (TV Analysis)

Men's 400m Hurdles

Date: 2022.09.02

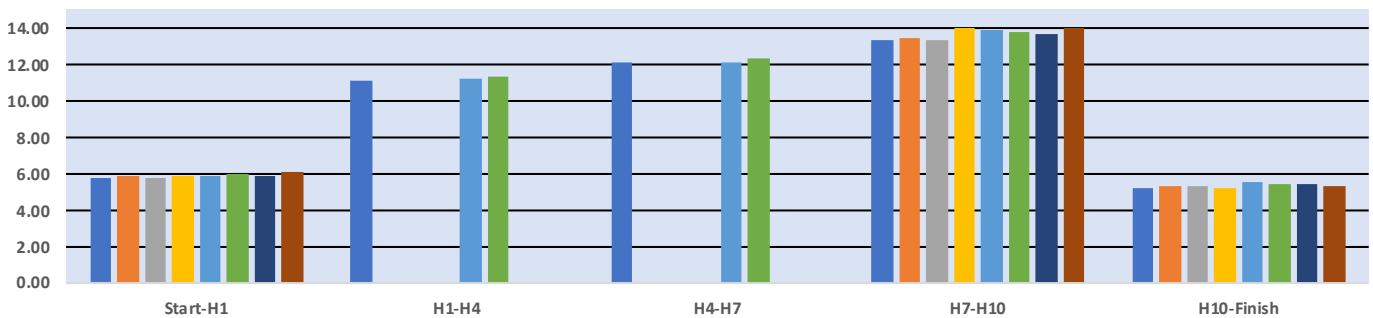
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| dos Santos, Alison (BRA) (2000) | time | 5.80 | 9.41 | 13.11 | 16.88 | 20.79 | 24.79 | 29.03 | 33.40 | 37.87 | 42.34 | | 47.54 | 6 / 1 | | | |
| | reaction time | 0.210 | | | | | | | | | | | | | | | |
| | interval | | 3.61 | 3.70 | 3.77 | 3.91 | 4.00 | 4.24 | 4.37 | 4.47 | 4.47 | 5.20 | | | 11.08 | 12.15 | 13.31 |
| | velocity | 7.76 | 9.70 | 9.46 | 9.28 | 8.95 | 8.75 | 8.25 | 8.01 | 7.83 | 7.83 | 7.69 | 8.41 | | 9.48 | 8.64 | 7.89 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Rosser, Khalifah (USA) (1995) | time | 5.87 | 9.51 | 13.21 | | 20.89 | 24.96 | 29.09 | 33.43 | 37.97 | 42.57 | | 47.88 | 4 / 2 | | | |
| | reaction time | 0.232 | | | | | | | | | | | | | | | |
| | interval | | 3.64 | 3.70 | | 7.68 | 4.07 | 4.13 | 4.34 | 4.54 | 4.60 | 5.31 | | | | | 13.48 |
| | velocity | 7.67 | 9.62 | 9.46 | | 9.11 | 8.60 | 8.47 | 8.06 | 7.71 | 7.61 | 7.53 | 8.35 | | | | 7.79 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Allen, CJ (USA) (1995) | time | 5.80 | 9.47 | 13.28 | | 21.12 | 25.19 | 29.29 | 33.56 | 38.04 | 42.61 | | 47.96 | 2 / 3 | | | |
| | reaction time | 0.178 | | | | | | | | | | | | | | | |
| | interval | | 3.67 | 3.81 | | 7.84 | 4.07 | 4.10 | 4.27 | 4.48 | 4.57 | 5.35 | DQ | | | | 13.32 |
| | velocity | 7.76 | 9.54 | 9.19 | | 8.93 | 8.60 | 8.54 | 8.20 | 7.81 | 7.66 | 7.48 | 8.34 | | | | 7.88 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Happio, Wilfried (FRA) (1998) | time | 5.87 | 9.51 | 13.24 | | 21.08 | 25.16 | 29.46 | 33.97 | 38.67 | 43.44 | | 48.61 | 5 / 3 | | | |
| | reaction time | 0.170 | | | | | | | | | | | | | | | |
| | interval | | 3.64 | 3.73 | | 7.84 | 4.08 | 4.30 | 4.51 | 4.70 | 4.77 | 5.17 | | | | | 13.98 |
| | velocity | 7.67 | 9.62 | 9.38 | | 8.93 | 8.58 | 8.14 | 7.76 | 7.45 | 7.34 | 7.74 | 8.23 | | | | 7.51 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Watrin, Julien (BEL) (1992) | time | 5.84 | 9.47 | 13.21 | 17.02 | 20.89 | 24.89 | 29.16 | 33.56 | 38.20 | 43.07 | | 48.66 | 7 / 4 | | | |
| | reaction time | 0.224 | | | | | | | | | | | | | | | |
| | interval | | 3.63 | 3.74 | 3.81 | 3.87 | 4.00 | 4.27 | 4.40 | 4.64 | 4.87 | 5.59 | NR PB | | 11.18 | 12.14 | 13.91 |
| | velocity | 7.71 | 9.64 | 9.36 | 9.19 | 9.04 | 8.75 | 8.20 | 7.95 | 7.54 | 7.19 | 7.16 | 8.22 | | 9.39 | 8.65 | 7.55 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Preis, Constantin (GER) (1198) | time | 6.04 | 9.74 | 13.48 | 17.32 | 21.29 | 25.42 | 29.69 | 34.20 | 38.77 | 43.44 | | 48.83 | 8 / 5 | | | |
| | reaction time | 0.253 | | | | | | | | | | | | | | | |
| | interval | | 3.70 | 3.74 | 3.84 | 3.97 | 4.13 | 4.27 | 4.51 | 4.57 | 4.67 | 5.39 | | | 11.28 | 12.37 | 13.75 |
| | velocity | 7.45 | 9.46 | 9.36 | 9.11 | 8.82 | 8.47 | 8.20 | 7.76 | 7.66 | 7.49 | 7.42 | 8.19 | | 9.31 | 8.49 | 7.64 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Copello, Yasmani (TUR) (1987) | time | 5.90 | 9.64 | 13.38 | | 21.22 | 25.29 | 29.66 | 34.13 | 38.70 | 43.37 | | 48.83 | 3 / 6 | | | |
| | reaction time | 0.190 | | | | | | | | | | | | | | | |
| | interval | | 3.74 | 3.74 | | 7.84 | 4.07 | 4.37 | 4.47 | 4.57 | 4.67 | 5.46 | | | | | 13.71 |
| | velocity | 7.63 | 9.36 | 9.36 | | 8.93 | 8.60 | 8.01 | 7.83 | 7.66 | 7.49 | 7.33 | 8.19 | | | | 7.66 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Nezir, Ismail (TUR) (2003) | time | 6.14 | 10.04 | 13.98 | | 22.19 | 26.36 | 30.59 | 35.20 | 39.87 | 44.58 | | 49.92 | 1 / 7 | | | |
| | reaction time | 0.170 | | | | | | | | | | | | | | | |
| | interval | | 3.90 | 3.94 | | 8.21 | 4.17 | 4.23 | 4.61 | 4.67 | 4.71 | 5.34 | | | | | 13.99 |
| | velocity | 7.33 | 8.97 | 8.88 | | 8.53 | 8.39 | 8.27 | 7.59 | 7.49 | 7.43 | 7.49 | 8.01 | | | | 7.51 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |



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=oDSvzeUJcXI>

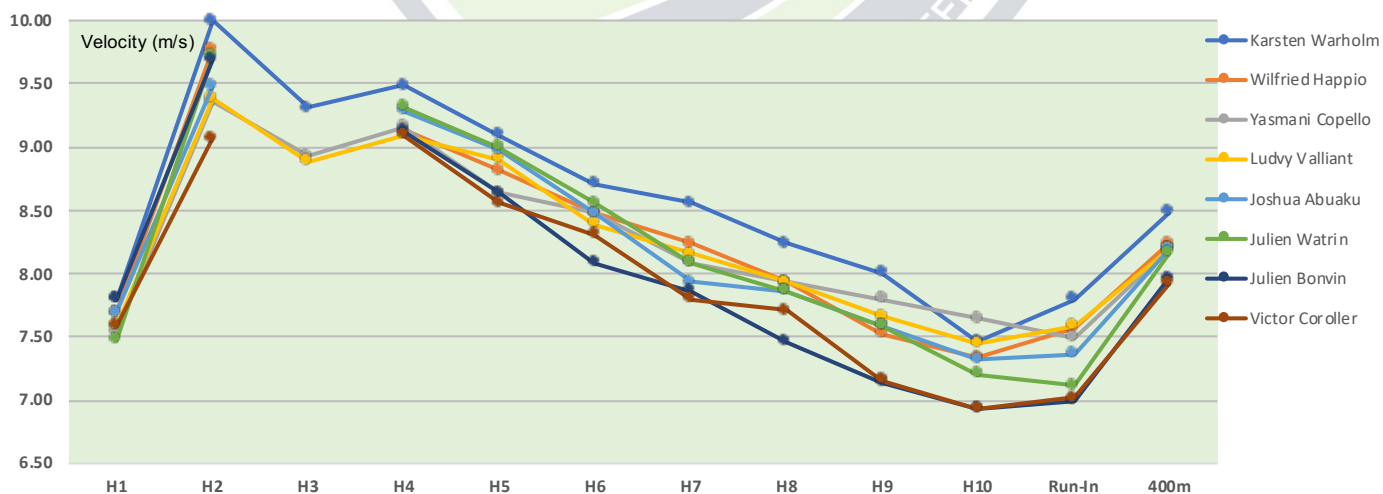
2022 European Athletics Championships (Munich, GER) (TV Analysis)

Men's 400m Hurdles

Date: 2022.08.19

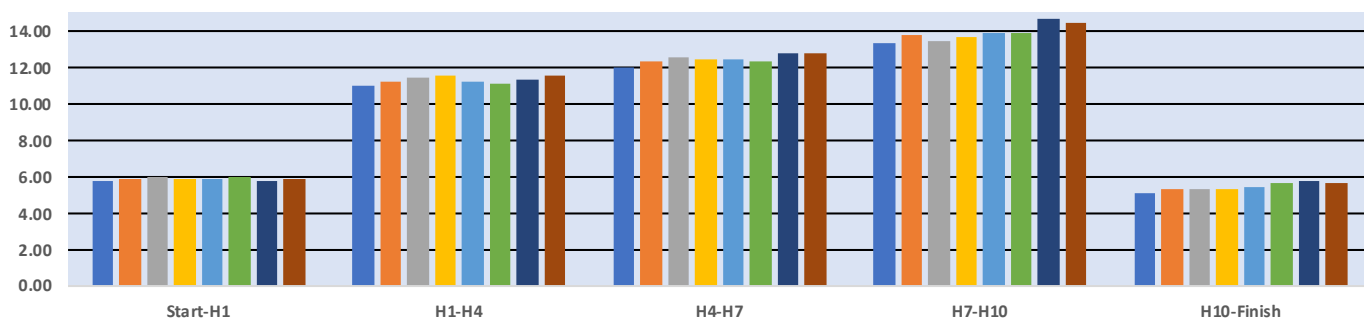
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Warholm, Karsten (NOR) (1996) | time | 5.77 | 9.27 | 13.03 | 16.72 | 20.57 | 24.59 | 28.68 | 32.93 | 37.30 | 41.99 | | 47.12 | 4 / 1 | | | |
| | reaction time | 0.215 | | | | | | | | | | | | | | | |
| | interval | | 3.50 | 3.76 | 3.69 | 3.85 | 4.02 | 4.09 | 4.25 | 4.37 | 4.69 | 5.13 | CR | | 10.95 | 11.96 | 13.31 |
| | velocity | 7.80 | 10.00 | 9.31 | 9.49 | 9.09 | 8.71 | 8.56 | 8.24 | 8.01 | 7.46 | 7.80 | 8.49 | | 9.59 | 8.78 | 7.89 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Happio, Wilfried (FRA) (1998) | time | 5.85 | 9.43 | | 17.09 | 21.06 | 25.19 | 29.44 | 33.85 | 38.50 | 43.27 | | 48.56 | 3 / 2 | | | |
| | reaction time | 0.185 | | | | | | | | | | | | | | | |
| | interval | | 3.58 | | 7.66 | 3.97 | 4.13 | 4.25 | 4.41 | 4.65 | 4.77 | 5.29 | | | 11.24 | 12.35 | 13.83 |
| | velocity | 7.69 | 9.78 | | 9.14 | 8.82 | 8.47 | 8.24 | 7.94 | 7.53 | 7.34 | 7.56 | 8.24 | | 9.34 | 8.50 | 7.59 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Copello, Yasmani (TUR) (1987) | time | 5.97 | 9.71 | 13.63 | 17.45 | 21.50 | 25.63 | 29.96 | 34.37 | 38.86 | 43.44 | | 48.78 | 6 / 3 | | | |
| | reaction time | 0.240 | | | | | | | | | | | | | | | |
| | interval | | 3.74 | 3.92 | 3.82 | 4.05 | 4.13 | 4.33 | 4.41 | 4.49 | 4.58 | 5.34 | | | 11.48 | 12.51 | 13.48 |
| | velocity | 7.54 | 9.36 | 8.93 | 9.16 | 8.64 | 8.47 | 8.08 | 7.94 | 7.80 | 7.64 | 7.49 | 8.20 | | 9.15 | 8.39 | 7.79 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Valliant, Ludvy (FRA) (1995) | time | 5.93 | 9.66 | 13.60 | 17.45 | 21.38 | 25.55 | 29.84 | 34.25 | 38.82 | 43.52 | | 48.79 | 5 / 4 | | | |
| | reaction time | 0.193 | | | | | | | | | | | | | | | |
| | interval | | 3.73 | 3.94 | 3.85 | 3.93 | 4.17 | 4.29 | 4.41 | 4.57 | 4.70 | 5.27 | | | 11.52 | 12.39 | 13.68 |
| | velocity | 7.59 | 9.38 | 8.88 | 9.09 | 8.91 | 8.39 | 8.16 | 7.94 | 7.66 | 7.45 | 7.59 | 8.20 | | 9.11 | 8.47 | 7.68 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Abuaku, Joshua (GER) (1996) | time | 5.85 | 9.54 | | 17.08 | 20.98 | 25.11 | 29.52 | 33.97 | 38.58 | 43.36 | | 48.79 | 7 / 5 | | | |
| | reaction time | 0.168 | | | | | | | | | | | | | | | |
| | interval | | 3.69 | | 7.54 | 3.90 | 4.13 | 4.41 | 4.45 | 4.61 | 4.78 | 5.43 | PB | | 11.23 | 12.44 | 13.84 |
| | velocity | 7.69 | 9.49 | | 9.28 | 8.97 | 8.47 | 7.94 | 7.87 | 7.59 | 7.32 | 7.37 | 8.20 | | 9.35 | 8.44 | 7.59 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Watrin, Julien (BEL) (1992) | time | 6.02 | 9.62 | | 17.13 | 21.02 | 25.11 | 29.44 | 33.89 | 38.50 | 43.36 | | 48.98 | 2 / 6 | | | |
| | reaction time | 0.173 | | | | | | | | | | | | | | | |
| | interval | | 3.60 | | 7.51 | 3.89 | 4.09 | 4.33 | 4.45 | 4.61 | 4.86 | 5.62 | | | 11.11 | 12.31 | 13.92 |
| | velocity | 7.48 | 9.72 | | 9.32 | 9.00 | 8.56 | 8.08 | 7.87 | 7.59 | 7.20 | 7.12 | 8.17 | | 9.45 | 8.53 | 7.54 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Bonvin, Julien (SUI) (1999) | time | 5.77 | 9.38 | | 17.05 | 21.10 | 25.43 | 29.88 | 34.57 | 39.47 | 44.52 | | 50.24 | 1 / 7 | | | |
| | reaction time | 0.216 | | | | | | | | | | | | | | | |
| | interval | | 3.61 | | 7.67 | 4.05 | 4.33 | 4.45 | 4.69 | 4.90 | 5.05 | 5.72 | | | 11.28 | 12.83 | 14.64 |
| | velocity | 7.80 | 9.70 | | 9.13 | 8.64 | 8.08 | 7.87 | 7.46 | 7.14 | 6.93 | 6.99 | 7.96 | | 9.31 | 8.18 | 7.17 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Coroller, Victor (FRA) (1997) | time | 5.93 | 9.79 | | 17.49 | 21.58 | 25.79 | 30.28 | 34.82 | 39.71 | 44.76 | | 50.46 | 8 / 8 | | | |
| | reaction time | 0.201 | | | | | | | | | | | | | | | |
| | interval | | 3.86 | | 7.70 | 4.09 | 4.21 | 4.49 | 4.54 | 4.89 | 5.05 | 5.70 | | | 11.56 | 12.79 | 14.48 |
| | velocity | 7.59 | 9.07 | | 9.09 | 8.56 | 8.31 | 7.80 | 7.71 | 7.16 | 6.93 | 7.02 | 7.93 | | 9.08 | 8.21 | 7.25 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 50fps

Timing From: First Movement

Source: https://www.youtube.com/watch?v=sf_-70eAndI

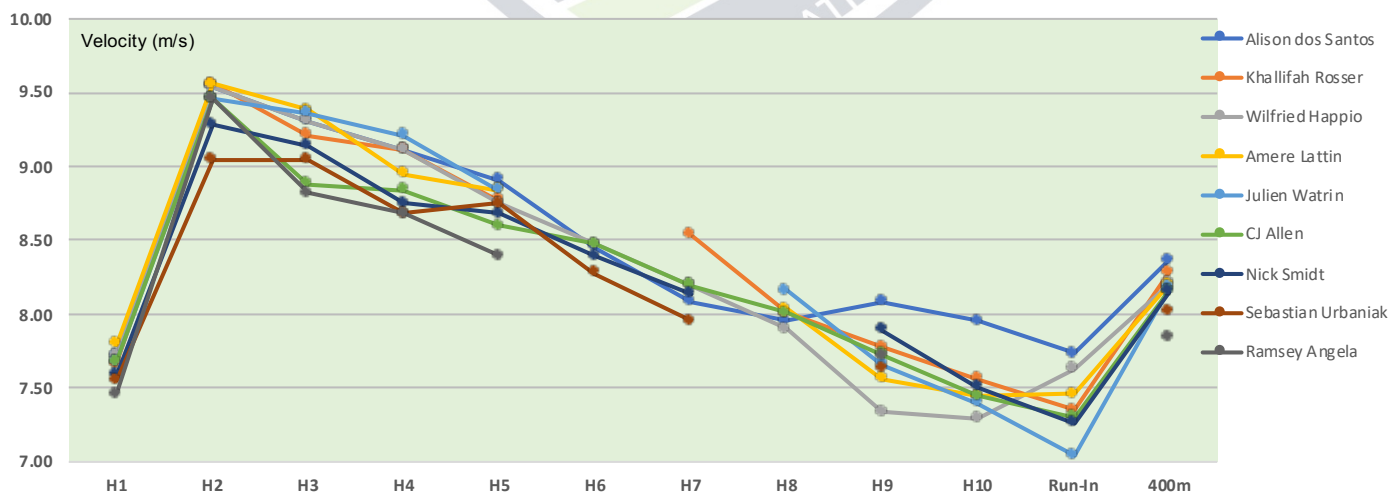
2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) (TV Analysis)

Men's 400m Hurdles

Date: 2022.08.06

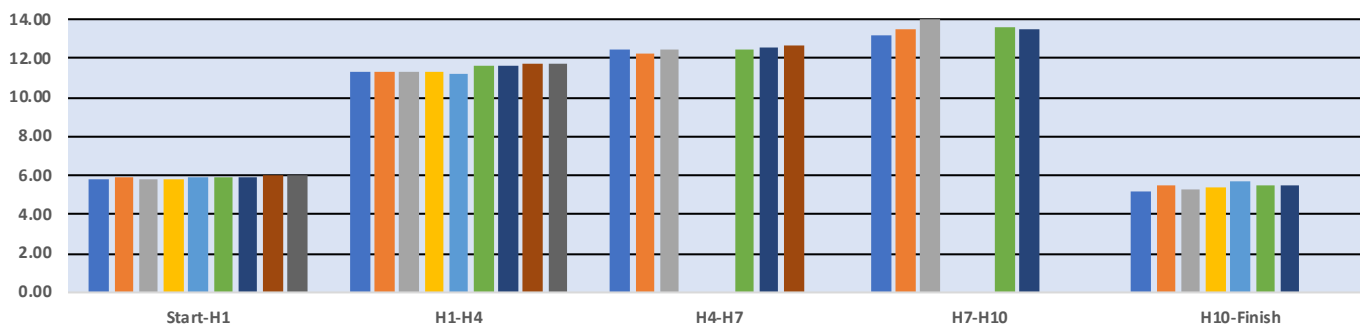
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|---|-------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| dos Santos, Alison (BRA) (2000) | time | 5.83 | 9.50 | 13.26 | 17.10 | 21.03 | 25.17 | 29.50 | 33.90 | 38.23 | 42.63 | | 47.80 | 6 / 1 | | | |
| | reaction time | 0.179 | | | | | | | | | | | | | | | |
| | interval velocity | 7.72 | 9.54 | 9.31 | 9.11 | 8.91 | 8.45 | 8.08 | 7.95 | 8.08 | 7.95 | 7.74 | 8.37 | | 11.27 | 12.40 | 13.13 |
| | H1 lead leg | L | 20 | 13 | 12 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 16 | 149 | 9.32 | 8.47 | 8.00 |
| Rosser, Khalifah (USA) (1995) | time | 5.87 | 9.53 | 13.33 | 17.17 | 21.16 | | 29.36 | 33.73 | 38.23 | 42.86 | | 48.30 | 4 / 2 | | | |
| | reaction time | 0.177 | | | | | | | | | | | | | | | |
| | interval velocity | 7.67 | 9.56 | 9.21 | 9.11 | 8.77 | | 8.54 | 8.01 | 7.78 | 7.56 | 7.35 | 8.28 | | 11.30 | 12.19 | 13.50 |
| | H1 lead leg | R | 21 | 13 | 13 | | 13 | | 14 | 14 | 14 | 18 | 120 | | 9.29 | 8.61 | 7.78 |
| Happio, Wilfried (FRA) (1998) | time | 5.83 | 9.50 | 13.26 | 17.10 | 21.10 | 25.23 | 29.50 | 33.93 | 38.70 | 43.50 | | 48.74 | 5 / 3 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | | | |
| | interval velocity | 7.72 | 9.54 | 9.31 | 9.11 | 8.75 | 8.47 | 8.20 | 7.90 | 7.34 | 7.29 | 7.63 | 8.21 | | 11.27 | 12.40 | 14.00 |
| | H1 lead leg | L | 20 | 13 | 13 | | 13 | 13 | 13 | 13 | 15 | 15 | 17.7 | 145.7 | 9.32 | 8.47 | 7.50 |
| Lattin, Amere (USA) (1997) | time | 5.77 | 9.43 | 13.16 | 17.07 | 21.03 | | 34.10 | 38.73 | 43.43 | | | 48.79 | 2 / 4 | | | |
| | reaction time | 0.147 | | | | | | | | | | | | | | | |
| | interval velocity | 7.80 | 9.56 | 9.38 | 8.95 | 8.84 | | 13.07 | 4.63 | 4.70 | 5.36 | | | | 11.30 | | |
| | H1 lead leg | L | 20 | 13 | 13 | | 13 | | 8.03 | 7.56 | 7.45 | 7.46 | 8.20 | | 9.29 | | |
| Watrin, Julien (BEL) (1992) | time | 5.86 | 9.56 | 13.30 | 17.10 | 21.06 | | 33.93 | 38.50 | 43.23 | | | 48.91 | 3 / 5 | | | |
| | reaction time | 0.225 | | | | | | | | | | | | | | | |
| | interval velocity | 7.68 | 9.46 | 9.36 | 9.21 | 8.84 | | 12.87 | 4.57 | 4.73 | 5.68 | | | | 11.24 | | |
| | H1 lead leg | R | 21 | 13 | 13 | | 13 | | 8.16 | 7.66 | 7.40 | 7.04 | 8.18 | | 9.34 | | |
| Allen, CJ (USA) (1995) | time | 5.86 | 9.56 | 13.50 | 17.46 | 21.53 | 25.66 | 29.93 | 34.30 | 38.83 | 43.53 | | 49.01 | 7 / 6 | | | |
| | reaction time | 0.152 | | | | | | | | | | | | | | | |
| | interval velocity | 7.68 | 9.46 | 8.88 | 8.84 | 8.60 | 8.47 | 8.20 | 8.01 | 7.73 | 7.45 | 7.30 | 8.16 | | 11.60 | 12.47 | 13.60 |
| | H1 lead leg | L | 20 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 15 | 18 | 146 | | 9.05 | 8.42 | 7.72 |
| Smidt, Nick (NED) (1997) | time | 5.93 | 9.70 | 13.53 | 17.53 | 21.56 | 25.73 | 30.03 | | 38.90 | 43.56 | | 49.07 | 9 / 7 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | | | |
| | interval velocity | 7.59 | 9.28 | 9.14 | 8.75 | 8.68 | 8.39 | 8.14 | | 7.89 | 7.51 | 7.26 | 8.15 | | 11.60 | 12.50 | 13.53 |
| | H1 lead leg | L | 20 | 13 | 13 | | 13 | 14 | 14 | | 14 | | 101 | | 9.05 | 8.40 | 7.76 |
| Urbaniak, Sebastian (POL) (2001) | time | 5.96 | 9.83 | 13.70 | 17.73 | 21.73 | 25.96 | 30.36 | | 39.53 | | | 49.85 | 8 / 8 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | | | |
| | interval velocity | 7.55 | 9.04 | 9.04 | 8.68 | 8.75 | 8.27 | 7.95 | | 7.63 | | | 8.02 | | 11.77 | 12.63 | |
| | H1 lead leg | L | 21 | 14 | 14 | 14 | 14 | 14 | 14 | | 9.17 | 7.63 | 105 | | 8.92 | 8.31 | |
| Angela, Ramsey (NED) (1999) | time | 6.03 | 9.73 | 13.70 | 17.73 | 21.90 | | | | 40.03 | | | 50.98 | 1 / 9 | | | |
| | reaction time | 0.188 | | | | | | | | | | | | | | | |
| | interval velocity | 7.46 | 9.46 | 8.82 | 8.68 | 8.39 | | | | 18.13 | | | 7.85 | | 11.70 | | |
| | H1 lead leg | R | 22 | 15 | 15 | | 14 | | | 7.72 | | | 66 | | 8.97 | | |



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=MwIm2TjauOU>

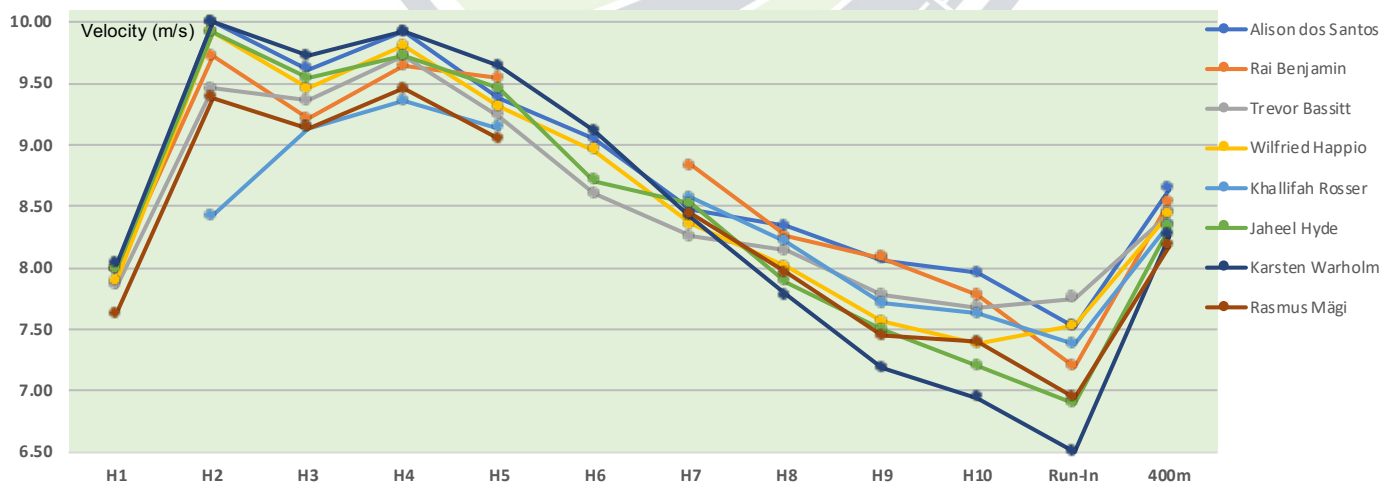
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Men's 400m Hurdles

Date: 2022.07.19

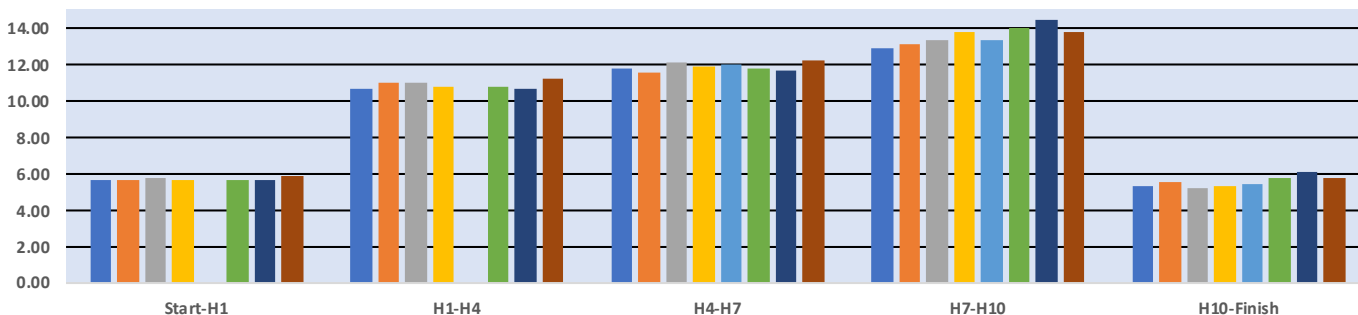
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| dos Santos, Alison (BRA) (2000) | time | 5.63 | 9.13 | 12.77 | 16.30 | 20.03 | 23.90 | 28.03 | 32.23 | 36.57 | 40.97 | | 46.29 | 6 / 1 | | | |
| | reaction time | 0.141 | | | | | | | | | | | | | | | |
| | interval | | 3.50 | 3.64 | 3.53 | 3.73 | 3.87 | 4.13 | 4.20 | 4.34 | 4.40 | 5.32 | CR NR | | 10.67 | 11.73 | 12.94 |
| | velocity | 7.99 | 10.00 | 9.62 | 9.92 | 9.38 | 9.04 | 8.47 | 8.33 | 8.06 | 7.95 | 7.52 | 8.64 | | 9.84 | 8.95 | 8.11 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Benjamin, Rai (USA) (1997) | time | 5.63 | 9.23 | 13.03 | 16.66 | 20.33 | | 28.26 | 32.50 | 36.83 | 41.33 | | 46.89 | 3 / 2 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | | | |
| | interval | | 3.60 | 3.80 | 3.63 | 3.67 | | 7.93 | 4.24 | 4.33 | 4.50 | 5.56 | | | 11.03 | 11.60 | 13.07 |
| | velocity | 7.99 | 9.72 | 9.21 | 9.64 | 9.54 | | 8.83 | 8.25 | 8.08 | 7.78 | 7.19 | 8.53 | | 9.52 | 9.05 | 8.03 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Bassitt, Trevor (USA) (1998) | time | 5.73 | 9.43 | 13.17 | 16.77 | 20.56 | 24.63 | 28.87 | 33.17 | 37.67 | 42.23 | | 47.39 | 8 / 3 | | | |
| | reaction time | 0.147 | | | | | | | | | | | | | | | |
| | interval | | 3.70 | 3.74 | 3.60 | 3.79 | 4.07 | 4.24 | 4.30 | 4.50 | 4.56 | 5.16 | PB | | 11.04 | 12.10 | 13.36 |
| | velocity | 7.85 | 9.46 | 9.36 | 9.72 | 9.23 | 8.60 | 8.25 | 8.14 | 7.78 | 7.68 | 7.75 | 8.44 | | 9.51 | 8.68 | 7.86 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Happio, Wilfried (FRA) (1998) | time | 5.70 | 9.23 | 12.93 | 16.50 | 20.26 | 24.17 | 28.36 | 32.73 | 37.36 | 42.10 | | 47.41 | 5 / 4 | | | |
| | reaction time | 0.134 | | | | | | | | | | | | | | | |
| | interval | | 3.53 | 3.70 | 3.57 | 3.76 | 3.91 | 4.19 | 4.37 | 4.63 | 4.74 | 5.31 | PB | | 10.80 | 11.86 | 13.74 |
| | velocity | 7.89 | 9.92 | 9.46 | 9.80 | 9.31 | 8.95 | 8.35 | 8.01 | 7.56 | 7.38 | 7.53 | 8.44 | | 9.72 | 8.85 | 7.64 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Rosser, Khallifah (USA) (1995) | time | | 9.50 | 13.33 | 17.07 | 20.90 | | 29.07 | 33.33 | 37.87 | 42.46 | | 47.88 | 1 / 5 | | | |
| | reaction time | 0.176 | | | | | | | | | | | | | | | |
| | interval | | 3.83 | 3.74 | 3.83 | 4.02 | 4.11 | 4.26 | 4.54 | 4.59 | 5.42 | | | | | 12.00 | 13.39 |
| | velocity | | 8.42 | 9.14 | 9.36 | 9.14 | | 8.57 | 8.22 | 7.71 | 7.63 | 7.38 | 8.35 | | | 8.75 | 7.84 |
| H1 lead leg | | | | | | | | | | | | | | | | | |
| Hyde, Jaheel (JAM) (1997) | time | 5.63 | 9.16 | 12.83 | 16.43 | 20.13 | 24.15 | 28.26 | 32.70 | 37.37 | 42.23 | | 48.03 | 7 / 6 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | | | |
| | interval | | 3.53 | 3.67 | 3.60 | 3.70 | 4.02 | 4.11 | 4.44 | 4.67 | 4.86 | 5.80 | PB | | 10.80 | 11.83 | 13.97 |
| | velocity | 7.99 | 9.92 | 9.54 | 9.72 | 9.46 | 8.71 | 8.52 | 7.88 | 7.49 | 7.20 | 6.90 | 8.33 | | 9.72 | 8.88 | 7.52 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Warholm, Karsten (NOR) (1996) | time | 5.60 | 9.10 | 12.70 | 16.23 | 19.86 | 23.70 | 27.86 | 32.36 | 37.23 | 42.27 | | 48.42 | 4 / 7 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | | | |
| | interval | | 3.50 | 3.60 | 3.53 | 3.63 | 3.84 | 4.16 | 4.50 | 4.87 | 5.04 | 6.15 | | | 10.63 | 11.63 | 14.41 |
| | velocity | 8.04 | 10.00 | 9.72 | 9.92 | 9.64 | 9.11 | 8.41 | 7.78 | 7.19 | 6.94 | 6.50 | 8.26 | | 9.88 | 9.03 | 7.29 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Mägi, Rasmus (EST) (1992) | time | 5.90 | 9.63 | 13.46 | 17.16 | 21.03 | | 29.33 | 33.73 | 38.43 | 43.16 | | 48.92 | 2 / 8 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | | | |
| | interval | | 3.73 | 3.83 | 3.70 | 3.87 | | 8.30 | 4.40 | 4.70 | 4.73 | 5.76 | | | 11.26 | 12.17 | 13.83 |
| | velocity | 7.63 | 9.38 | 9.14 | 9.46 | 9.04 | | 8.43 | 7.95 | 7.45 | 7.40 | 6.94 | 8.18 | | 9.33 | 8.63 | 7.59 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |



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=FRLzKktf6RA>

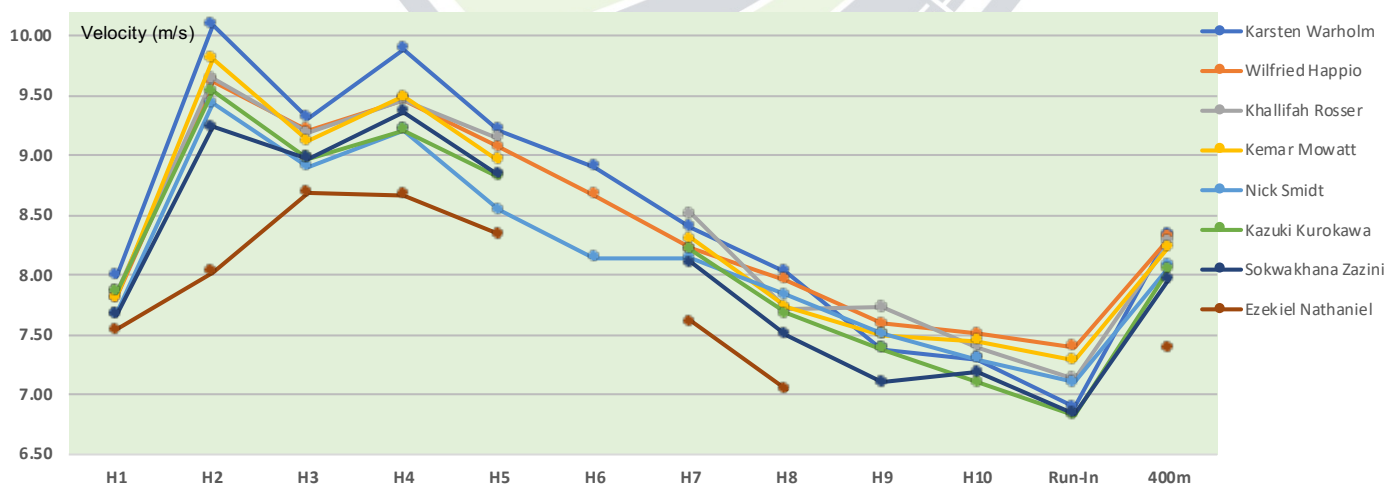
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Men's 400m Hurdles

Date: 2022.07.17

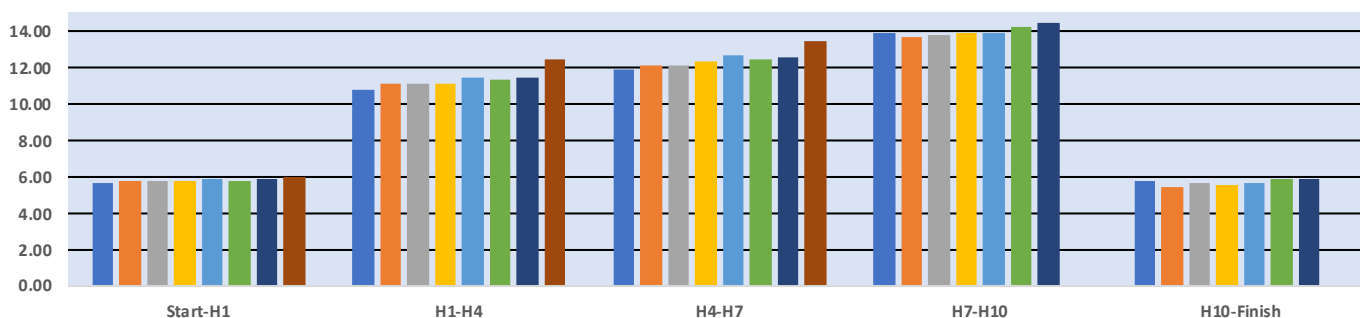
Semi-Final 3

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-----------|--------------|-------|-------|--------|
| Warholm, Karsten (NOR) (1996) | time | 5.63 | 9.10 | 12.86 | 16.40 | 20.20 | 24.13 | 28.30 | 32.66 | 37.40 | 42.20 | | 48.00 | 5 / 1 | | | |
| | reaction time | 0.169 | | | | | | | | | | | | | | | |
| | interval | | 3.47 | 3.76 | 3.54 | 3.80 | 3.93 | 4.17 | 4.36 | 4.74 | 4.80 | 5.80 | | | 10.77 | 11.90 | 13.90 |
| | velocity | 7.99 | 10.09 | 9.31 | 9.89 | 9.21 | 8.91 | 8.39 | 8.03 | 7.38 | 7.29 | 6.90 | 8.33 | | 9.75 | 8.82 | 7.55 |
| H1 lead leg | L | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 15 | 15 | 17.7 | 158.7 | | | | |
| Happio, Wilfried (FRA) (1998) | time | 5.76 | 9.40 | 13.20 | 16.90 | 20.76 | 24.80 | 29.06 | 33.46 | 38.07 | 42.73 | | 48.14 | 6 / 2 | | | |
| | reaction time | 0.136 | | | | | | | | | | | | | | | |
| | interval | | 3.64 | 3.80 | 3.70 | 3.86 | 4.04 | 4.26 | 4.40 | 4.61 | 4.66 | 5.41 | PB | | 11.14 | 12.16 | 13.67 |
| | velocity | 7.81 | 9.62 | 9.21 | 9.46 | 9.07 | 8.66 | 8.22 | 7.95 | 7.59 | 7.51 | 7.39 | 8.31 | | 9.43 | 8.63 | 7.68 |
| H1 lead leg | L | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 15 | 15 | 18 | 159 | | | | |
| Rosser, Khalifah (USA) (1995) | time | 5.73 | 9.36 | 13.17 | 16.87 | 20.70 | | 28.93 | 33.47 | 38.00 | 42.73 | | 48.34 | 3 / 3 | | | |
| | reaction time | 0.141 | | | | | | | | | | | | | | | |
| | interval | | 3.63 | 3.81 | 3.70 | 3.83 | | 8.23 | 4.54 | 4.53 | 4.73 | 5.61 | | | 11.14 | 12.06 | 13.80 |
| | velocity | 7.85 | 9.64 | 9.19 | 9.46 | 9.14 | | 8.51 | 7.71 | 7.73 | 7.40 | 7.13 | 8.27 | | 9.43 | 8.71 | 7.61 |
| H1 lead leg | R | 21 | 13 | 13 | 13 | 13 | | | 14 | 14 | 14 | 18 | 133 | | | | |
| Mowatt, Kemar (JAM) (1995) | time | 5.76 | 9.33 | 13.17 | 16.86 | 20.77 | | 29.20 | 33.73 | 38.40 | 43.10 | | 48.59 | 4 / 4 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | | | |
| | interval | | 3.57 | 3.84 | 3.69 | 3.91 | | 8.43 | 4.53 | 4.67 | 4.70 | 5.49 | | | 11.10 | 12.34 | 13.90 |
| | velocity | 7.81 | 9.80 | 9.11 | 9.49 | 8.95 | | 8.30 | 7.73 | 7.49 | 7.45 | 7.29 | 8.23 | | 9.46 | 8.51 | 7.55 |
| H1 lead leg | L | 21 | 13 | 13 | 13 | 13 | | | 15 | 15 | 15 | 18 | 136 | | | | |
| Smidt, Nick (NED) (1997) | time | 5.86 | 9.57 | 13.50 | 17.30 | 21.40 | 25.70 | 30.00 | 34.47 | 39.13 | 43.93 | | 49.56 | 8 / 5 | | | |
| | reaction time | 0.145 | | | | | | | | | | | | | | | |
| | interval | | 3.71 | 3.93 | 3.80 | 4.10 | 4.30 | 4.30 | 4.47 | 4.66 | 4.80 | 5.63 | | | 11.44 | 12.70 | 13.93 |
| | velocity | 7.68 | 9.43 | 8.91 | 9.21 | 8.54 | 8.14 | 8.14 | 7.83 | 7.51 | 7.29 | 7.10 | 8.07 | | 9.18 | 8.27 | 7.54 |
| H1 lead leg | L | 20 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 14 | 15 | 18 | 162 | | | | |
| Kurokawa, Kazuki (JPN) (2001) | time | 5.73 | 9.40 | 13.30 | 17.10 | 21.07 | | 29.60 | 34.16 | 38.90 | 43.83 | | 49.69 | 1 / 6 | | | |
| | reaction time | 0.136 | | | | | | | | | | | | | | | |
| | interval | | 3.67 | 3.90 | 3.80 | 3.97 | | 8.53 | 4.56 | 4.74 | 4.93 | 5.86 | | | 11.37 | 12.50 | 14.23 |
| | velocity | 7.85 | 9.54 | 8.97 | 9.21 | 8.82 | | 8.21 | 7.68 | 7.38 | 7.10 | 6.83 | 8.05 | | 9.23 | 8.40 | 7.38 |
| H1 lead leg | L | | 13 | 13 | 13 | 13 | | | 15 | 15 | 15 | 18 | 115 | | | | |
| Zazini, Sokwakhana (RSA) (2000) | time | 5.87 | 9.66 | 13.56 | 17.30 | 21.26 | | 29.90 | 34.57 | 39.50 | 44.37 | | 50.22 | 2 / 7 | | | |
| | reaction time | 0.153 | | | | | | | | | | | | | | | |
| | interval | | 3.79 | 3.90 | 3.74 | 3.96 | | 8.64 | 4.67 | 4.93 | 4.87 | 5.85 | | | 11.43 | 12.60 | 14.47 |
| | velocity | 7.67 | 9.23 | 8.97 | 9.36 | 8.84 | | 8.10 | 7.49 | 7.10 | 7.19 | 6.84 | 7.96 | | 9.19 | 8.33 | 7.26 |
| H1 lead leg | L | 23 | 15 | 15 | 15 | 15 | | | 16 | 17 | 17 | 20.2 | 153.2 | | | | |
| Nathaniel, Ezekiel (NGR) (2003) | time | 5.97 | 10.33 | 14.36 | 18.40 | 22.60 | | 31.80 | 36.77 | | | | 54.18 | 7 / 8 | | | |
| | reaction time | 0.176 | | | | | | | | | | | | | | | |
| | interval | | 4.36 | 4.03 | 4.04 | 4.20 | | 9.20 | 4.97 | | | | | | 12.43 | 13.40 | |
| | velocity | 7.54 | 8.03 | 8.68 | 8.66 | 8.33 | | 7.61 | 7.04 | | | | 7.38 | | 8.45 | 7.84 | |
| H1 lead leg | R | 21 | 15 | 14 | 13 | 13 | | | 14 | 14 | | | 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=lu7cOzY50p8>

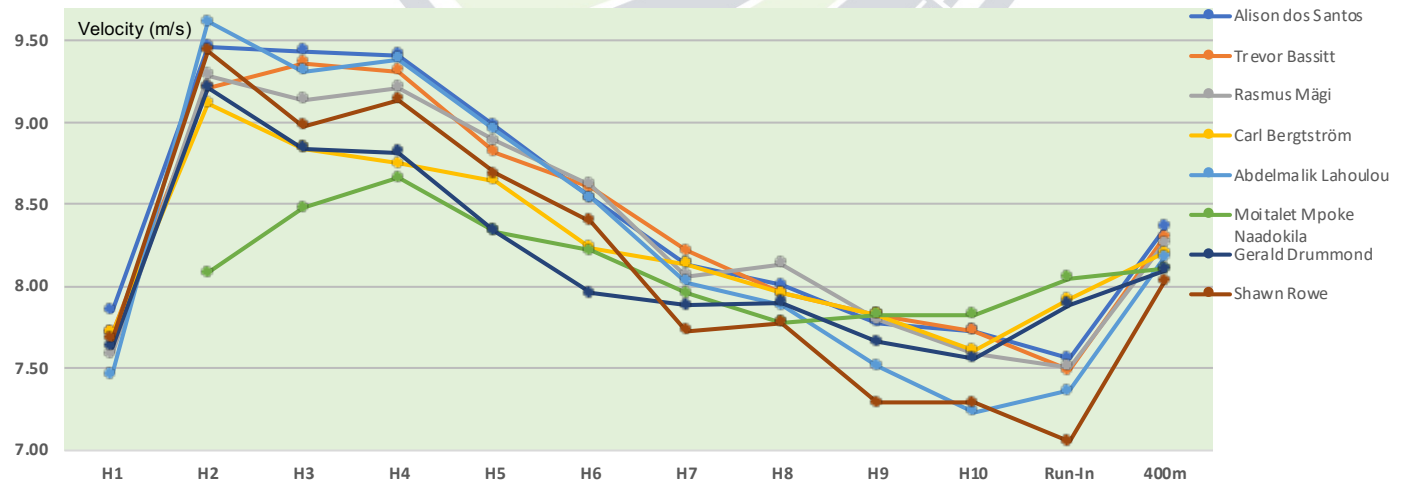
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Men's 400m Hurdles

Date: 2022.07.17

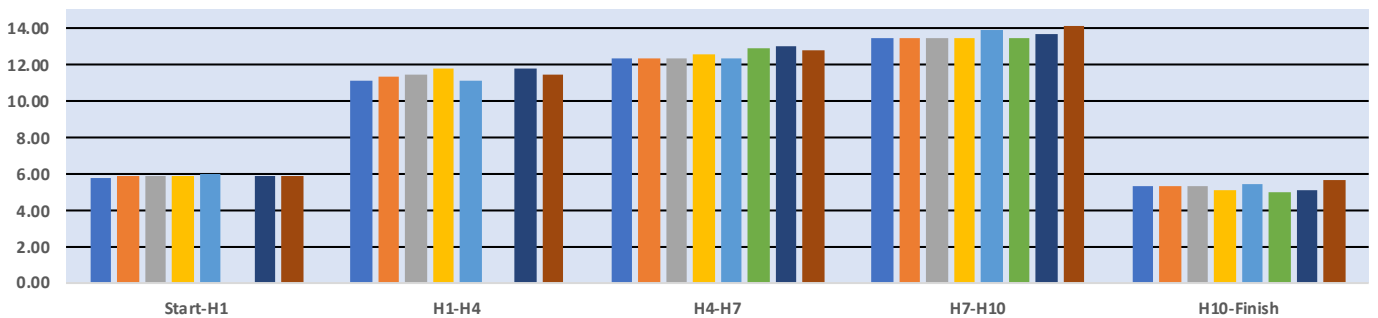
Semi-Final 2

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| dos Santos, Alison (BRA) (2000) | time | 5.73 | 9.43 | 13.14 | 16.86 | 20.76 | 24.86 | 29.16 | 33.53 | 38.03 | 42.56 | | 47.85 | 5 / 1 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | | | |
| | interval | | 3.70 | 3.71 | 3.72 | 3.90 | 4.10 | 4.30 | 4.37 | 4.50 | 4.53 | 5.29 | | | 11.13 | 12.30 | 13.40 |
| | velocity | 7.85 | 9.46 | 9.43 | 9.41 | 8.97 | 8.54 | 8.14 | 8.01 | 7.78 | 7.73 | 7.56 | 8.36 | | 9.43 | 8.54 | 7.84 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Bassitt, Trevor (USA) (1998) | time | 5.83 | 9.63 | 13.37 | 17.13 | 21.10 | 25.17 | 29.43 | 33.83 | 38.30 | 42.83 | | 48.17 | 7 / 2 | | | |
| | reaction time | 0.144 | | | | | | | | | | | | | | | |
| | interval | | 3.80 | 3.74 | 3.76 | 3.97 | 4.07 | 4.26 | 4.40 | 4.47 | 4.53 | 5.34 | | | 11.30 | 12.30 | 13.40 |
| | velocity | 7.72 | 9.21 | 9.36 | 9.31 | 8.82 | 8.60 | 8.22 | 7.95 | 7.83 | 7.73 | 7.49 | 8.30 | | 9.29 | 8.54 | 7.84 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Mägi, Rasmus (EST) (1992) | time | 5.93 | 9.70 | 13.53 | 17.33 | 21.27 | 25.33 | 29.67 | 33.97 | 38.46 | 43.07 | | 48.40 | 4 / 3 | | | |
| | reaction time | 0.137 | | | | | | | | | | | | | | | |
| | interval | | 3.77 | 3.83 | 3.80 | 3.94 | 4.06 | 4.34 | 4.30 | 4.49 | 4.61 | 5.33 | | | 11.40 | 12.34 | 13.40 |
| | velocity | 7.59 | 9.28 | 9.14 | 9.21 | 8.88 | 8.62 | 8.06 | 8.14 | 7.80 | 7.59 | 7.50 | 8.26 | | 9.21 | 8.51 | 7.84 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Bergström, Carl (SWE) (2000) | time | 5.83 | 9.67 | 13.63 | 17.63 | 21.68 | 25.93 | 30.23 | 34.63 | 39.10 | 43.70 | | 48.75 | 8 / 4 | | | |
| | reaction time | 0.161 | | | | | | | | | | | | | | | |
| | interval | | 3.84 | 3.96 | 4.00 | 4.05 | 4.25 | 4.30 | 4.40 | 4.47 | 4.60 | 5.05 | | | 11.80 | 12.60 | 13.47 |
| | velocity | 7.72 | 9.11 | 8.84 | 8.75 | 8.64 | 8.24 | 8.14 | 7.95 | 7.83 | 7.61 | 7.92 | 8.21 | | 8.90 | 8.33 | 7.80 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Lahoulou, Abdelmalik (ALG) (1992) | time | 6.03 | 9.67 | 13.43 | 17.16 | 21.07 | 25.17 | 29.53 | 33.97 | 38.63 | 43.47 | | 48.90 | 3 / 5 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | | | |
| | interval | | 3.64 | 3.76 | 3.73 | 3.91 | 4.10 | 4.36 | 4.44 | 4.66 | 4.84 | 5.43 | | | 11.13 | 12.37 | 13.94 |
| | velocity | 7.46 | 9.62 | 9.31 | 9.38 | 8.95 | 8.54 | 8.03 | 7.88 | 7.51 | 7.23 | 7.37 | 8.18 | | 9.43 | 8.49 | 7.53 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Naadokila, Moitalet Mpoke (KEN) (2000) | time | | 9.90 | 14.03 | 18.07 | 22.27 | 26.53 | 30.93 | 35.43 | 39.90 | 44.37 | | 49.34 | 1 / 6 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | | | |
| | interval | | 4.13 | 4.04 | 4.20 | 4.26 | 4.40 | 4.50 | 4.47 | 4.47 | 4.97 | | | | | | |
| | velocity | | 8.08 | 8.47 | 8.66 | 8.33 | 8.22 | 7.95 | 7.78 | 7.83 | 7.83 | 8.05 | 8.11 | | | 12.86 | 13.44 |
| H1 lead leg | | | | | | | | | | | | | | | | | |
| Drummond, Gerald (CRC) (1994) | time | 5.90 | 9.70 | 13.66 | 17.63 | 21.83 | 26.23 | 30.67 | 35.10 | 39.67 | 44.30 | | 49.37 | 6 / 7 | | | |
| | reaction time | 0.188 | | | | | | | | | | | | | | | |
| | interval | | 3.80 | 3.96 | 3.97 | 4.20 | 4.40 | 4.44 | 4.43 | 4.57 | 4.63 | 5.07 | | | 11.73 | 13.04 | 13.63 |
| | velocity | 7.63 | 9.21 | 8.84 | 8.82 | 8.33 | 7.95 | 7.88 | 7.90 | 7.66 | 7.56 | 7.89 | 8.10 | | 8.95 | 8.05 | 7.70 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Rowe, Shawn (JAM) (1992) | time | 5.86 | 9.57 | 13.47 | 17.30 | 21.33 | 25.50 | 30.03 | 34.53 | 39.33 | 44.13 | | 49.80 | 2 / 8 | | | |
| | reaction time | 0.158 | | | | | | | | | | | | | | | |
| | interval | | 3.71 | 3.90 | 3.83 | 4.03 | 4.17 | 4.53 | 4.50 | 4.80 | 4.80 | 5.67 | | | 11.44 | 12.73 | 14.10 |
| | velocity | 7.68 | 9.43 | 8.97 | 9.14 | 8.68 | 8.39 | 7.73 | 7.78 | 7.29 | 7.29 | 7.05 | 8.03 | | 9.18 | 8.25 | 7.45 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |



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=lu7cOzY50p8>

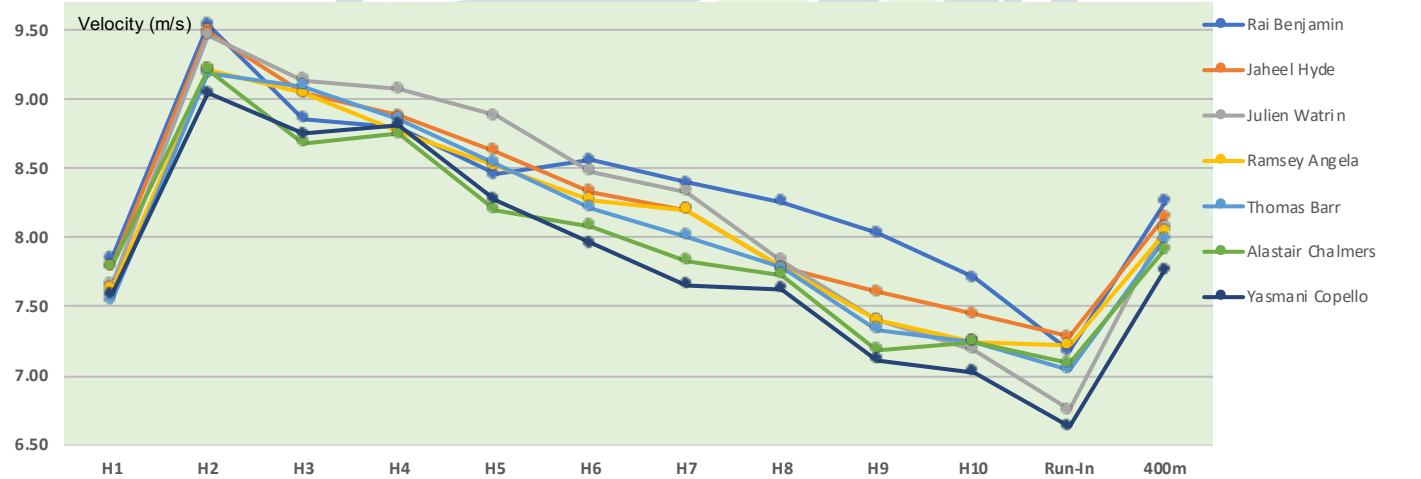
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Men's 400m Hurdles

Date: 2022.07.17

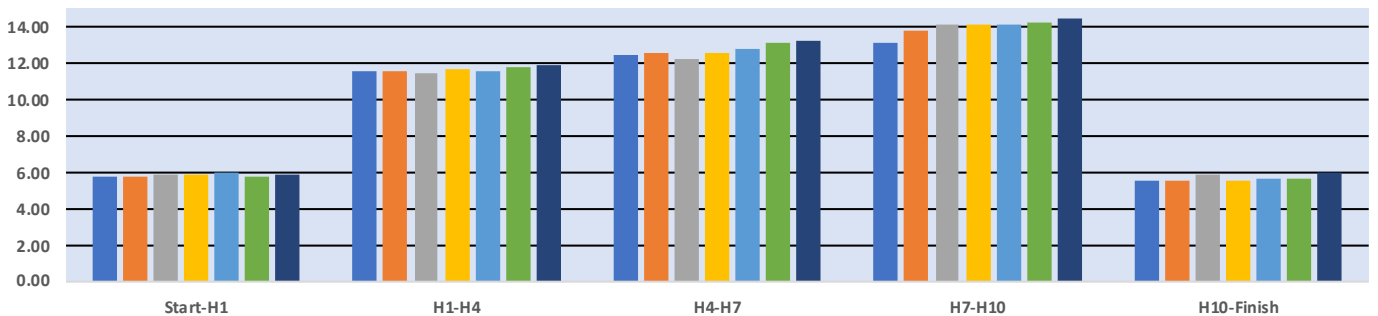
Semi-Final 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Benjamin, Rai (USA) (1997) | time | 5.73 | 9.40 | 13.35 | 17.33 | 21.47 | 25.56 | 29.73 | 33.97 | 38.33 | 42.87 | | 48.44 | 6 / 1 | | | |
| | reaction time | 0.181 | | | | | | | | | | | | | | | |
| | interval | | 3.67 | 3.95 | 3.98 | 4.14 | 4.09 | 4.17 | 4.24 | 4.36 | 4.54 | 5.57 | | | 11.60 | 12.40 | 13.14 |
| | velocity | 7.85 | 9.54 | 8.86 | 8.79 | 8.45 | 8.56 | 8.39 | 8.25 | 8.03 | 7.71 | 7.18 | 8.26 | | 9.05 | 8.47 | 7.99 |
| H1 lead leg | R | | | | | | | | | | | | 153 | | | | |
| Hyde, Jaheel (JAM) (1997) | time | 5.77 | 9.46 | 13.33 | 17.27 | 21.33 | 25.53 | 29.80 | 34.30 | 38.90 | 43.60 | | 49.09 | 8 / 2 | | | |
| | reaction time | 0.149 | | | | | | | | | | | | | | | |
| | interval | | 3.69 | 3.87 | 3.94 | 4.06 | 4.20 | 4.27 | 4.50 | 4.60 | 4.70 | 5.49 | | | 11.50 | 12.53 | 13.80 |
| | velocity | 7.80 | 9.49 | 9.04 | 8.88 | 8.62 | 8.33 | 8.20 | 7.78 | 7.61 | 7.45 | 7.29 | 8.15 | | 9.13 | 8.38 | 7.61 |
| H1 lead leg | L | | | | | | | | | | | | 163 | | | | |
| Watrin, Julien (BEL) (1992) | time | 5.87 | 9.57 | 13.40 | 17.26 | 21.20 | 25.33 | 29.53 | 34.00 | 38.73 | 43.60 | | 49.52 | 3 / 3 | | | |
| | reaction time | 0.186 | | | | | | | | | | | | | | | |
| | interval | | 3.70 | 3.83 | 3.86 | 3.94 | 4.13 | 4.20 | 4.47 | 4.73 | 4.87 | 5.92 | | | 11.39 | 12.27 | 14.07 |
| | velocity | 7.67 | 9.46 | 9.14 | 9.07 | 8.88 | 8.47 | 8.33 | 7.83 | 7.40 | 7.19 | 6.76 | 8.08 | | 9.22 | 8.56 | 7.46 |
| H1 lead leg | R | | | | | | | | | | | | 164.7 | | | | |
| Angela, Ramsey (NED) (1999) | time | 5.90 | 9.70 | 13.57 | 17.56 | 21.67 | 25.90 | 30.17 | 34.67 | 39.40 | 44.23 | | 49.77 | 4 / 4 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | | | |
| | interval | | 3.80 | 3.87 | 3.99 | 4.11 | 4.23 | 4.27 | 4.50 | 4.73 | 4.83 | 5.54 | | | 11.66 | 12.61 | 14.06 |
| | velocity | 7.63 | 9.21 | 9.04 | 8.77 | 8.52 | 8.27 | 8.20 | 7.78 | 7.40 | 7.25 | 7.22 | 8.04 | | 9.01 | 8.33 | 7.47 |
| H1 lead leg | R | | | | | | | | | | | | 171.2 | | | | |
| Barr, Thomas (IRL) (1992) | time | 5.96 | 9.77 | 13.62 | 17.57 | 21.67 | 25.93 | 30.30 | 34.80 | 39.57 | 44.40 | | 50.08 | 5 / 3 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | | | |
| | interval | | 3.81 | 3.85 | 3.95 | 4.10 | 4.26 | 4.37 | 4.53 | 4.77 | 4.83 | 5.68 | | | 11.61 | 12.73 | 14.10 |
| | velocity | 7.55 | 9.19 | 9.09 | 8.86 | 8.54 | 8.22 | 8.01 | 7.78 | 7.34 | 7.25 | 7.04 | 7.99 | | 9.04 | 8.25 | 7.45 |
| H1 lead leg | L | | | | | | | | | | | | 162 | | | | |
| Chalmers, Alastair (GBR) (2000) | time | 5.77 | 9.57 | 13.60 | 17.60 | 21.87 | 26.20 | 30.67 | 35.20 | 40.07 | 44.90 | | 50.54 | 1 / 6 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | | | |
| | interval | | 3.80 | 4.03 | 4.00 | 4.27 | 4.33 | 4.47 | 4.53 | 4.87 | 4.83 | 5.64 | | | 11.83 | 13.07 | 14.23 |
| | velocity | 7.80 | 9.21 | 8.68 | 8.75 | 8.20 | 8.08 | 7.83 | 7.73 | 7.19 | 7.25 | 7.09 | 7.91 | | 8.88 | 8.03 | 7.38 |
| H1 lead leg | L | | | | | | | | | | | | 163 | | | | |
| Copello, Yasmani (TUR) (1987) | time | 5.93 | 9.80 | 13.80 | 17.77 | 22.00 | 26.40 | 30.97 | 35.56 | 40.48 | 45.46 | | 51.49 | 2 / 7 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | | | |
| | interval | | 3.87 | 4.00 | 3.97 | 4.23 | 4.40 | 4.57 | 4.59 | 4.92 | 4.98 | 6.03 | | | 11.84 | 13.20 | 14.49 |
| | velocity | 7.59 | 9.04 | 8.75 | 8.82 | 8.27 | 7.95 | 7.66 | 7.63 | 7.11 | 7.03 | 6.63 | 7.77 | | 8.87 | 7.95 | 7.25 |
| H1 lead leg | L | | | | | | | | | | | | 161 | | | | |



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=lu7cOzY50q8>

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

Men's 400m Hurdles

Date: 2022.07.16

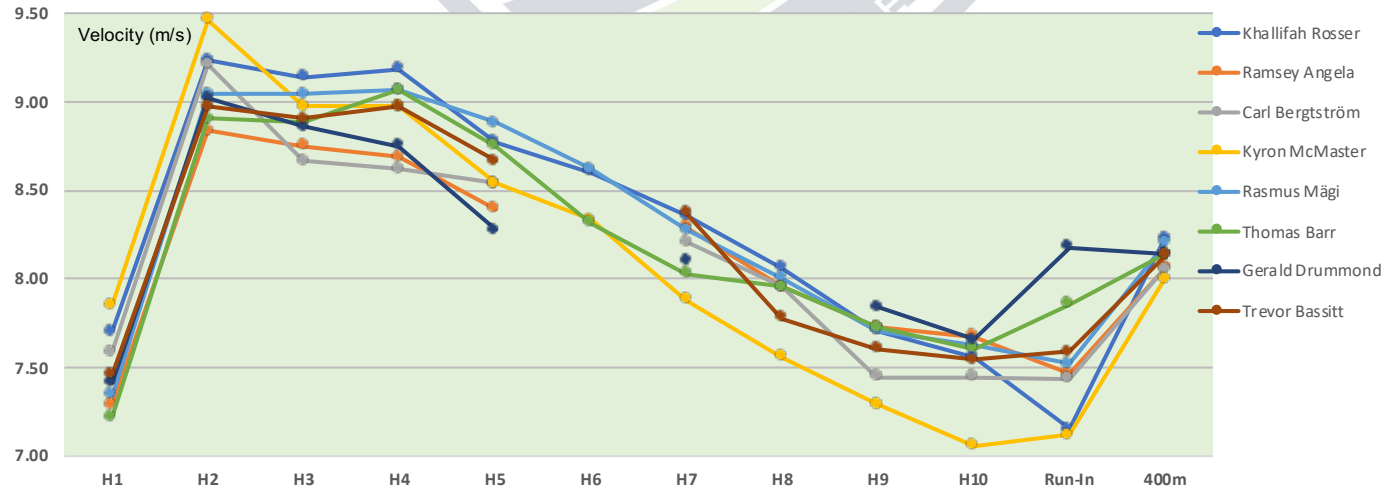
Heat 5

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Rosser, Khalifah (USA) (1995) | time | 5.84 | 9.63 | 13.46 | 17.27 | 21.26 | 25.33 | 29.52 | 33.86 | 38.40 | 43.03 | | 48.62 | 2 / 1 | | | |
| | reaction time | 0.168 | | | | | | | | | | | | | | | |
| | interval velocity | 7.71 | 9.23 | 9.14 | 9.19 | 8.77 | 8.60 | 8.35 | 8.06 | 7.71 | 7.56 | 7.16 | 8.23 | | 11.43 | 12.25 | 13.51 |
| H1 lead leg | R | | | | | | | | | | | | | | 9.19 | 8.57 | 7.77 |
| Angela, Ramsey (NED) (1999) | time | 6.17 | 10.13 | 14.13 | 18.16 | 22.33 | | 30.77 | 35.17 | 39.70 | 44.26 | | 49.62 | 3 / 2 | | | |
| | reaction time | 0.182 | | | | | | | | | | | | | | | |
| | interval velocity | 7.29 | 8.84 | 8.75 | 8.68 | 8.39 | | 8.29 | 7.95 | 7.73 | 7.68 | 7.46 | 8.06 | | 11.99 | 12.61 | 13.49 |
| H1 lead leg | R | | | | | | | | | | | | | | 8.76 | 8.33 | 7.78 |
| Bergtström, Carl (SWE) (2000) | time | 5.93 | 9.73 | 13.77 | 17.83 | 21.93 | | 30.46 | 34.86 | 39.56 | 44.26 | | 49.64 | 8 / 3 | | | |
| | reaction time | 0.169 | | | | | | | | | | | | | | | |
| | interval velocity | 7.59 | 9.21 | 8.66 | 8.62 | 8.54 | | 8.21 | 7.95 | 7.45 | 7.45 | 7.43 | 8.06 | | 11.90 | 12.63 | 13.80 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.82 | 8.31 | 7.61 |
| McMaster, Kyrone (IVB) (1997) | time | 5.73 | 9.43 | 13.33 | 17.23 | 21.33 | 25.53 | 29.97 | 34.60 | 39.40 | 44.36 | | 49.98 | 4 / 4 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | | | |
| | interval velocity | 7.85 | 9.46 | 8.97 | 8.97 | 8.54 | 8.33 | 7.88 | 7.56 | 7.29 | 7.06 | 7.12 | 8.00 | | 11.50 | 12.74 | 14.39 |
| H1 lead leg | L | | | | | | | | | | | | | | 9.13 | 8.24 | 7.30 |

Date: 2022.07.16

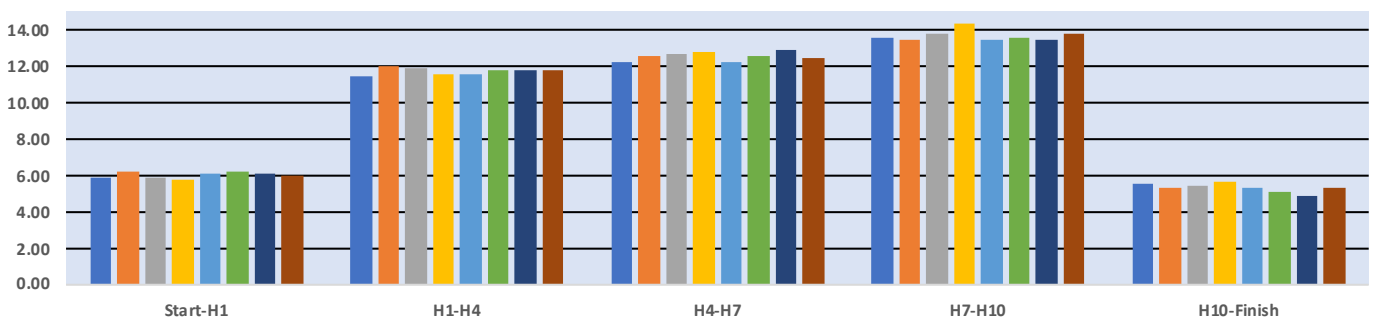
Heat 4

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Mägi, Rasmus (EST) (1992) | time | 6.13 | 10.00 | 13.87 | 17.73 | 21.67 | 25.73 | 29.96 | 34.33 | 38.87 | 43.46 | | 48.78 | 5 / 1 | | | |
| | reaction time | 0.169 | | | | | | | | | | | | | | | |
| | interval velocity | 7.34 | 9.04 | 9.04 | 9.07 | 8.88 | 8.62 | 8.27 | 8.01 | 7.71 | 7.63 | 7.52 | 8.20 | | 11.60 | 12.23 | 13.50 |
| H1 lead leg | R | | | | | | | | | | | | | | 9.05 | 8.59 | 7.78 |
| Barr, Thomas (IRL) (1992) | time | 6.23 | 10.16 | 14.10 | 17.96 | 21.96 | 26.17 | 30.53 | 34.93 | 39.46 | 44.06 | | 49.15 | 8 / 2 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | | | |
| | interval velocity | 7.22 | 8.91 | 8.88 | 9.07 | 8.75 | 8.31 | 8.03 | 7.95 | 7.73 | 7.61 | 7.86 | 8.14 | | 11.73 | 12.57 | 13.53 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.95 | 8.35 | 7.76 |
| Drummond, Gerald (CRC) (1994) | time | 6.07 | 9.95 | 13.90 | 17.90 | 22.13 | | 30.77 | | 39.70 | 44.27 | | 49.16 | 2 / 3 | | | |
| | reaction time | 0.195 | | | | | | | | | | | | | | | |
| | interval velocity | 7.41 | 9.02 | 8.86 | 8.75 | 8.27 | | 8.10 | | 7.84 | 7.66 | 8.18 | 8.14 | | 11.83 | 12.87 | 13.50 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.88 | 8.16 | 7.78 |
| Bassitt, Trevor (USA) (1998) | time | 6.03 | 9.93 | 13.86 | 17.76 | 21.80 | | 30.16 | 34.66 | 39.26 | 43.90 | | 49.17 | 3 / 4 | | | |
| | reaction time | 0.146 | | | | | | | | | | | | | | | |
| | interval velocity | 7.46 | 8.97 | 8.91 | 8.97 | 8.66 | | 8.37 | 7.78 | 7.61 | 7.54 | 7.59 | 8.14 | | 11.73 | 12.40 | 13.74 |
| H1 lead leg | R | | | | | | | | | | | | | | 8.95 | 8.47 | 7.64 |



Time Intervals (s)

Hurdle Phases



Heat 5

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: First Movement

Source: https://www.youtube.com/watch?v=v2XCv1nM_xY&t=9s

Heat 4

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: Gun Flash

Source: https://www.youtube.com/watch?v=v2XCv1nM_xY&t=9s

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

Men's 400m Hurdles

Date: 2022.07.16

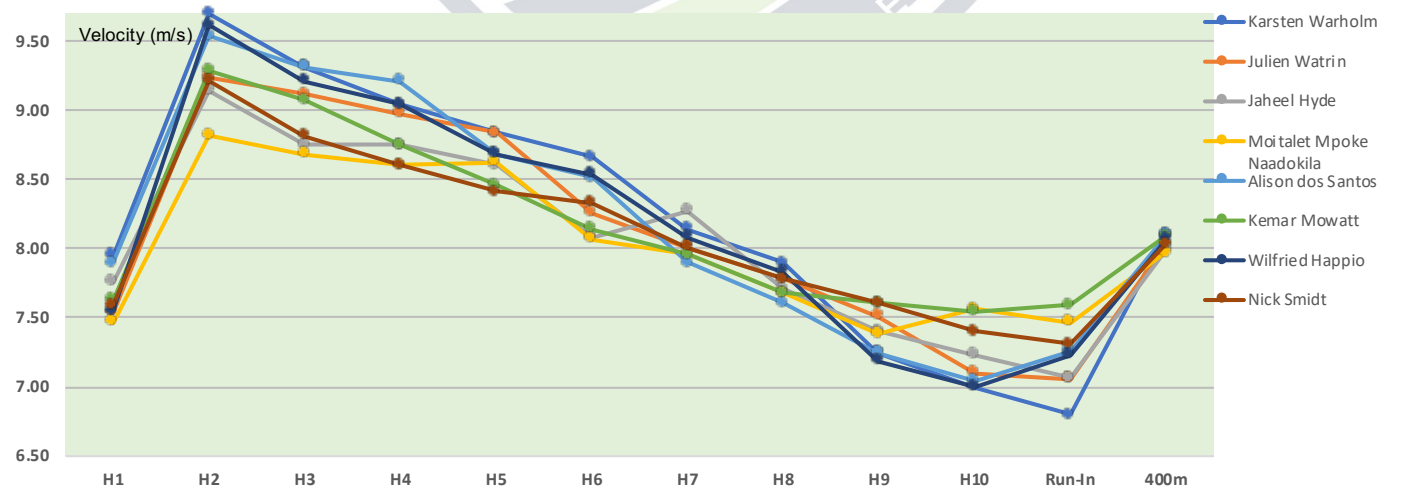
Heat 3

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Warholm, Karsten (NOR) (1996) | time | 5.66 | 9.27 | 13.03 | 16.90 | 20.86 | 24.90 | 29.20 | 33.63 | 38.46 | 43.46 | | 49.34 | 3 / 1 | | | |
| | reaction time | 0.164 | | | | | | | | | | | | | 11.24 | 12.30 | 14.26 |
| | interval | | 3.61 | 3.76 | 3.87 | 3.96 | 4.04 | 4.30 | 4.43 | 4.83 | 5.00 | 5.88 | | | 9.34 | 8.54 | 7.36 |
| | velocity | 7.95 | 9.70 | 9.31 | 9.04 | 8.84 | 8.66 | 8.14 | 7.90 | 7.25 | 7.00 | 6.80 | 8.11 | | | | |
| H1 lead leg | L | strides | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 15 | 15 | 17.5 | 158.5 | | | | |
| Watrin, Julien (BEL) (1992) | time | 5.97 | 9.76 | 13.60 | 17.50 | 21.46 | 25.70 | 30.07 | 34.57 | 39.23 | 44.16 | | 49.83 | 5 / 2 | | | |
| | reaction time | 0.199 | | | | | | | | | | | | | 11.53 | 12.57 | 14.09 |
| | interval | | 3.79 | 3.84 | 3.90 | 3.96 | 4.24 | 4.37 | 4.50 | 4.66 | 4.93 | 5.67 | | | 9.11 | 8.35 | 7.45 |
| | velocity | 7.54 | 9.23 | 9.11 | 8.97 | 8.84 | 8.25 | 8.01 | 7.78 | 7.51 | 7.10 | 7.05 | 8.03 | | | | |
| H1 lead leg | R | strides | 21 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 15 | 18 | 164 | | | | |
| Hyde, Jaheel (JAM) (1997) | time | 5.80 | 9.63 | 13.63 | 17.63 | 21.70 | 26.03 | 30.26 | 34.80 | 39.53 | 44.37 | | 50.03 | 6 / 3 | | | |
| | reaction time | 0.187 | | | | | | | | | | | | | 11.83 | 12.63 | 14.11 |
| | interval | | 3.83 | 4.00 | 4.00 | 4.07 | 4.33 | 4.23 | 4.54 | 4.73 | 4.84 | 5.66 | | | 8.88 | 8.31 | 7.44 |
| | velocity | 7.76 | 9.14 | 8.75 | 8.75 | 8.60 | 8.08 | 8.27 | 7.71 | 7.40 | 7.23 | 7.07 | 8.00 | | | | |
| H1 lead leg | L | strides | 22 | 14 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 18 | 169 | | | | |
| Naadokila, Moitale Mpoke (KEN) (2001) | time | 6.03 | 10.00 | 14.03 | 18.10 | 22.16 | 26.50 | 30.90 | 35.46 | 40.20 | 44.83 | | 50.19 | 8 / 4 | | | |
| | reaction time | 0.177 | | | | | | | | | | | | | 12.07 | 12.80 | 13.93 |
| | interval | | 3.97 | 4.03 | 4.07 | 4.06 | 4.34 | 4.40 | 4.56 | 4.74 | 4.63 | 5.36 | | | 8.70 | 8.20 | 7.54 |
| | velocity | 7.46 | 8.82 | 8.68 | 8.60 | 8.62 | 8.06 | 7.95 | 7.68 | 7.38 | 7.56 | 7.46 | 7.97 | | | | |
| H1 lead leg | L | strides | 21 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 17 | 164 | | | | |

Date: 2022.07.16

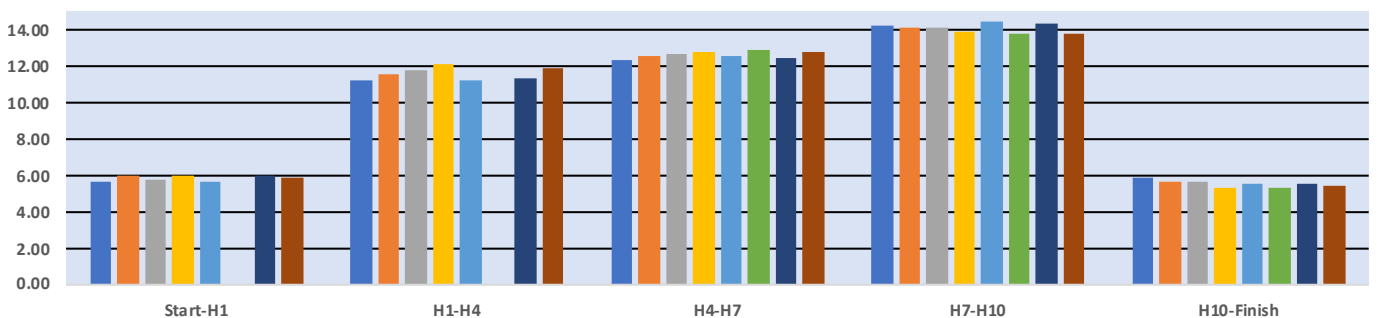
Heat 2

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 | |
|--|---------------|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|------|
| dos Santos, Alison (BRA) (2000) | time | 5.70 | 9.37 | 13.13 | 16.93 | 20.96 | 25.07 | 29.50 | 34.10 | 38.93 | 43.90 | | 49.41 | 5 / 1 | | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | 11.23 | 12.57 | 14.40 | |
| | interval | | 3.67 | 3.76 | 3.80 | 4.03 | 4.11 | 4.43 | 4.60 | 4.83 | 4.97 | 5.51 | | | 9.35 | 8.35 | 7.29 | |
| | velocity | 7.89 | 9.54 | 9.31 | 9.21 | 8.68 | 8.52 | 7.90 | 7.61 | 7.25 | 7.04 | 7.26 | 8.10 | | | | | |
| H1 lead leg | L | strides | 20 | 13 | 12 | 12 | 12 | 13 | 13 | 14 | 14 | 16 | 151 | | | | | |
| Mowatt, Kemar (JAM) (1995) | time | 5.90 | 9.67 | 13.53 | 17.53 | 21.67 | 25.97 | 30.37 | 34.93 | 39.53 | 44.17 | | 49.44 | 7 / 2 | | | | |
| | reaction time | 0.146 | | | | | | | | | | | | | | | | |
| | interval | | 3.77 | 3.86 | 4.00 | 4.14 | 4.30 | 4.40 | 4.56 | 4.60 | 4.64 | 5.27 | | | | | | |
| | velocity | 7.63 | 9.28 | 9.07 | 8.75 | 8.45 | 8.14 | 7.95 | 7.68 | 7.61 | 7.54 | 7.59 | 8.09 | | | | | |
| H1 lead leg | L | strides | 21 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 15 | 17.2 | 161.2 | | 12.84 | 13.80 | 8.18 | 7.61 |
| Happio, Wilfried (FRA) (1998) | time | 5.96 | 9.60 | 13.40 | 17.27 | 21.30 | 25.40 | 29.73 | 34.20 | 39.07 | 44.07 | | 49.60 | 6 / 3 | | | | |
| | reaction time | 0.308 | | | | | | | | | | | | | 11.31 | 12.46 | 14.34 | |
| | interval | | 3.64 | 3.80 | 3.87 | 4.03 | 4.10 | 4.33 | 4.47 | 4.87 | 5.00 | 5.53 | | | 9.28 | 8.43 | 7.32 | |
| | velocity | 7.55 | 9.62 | 9.21 | 9.04 | 8.68 | 8.54 | 8.08 | 7.83 | 7.19 | 7.00 | 7.23 | 8.06 | | | | | |
| H1 lead leg | L | strides | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 15 | 15 | 17.2 | 158.2 | | | | | |
| Smidt, Nick (NED) (1997) | time | 5.93 | 9.73 | 13.70 | 17.77 | 21.93 | 26.13 | 30.50 | 35.00 | 39.60 | 44.33 | | 49.80 | 8 / 4 | | | | |
| | reaction time | 0.180 | | | | | | | | | | | | | 11.84 | 12.73 | 13.83 | |
| | interval | | 3.80 | 3.97 | 4.07 | 4.16 | 4.20 | 4.37 | 4.50 | 4.60 | 4.73 | 5.47 | | | 8.87 | 8.25 | 7.59 | |
| | velocity | 7.59 | 9.21 | 8.82 | 8.60 | 8.41 | 8.33 | 8.01 | 7.78 | 7.61 | 7.40 | 7.31 | 8.03 | | | | | |
| H1 lead leg | L | strides | 20 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 17.7 | 159.7 | | | | | |



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=v2XCv1nM_xY&t=9s

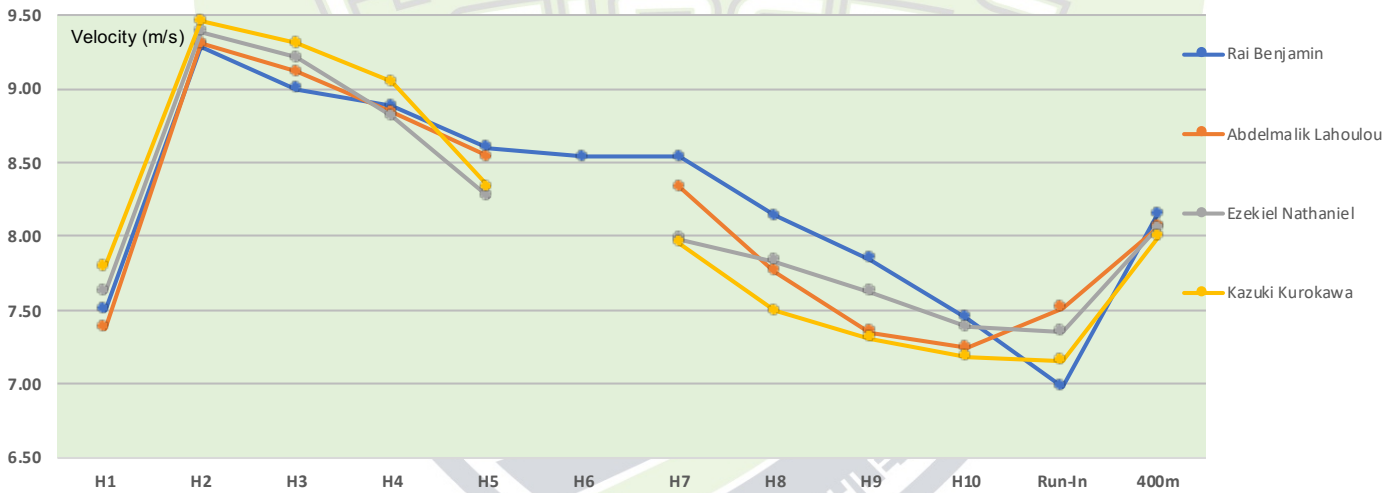
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Men's 400m Hurdles

Date: 2022.07.16

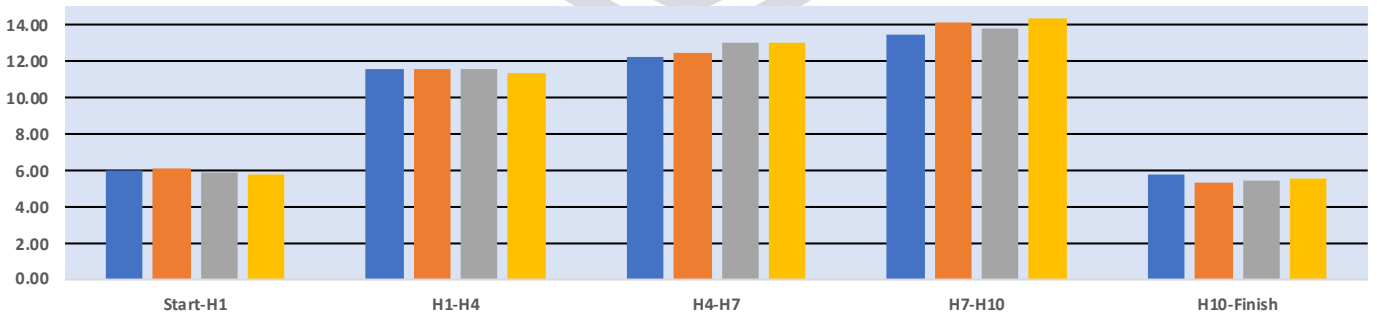
Heat 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Benjamin, Rai (USA) (1997) | time | 6.00 | 9.77 | 13.66 | 17.60 | 21.67 | 25.77 | 29.87 | 34.17 | 38.63 | 43.33 | | 49.06 | 4 / 1 | | | |
| | reaction time | 0.156 | | | | | | | | | | | | | | | |
| | interval | | 3.77 | 3.89 | 3.94 | 4.07 | 4.10 | 4.10 | 4.30 | 4.46 | 4.70 | 5.73 | | | 11.60 | 12.27 | 13.46 |
| | velocity | | 7.50 | 9.28 | 9.00 | 8.88 | 8.60 | 8.54 | 8.54 | 8.14 | 7.85 | 7.45 | 6.98 | 8.15 | | 9.05 | 8.56 |
| H1 lead leg | R | | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 16.5 | 153.5 | | | | |
| Lahoulou, Abdelmalik (ALG) (1992) | time | 6.10 | 9.86 | 13.70 | 17.66 | 21.76 | | 30.16 | 34.67 | 39.43 | 44.26 | | 49.58 | 6 / 2 | | | |
| | reaction time | 0.171 | | | | | | | | | | | | | | | |
| | interval | | 3.76 | 3.84 | 3.96 | 4.10 | | 8.40 | 4.51 | 4.76 | 4.83 | 5.32 | | | 11.56 | 12.50 | 14.10 |
| | velocity | | 7.38 | 9.31 | 9.11 | 8.84 | 8.54 | 8.33 | 7.76 | 7.35 | 7.25 | 7.52 | 8.07 | | 9.08 | 8.40 | 7.45 |
| H1 lead leg | L | | 22 | 13 | 13 | 13 | | | 14 | | 15 | 17 | 120 | | | | |
| Nathaniel, Ezekiel (NGR) (2003) | time | 5.90 | 9.63 | 13.43 | 17.40 | 21.63 | | 30.40 | 34.87 | 39.46 | 44.20 | | 49.64 | 1 / 3 | | | |
| | reaction time | 0.135 | | | | | | | | | | | | | | | |
| | interval | | 3.73 | 3.80 | 3.97 | 4.23 | | 8.77 | 4.47 | 4.59 | 4.74 | 5.44 | | | 11.50 | 13.00 | 13.80 |
| | velocity | | 7.63 | 9.38 | 9.21 | 8.82 | 8.27 | 7.98 | 7.83 | 7.63 | 7.38 | 7.35 | 8.06 | | 9.13 | 8.08 | 7.61 |
| H1 lead leg | R | | 21 | 13 | 13 | 14 | 14 | | 14 | | 15 | 17.2 | 121.2 | | | | |
| Kurokawa, Kazuki (JPN) (2001) | time | 5.77 | 9.47 | 13.23 | 17.10 | 21.30 | | 30.10 | 34.77 | 39.56 | 44.43 | | 50.02 | 3 / 4 | | | |
| | reaction time | 0.142 | | | | | | | | | | | | | | | |
| | interval | | 3.70 | 3.76 | 3.87 | 4.20 | | 8.80 | 4.67 | 4.79 | 4.87 | 5.59 | | | 11.33 | 13.00 | 14.33 |
| | velocity | | 7.80 | 9.46 | 9.31 | 9.04 | 8.33 | 7.95 | 7.49 | 7.31 | 7.19 | 7.16 | 8.00 | | 9.27 | 8.08 | 7.33 |
| H1 lead leg | L | | 21 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 15 | 18 | 151 | | | | |



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=v2XCv1nM_xY&t=9s

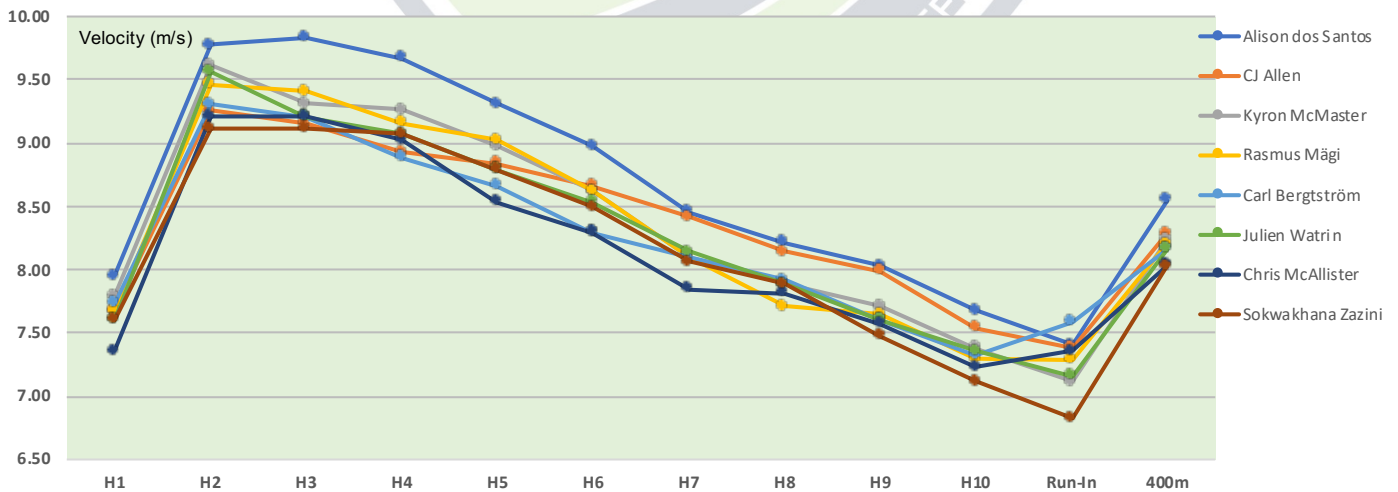
2022 Bauhaus Galan (Stockholm, SWE) (TV Analysis)

Men's 400m Hurdles

Date: 2022.06.30

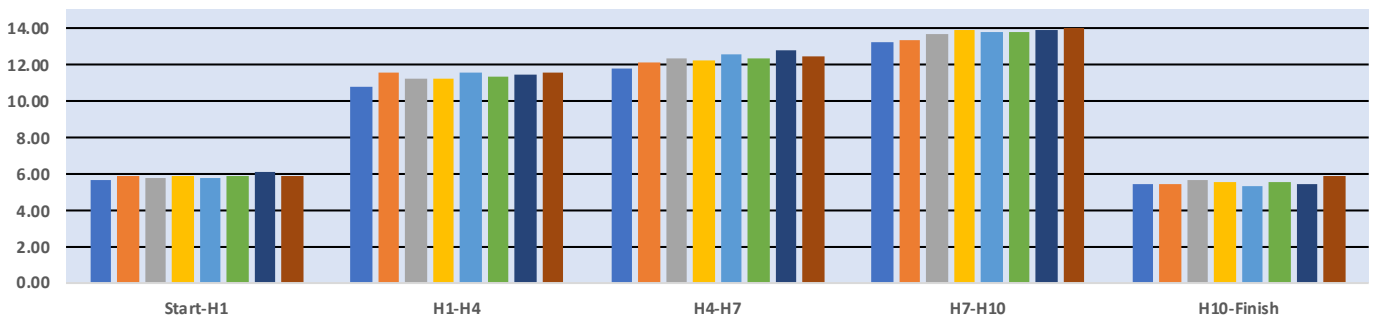
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|-----------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| dos Santos, Alison (BRA) (2000) | time | 5.66 | 9.24 | 12.80 | 16.42 | 20.18 | 24.08 | 28.22 | 32.48 | 36.84 | 41.40 | | 46.80 | 6 / 1 | | | |
| | reaction time | 0.147 | | | | | | | | | | | | | | | |
| | interval velocity | 7.95 | 9.78 | 9.83 | 9.67 | 9.31 | 8.97 | 8.45 | 8.22 | 8.03 | 7.68 | 7.41 | 8.55 | | 10.76 | 11.80 | 13.18 |
| | H1 lead leg L strides | 20 | 13 | 12 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 13 | 16.7 | 149.7 | 9.76 | 8.90 | 7.97 |
| Allen, CJ (USA) (1995) | time | 5.86 | 9.64 | 13.46 | 17.38 | 21.34 | 25.38 | 29.54 | 33.84 | 38.22 | 42.86 | | 48.28 | 3 / 2 | | | |
| | reaction time | 0.138 | | | | | | | | | | | | | | | |
| | interval velocity | 7.68 | 9.26 | 9.16 | 8.93 | 8.84 | 8.66 | 8.41 | 8.14 | 7.99 | 7.54 | 7.38 | 8.29 | | 11.52 | 12.16 | 13.32 |
| | H1 lead leg L strides | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 15 | 17.5 | 158.5 | | 9.11 | 8.63 | 7.88 |
| McMaster, Kyron (IVB) (1997) | time | 5.78 | 9.42 | 13.18 | 16.96 | 20.86 | 24.92 | 29.24 | 33.68 | 38.22 | 42.96 | | 48.58 | 5 / 3 | | | |
| | reaction time | 0.161 | | | | | | | | | | | | | | | |
| | interval velocity | 7.79 | 9.62 | 9.31 | 9.26 | 8.97 | 8.62 | 8.10 | 7.88 | 7.71 | 7.38 | 7.12 | 8.23 | | 11.18 | 12.28 | 13.72 |
| | H1 lead leg L strides | 21 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 15 | 17.5 | 160.5 | | 9.39 | 8.55 | 7.65 |
| Mägi, Rasmus (EST) (1992) | time | 5.86 | 9.56 | 13.28 | 17.10 | 20.98 | 25.04 | 29.36 | 33.90 | 38.48 | 43.28 | | 48.77 | 4 / 4 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | | | |
| | interval velocity | 7.68 | 9.46 | 9.41 | 9.16 | 9.02 | 8.62 | 8.10 | 7.71 | 7.64 | 7.29 | 7.29 | 8.20 | | 11.24 | 12.26 | 13.92 |
| | H1 lead leg R strides | 21 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 15 | 17.7 | 160.7 | | 9.34 | 8.56 | 7.54 |
| Bergström, Carl (SWE) (2000) | time | 5.82 | 9.58 | 13.38 | 17.32 | 21.36 | 25.58 | 29.90 | 34.32 | 38.92 | 43.70 | | 48.97 | 7 / 5 | | | |
| | reaction time | 0.178 | | | | | | | | | | | | | | | |
| | interval velocity | 7.73 | 9.31 | 9.21 | 8.88 | 8.66 | 8.29 | 8.10 | 7.92 | 7.61 | 7.32 | 7.59 | 8.17 | | 11.50 | 12.58 | 13.80 |
| | H1 lead leg L strides | 22 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 15 | 19 | 172 | | 9.13 | 8.35 | 7.61 |
| Watrin, Julien (BEL) (1992) | time | 5.92 | 9.58 | 13.38 | 17.24 | 21.22 | 25.32 | 29.62 | 34.06 | 38.66 | 43.42 | | 49.01 | 2 / 6 | | | |
| | reaction time | 0.216 | | | | | | | | | | | | | | | |
| | interval velocity | 7.60 | 9.56 | 9.21 | 9.07 | 8.79 | 8.54 | 8.14 | 7.88 | 7.61 | 7.35 | 7.16 | 8.16 | | 11.32 | 12.38 | 13.80 |
| | H1 lead leg R strides | 21 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 17.7 | 161.7 | | 9.28 | 8.48 | 7.61 |
| McAllister, Chris (GBR) (1995) | time | 6.12 | 9.92 | 13.72 | 17.60 | 21.70 | 25.92 | 30.38 | 34.86 | 39.48 | 44.32 | | 49.76 | 8 / 7 | | | |
| | reaction time | 0.175 | | | | | | | | | | | | | | | |
| | interval velocity | 7.35 | 9.21 | 9.21 | 9.02 | 8.54 | 8.29 | 7.85 | 7.81 | 7.58 | 7.23 | 7.35 | 8.04 | | 11.48 | 12.78 | 13.94 |
| | H1 lead leg R strides | 22 | 14 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 15 | 152 | | 9.15 | 8.22 | 7.53 |
| Zazini, Sokwakhana (RSA) (2000) | time | 5.92 | 9.76 | 13.60 | 17.46 | 21.44 | 25.56 | 29.90 | 34.34 | 39.02 | 43.94 | | 49.80 | 1 / 8 | | | |
| | reaction time | 0.171 | | | | | | | | | | | | | | | |
| | interval velocity | 7.60 | 9.84 | 9.11 | 8.86 | 8.79 | 8.50 | 8.06 | 7.88 | 7.48 | 7.11 | 6.83 | 8.03 | | 11.54 | 12.44 | 14.04 |
| | H1 lead leg L strides | 23 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 17 | 21 | 185 | | 9.10 | 8.44 | 7.48 |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 50fps

Timing From: First Movement

Source: <https://www.youtube.com/watch?v=FFN5bHQ500c>

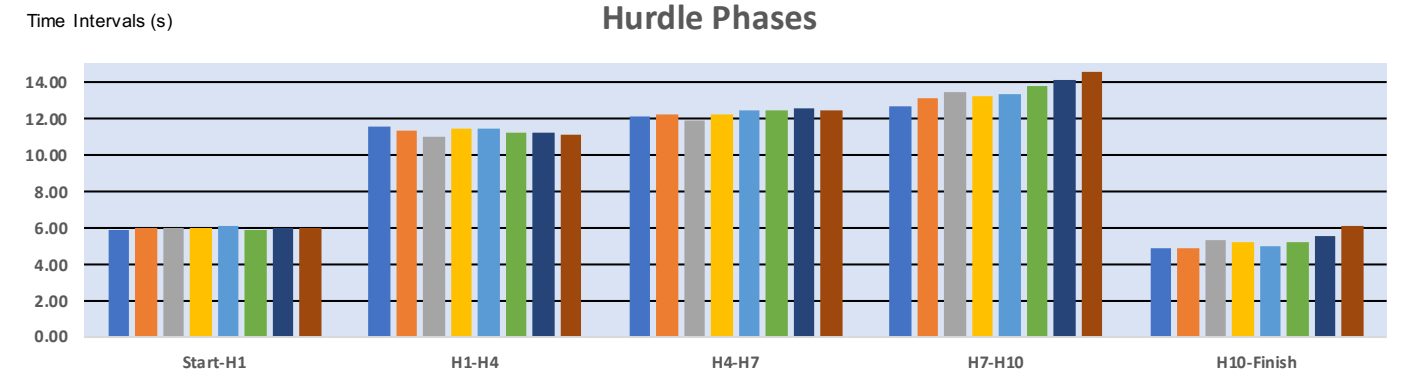
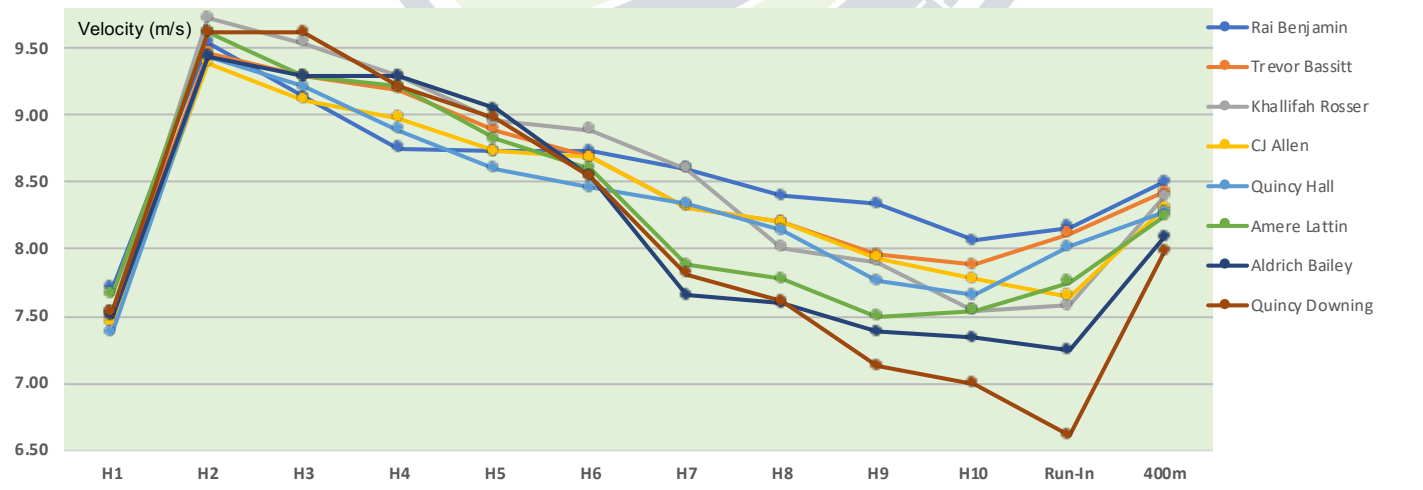
2022 USATF National Championships (Eugene, OR) (TV Analysis)

Men's 400m Hurdles

Date: 2022.06.26

FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|---------------------------------------|-----------------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Benjamin, Rai (USA) (1997) | time | 5.84 | 9.51 | 13.34 | 17.34 | 21.35 | 25.36 | 29.43 | 33.60 | 37.80 | 42.14 | | 47.04 | 7 / 1 | | | |
| | reaction time | | | | | | | | | | | 4.90 | | | 11.50 | 12.09 | 12.71 |
| | velocity | 7.71 | 9.54 | 9.14 | 8.75 | 8.73 | 8.73 | 8.60 | 8.39 | 8.33 | 8.06 | 8.16 | 8.50 | | 9.13 | 8.68 | 8.26 |
| | H1 lead leg R strides | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 16 | 153 | | | | |
| Bassitt, Trevor (USA) (1998) | time | 5.97 | 9.67 | 13.44 | 17.25 | 21.19 | 25.22 | 29.43 | 33.70 | 38.10 | 42.54 | | 47.47 | 5 / 2 | | | |
| | reaction time | | | | | | | | | | | 4.93 | | | 11.28 | 12.18 | 13.11 |
| | velocity | 7.54 | 9.46 | 9.28 | 9.19 | 8.88 | 8.68 | 8.31 | 8.20 | 7.95 | 7.88 | 8.11 | 8.43 | | 9.31 | 8.62 | 8.01 |
| | H1 lead leg R strides | 20 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 16 | 153 | | | | |
| Rosser, Khallifah (USA) (1995) | time | 5.97 | 9.57 | 13.24 | 17.01 | 20.92 | 24.86 | 28.93 | 33.30 | 37.73 | 42.37 | | 47.65 | 4 / 3 | | | |
| | reaction time | | | | | | | | | | | 5.28 | | | 11.04 | 11.92 | 13.44 |
| | velocity | 7.54 | 9.72 | 9.54 | 9.28 | 8.95 | 8.88 | 8.60 | 8.01 | 7.90 | 7.54 | 7.58 | 8.39 | | 9.51 | 8.81 | 7.81 |
| | H1 lead leg R strides | 21 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 17.7 | 159.7 | | | | |
| Allen, CJ (USA) (1995) | time | 6.04 | 9.77 | 13.61 | 17.51 | 21.52 | 25.55 | 29.76 | 34.03 | 38.44 | 42.94 | | 48.17 | 8 / 4 | | | |
| | reaction time | | | | | | | | | | | 5.23 | | | 11.47 | 12.25 | 13.18 |
| | velocity | 7.45 | 9.38 | 9.11 | 8.97 | 8.73 | 8.68 | 8.31 | 8.20 | 7.94 | 7.78 | 7.65 | 8.30 | | 9.15 | 8.57 | 7.97 |
| | H1 lead leg L strides | 20 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 17.5 | 158.5 | | | | |
| Hall, Quincy (USA) (1998) | time | 6.10 | 9.81 | 13.61 | 17.55 | 21.62 | 25.76 | 29.96 | 34.26 | 38.77 | 43.34 | | 48.33 | 6 / 5 | | | |
| | reaction time | | | | | | | | | | | 4.99 | | | 11.45 | 12.41 | 13.38 |
| | velocity | 7.38 | 9.43 | 9.21 | 8.88 | 8.60 | 8.45 | 8.33 | 8.14 | 7.76 | 7.66 | 8.02 | 8.28 | | 9.17 | 8.46 | 7.85 |
| | H1 lead leg R strides | 21 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 16 | 156 | | | | |
| Lattin, Amere (USA) (1997) | time | 5.87 | 9.51 | 13.28 | 17.08 | 21.05 | 25.12 | 29.56 | 34.06 | 38.73 | 43.37 | | 48.53 | 2 / 6 | | | |
| | reaction time | | | | | | | | | | | 5.16 | | | 11.21 | 12.48 | 13.81 |
| | velocity | 7.67 | 9.62 | 9.28 | 9.21 | 8.82 | 8.60 | 7.88 | 7.78 | 7.49 | 7.54 | 7.75 | 8.24 | | 9.37 | 8.41 | 7.60 |
| | H1 lead leg L strides | 20 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 17 | 158 | | | | |
| Bailey, Aldrich (USA) (1994) | time | 6.00 | 9.71 | 13.48 | 17.25 | 21.12 | 25.22 | 29.79 | 34.40 | 39.14 | 43.91 | | 49.43 | 9 / 7 | | | |
| | reaction time | | | | | | | | | | | 5.52 | | | 11.25 | 12.54 | 14.12 |
| | velocity | 7.50 | 9.43 | 9.28 | 9.28 | 9.04 | 8.54 | 7.66 | 7.59 | 7.38 | 7.34 | 7.25 | 8.09 | | 9.33 | 8.37 | 7.44 |
| | H1 lead leg L strides | 21 | 13 | 13 | 12 | 12 | 13 | 14 | 13 | 14 | 14 | 139 | | | | | |
| Downing, Quincy (USA) (1993) | time | 5.97 | 9.61 | 13.25 | 17.05 | 20.95 | 25.05 | 29.53 | 34.13 | 39.04 | 44.04 | | 50.09 | 3 / 8 | | | |
| | reaction time | | | | | | | | | | | 6.05 | | | 11.08 | 12.48 | 14.51 |
| | velocity | 7.54 | 9.62 | 9.62 | 9.21 | 8.97 | 8.54 | 7.81 | 7.61 | 7.13 | 7.00 | 6.61 | 7.99 | | 9.48 | 8.41 | 7.24 |
| | H1 lead leg R strides | 21 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 144 | | | | | |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 50fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=gKH1vHVboly>

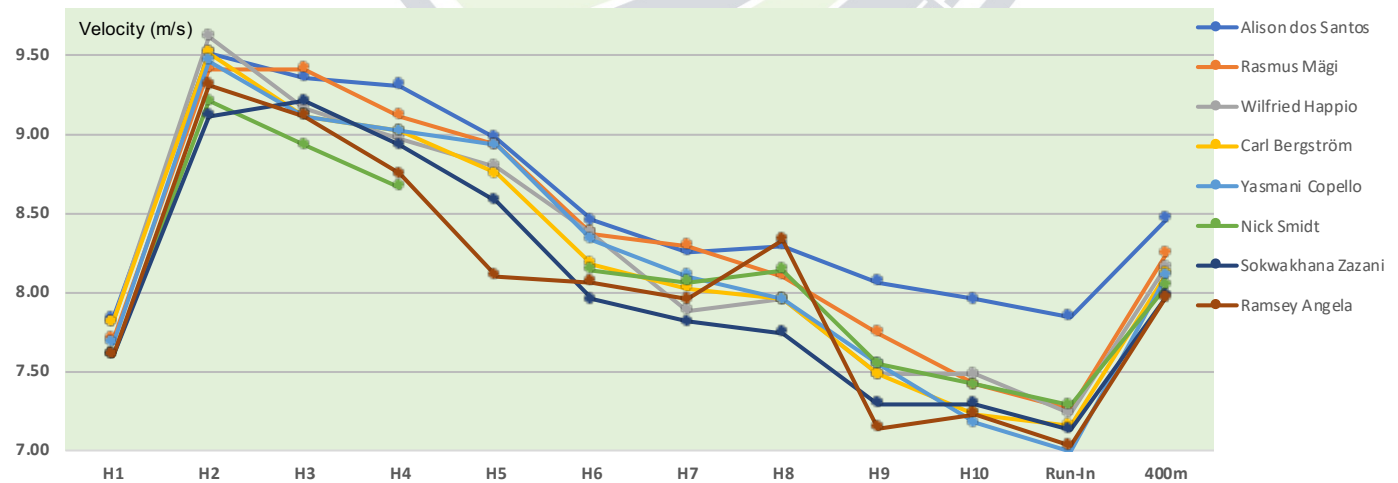
2022 Bislett Games (Oslo, NOR) (TV Analysis)

Men's 400m Hurdles

Date: 2022.06.16

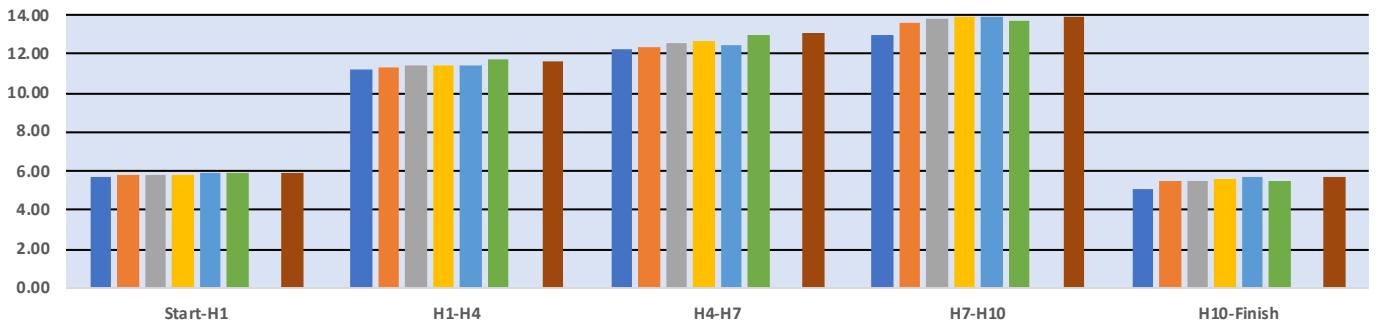
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| dos Santos, Alison (BRA) (2000) | time | 5.74 | 9.42 | 13.16 | 16.92 | 20.82 | 24.96 | 29.20 | 33.42 | 37.76 | 42.16 | | 47.26 | 7 / 1 | | | |
| | reaction time | 0.184 | | | | | | | | | | | | | | | |
| | interval | | 3.68 | 3.74 | 3.76 | 3.90 | 4.14 | 4.24 | 4.22 | 4.34 | 4.40 | 5.10 | | | 11.18 | 12.28 | 12.96 |
| | velocity | 7.84 | 9.51 | 9.36 | 9.31 | 8.97 | 8.45 | 8.25 | 8.06 | 7.95 | 7.84 | 8.46 | | | 9.39 | 8.55 | 8.10 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Mägi, Rasmus (EST) (1992) | time | 5.84 | 9.56 | 13.28 | 17.12 | 21.04 | 25.22 | 29.44 | 33.76 | 38.28 | 43.00 | | 48.51 | 6 / 2 | | | |
| | reaction time | 0.165 | | | | | | | | | | | | | | | |
| | interval | | 3.72 | 3.72 | 3.84 | 3.92 | 4.18 | 4.22 | 4.32 | 4.52 | 4.72 | 5.51 | | | 11.28 | 12.32 | 13.56 |
| | velocity | 7.71 | 9.41 | 9.11 | 9.11 | 8.93 | 8.37 | 8.29 | 8.10 | 7.74 | 7.42 | 7.26 | 8.25 | | 9.31 | 8.52 | 7.74 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Happio, Wilfried (FRA) (1998) | time | 5.76 | 9.40 | 13.22 | 17.12 | 21.10 | 25.28 | 29.72 | 34.12 | 38.80 | 43.48 | | 49.01 | 3 / 3 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | | | |
| | interval | | 3.64 | 3.82 | 3.90 | 3.98 | 4.18 | 4.44 | 4.40 | 4.68 | 4.68 | 5.53 | PB | | 11.36 | 12.60 | 13.76 |
| | velocity | 7.81 | 9.62 | 9.16 | 8.97 | 8.79 | 8.37 | 7.88 | 7.95 | 7.48 | 7.48 | 7.23 | 8.16 | | 9.24 | 8.33 | 7.63 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Bergström, Carl (SWE) (2000) | time | 5.76 | 9.44 | 13.28 | 17.16 | 21.16 | 25.44 | 29.80 | 34.20 | 38.88 | 43.72 | | 49.31 | 5 / 4 | | | |
| | reaction time | 0.172 | | | | | | | | | | | | | | | |
| | interval | | 3.68 | 3.84 | 3.88 | 4.00 | 4.28 | 4.36 | 4.40 | 4.68 | 4.84 | 5.59 | | | 11.40 | 12.64 | 13.92 |
| | velocity | 7.81 | 9.51 | 9.11 | 9.02 | 8.75 | 8.18 | 8.03 | 7.95 | 7.48 | 7.23 | 7.16 | 8.11 | | 9.21 | 8.31 | 7.54 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Copello, Yasmani (TUR) (1987) | time | 5.86 | 9.56 | 13.40 | 17.28 | 21.20 | 25.40 | 29.72 | 34.12 | 38.76 | 43.64 | | 49.36 | 4 / 5 | | | |
| | reaction time | 0.177 | | | | | | | | | | | | | | | |
| | interval | | 3.70 | 3.84 | 3.88 | 3.92 | 4.20 | 4.32 | 4.40 | 4.64 | 4.88 | 5.72 | | | 11.42 | 12.44 | 13.92 |
| | velocity | 7.68 | 9.46 | 9.11 | 9.02 | 8.93 | 8.33 | 8.10 | 7.95 | 7.54 | 7.17 | 6.99 | 8.10 | | 9.19 | 8.44 | 7.54 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Smidt, Nick (NED) (1997) | time | 5.92 | 9.72 | 13.64 | 17.68 | | 26.28 | 30.62 | 34.92 | 39.56 | 44.28 | | 49.77 | 1 / 6 | | | |
| | reaction time | 0.172 | | | | | | | | | | | | | | | |
| | interval | | 3.80 | 3.92 | 4.04 | | 8.60 | 4.34 | 4.30 | 4.64 | 4.72 | 5.49 | | | 11.76 | 12.94 | 13.66 |
| | velocity | 7.60 | 9.21 | 8.93 | 8.66 | | 8.14 | 8.06 | 8.14 | 7.54 | 7.42 | 7.29 | 8.04 | | 8.93 | 8.11 | 7.69 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Zazini, Sokwakhana (RSA) (2000) | time | 5.92 | 9.76 | 13.56 | 17.48 | 21.56 | 25.96 | 30.44 | 34.96 | 39.76 | 44.56 | | 50.17 | 8 / 7 | | | |
| | reaction time | 0.184 | | | | | | | | | | | | | | | |
| | interval | | 3.84 | 3.80 | 3.92 | 4.08 | 4.40 | 4.48 | 4.52 | 4.80 | 4.80 | 5.61 | | | 11.56 | 12.96 | 14.12 |
| | velocity | 7.60 | 9.11 | 9.21 | 8.93 | 8.58 | 7.95 | 7.81 | 7.74 | 7.29 | 7.29 | 7.13 | 7.97 | | 9.08 | 8.10 | 7.44 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Angela, Ramsey (NED) (1999) | time | 5.92 | 9.68 | 13.52 | 17.52 | 21.84 | 26.18 | 30.58 | 34.78 | 39.68 | 44.52 | | 50.21 | 2 / 8 | | | |
| | reaction time | 0.184 | | | | | | | | | | | | | | | |
| | interval | | 3.76 | 3.84 | 4.00 | 4.32 | 4.34 | 4.40 | 4.20 | 4.90 | 4.84 | 5.69 | | | 11.60 | 13.06 | 13.94 |
| | velocity | 7.60 | 9.31 | 9.11 | 8.75 | 8.10 | 8.06 | 7.95 | 8.33 | 7.14 | 7.23 | 7.03 | 7.97 | | 9.05 | 8.04 | 7.53 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 50fps

Timing From: First Movement

Source: <https://www.youtube.com/watch?v=gKH1vHVbolw>

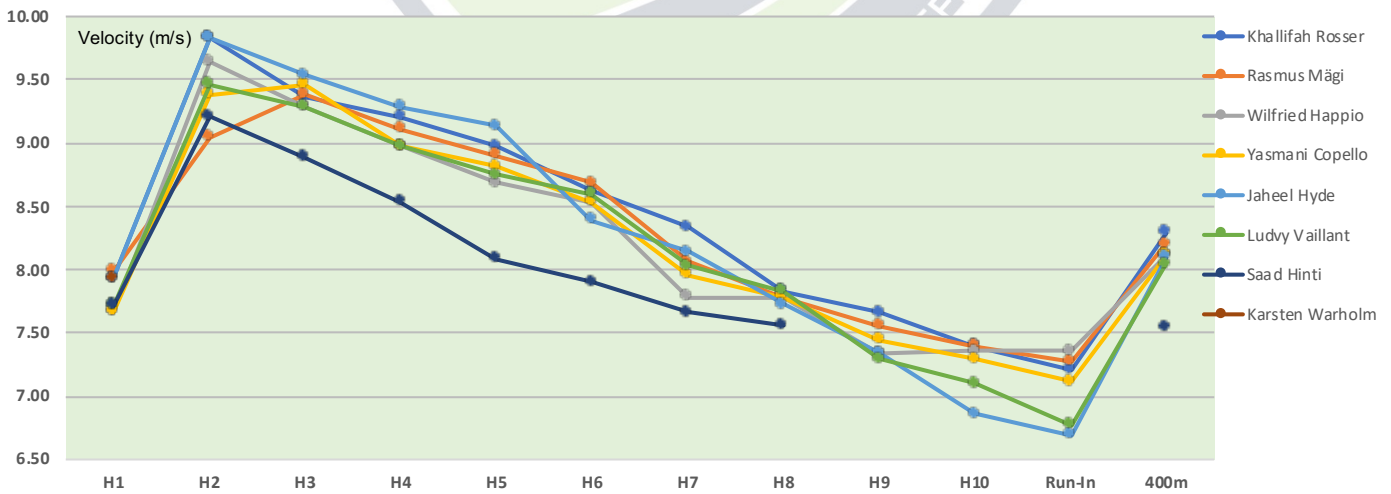
2022 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis)

Men's 400m Hurdles

Date: 2022.06.05

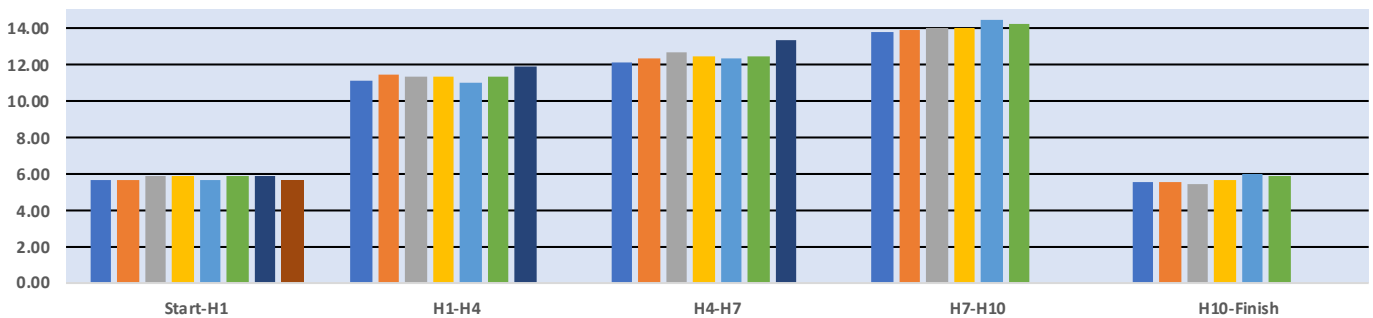
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--------------------------------------|---------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Rosser, Khalifah (USA) (1995) | time | 5.67 | 9.23 | 12.97 | 16.77 | 20.67 | 24.73 | 28.93 | 33.40 | 37.97 | 42.70 | | 48.25 | 6 / 1 | | | |
| | reaction time | 0.166 | | | | | | | | | | | | | | | |
| | interval | | 3.56 | 3.74 | 3.80 | 3.90 | 4.06 | 4.20 | 4.47 | 4.57 | 4.73 | 5.55 | | | 11.10 | 12.16 | 13.77 |
| | velocity | 7.94 | 9.83 | 9.36 | 9.21 | 8.97 | 8.62 | 8.33 | 7.83 | 7.66 | 7.40 | 7.21 | 8.29 | | 9.46 | 8.63 | 7.63 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| | strides | 21 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 15 | 18 | 161 | | | | |
| Mägi, Rasmus (EST) (1992) | time | 5.63 | 9.50 | 13.23 | 17.07 | 21.00 | 25.03 | 29.37 | 33.87 | 38.50 | 43.23 | | 48.73 | 4 / 2 | | | |
| | reaction time | 0.146 | | | | | | | | | | | | | | | |
| | interval | | 3.87 | 3.73 | 3.84 | 3.93 | 4.03 | 4.34 | 4.50 | 4.63 | 4.73 | 5.50 | | | 11.44 | 12.30 | 13.86 |
| | velocity | 7.99 | 9.04 | 9.38 | 9.11 | 8.91 | 8.68 | 8.06 | 7.78 | 7.56 | 7.40 | 7.27 | 8.21 | | 9.18 | 8.54 | 7.58 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| | strides | 21 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 17.7 | 158.7 | | | | |
| Happio, Wilfried (FRA) (1998) | time | 5.87 | 9.50 | 13.27 | 17.17 | 21.20 | 25.30 | 29.80 | 34.30 | 39.07 | 43.83 | | 49.27 | 2 / 3 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | | | |
| | interval | | 3.63 | 3.77 | 3.90 | 4.03 | 4.10 | 4.50 | 4.50 | 4.77 | 4.76 | 5.44 | | | 11.30 | 12.63 | 14.03 |
| | velocity | 7.67 | 9.64 | 9.28 | 8.97 | 8.68 | 8.54 | 7.78 | 7.78 | 7.34 | 7.35 | 7.35 | 8.12 | | 9.29 | 8.31 | 7.48 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| | strides | 20 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 18.2 | 161.2 | | | | |
| Copello, Yasmani (TUR) (1987) | time | 5.87 | 9.60 | 13.30 | 17.20 | 21.17 | 25.27 | 29.67 | 34.17 | 38.87 | 43.67 | | 49.29 | 5 / 4 | | | |
| | reaction time | 0.177 | | | | | | | | | | | | | | | |
| | interval | | 3.73 | 3.70 | 3.90 | 3.97 | 4.10 | 4.40 | 4.50 | 4.70 | 4.80 | 5.62 | | | 11.33 | 12.47 | 14.00 |
| | velocity | 7.67 | 9.38 | 9.46 | 8.97 | 8.82 | 8.54 | 7.95 | 7.78 | 7.45 | 7.29 | 7.12 | 8.12 | | 9.27 | 8.42 | 7.50 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| | strides | 20 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 18 | 159 | | | | |
| Hyde, Jaheel (JAM) (1997) | time | 5.67 | 9.23 | 12.90 | 16.67 | 20.50 | 24.67 | 28.97 | 33.50 | 38.27 | 43.37 | | 49.35 | 8 / 5 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | | | |
| | interval | | 3.56 | 3.67 | 3.77 | 3.83 | 4.17 | 4.30 | 4.53 | 4.77 | 5.10 | 5.98 | | | 11.00 | 12.30 | 14.40 |
| | velocity | 7.94 | 9.83 | 9.54 | 9.28 | 9.14 | 8.39 | 8.14 | 7.73 | 7.34 | 6.86 | 6.69 | 8.11 | | 9.55 | 8.54 | 7.29 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| | strides | 22 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 15 | 15 | 19 | 165 | | | | |
| Vaillant, Ludvy (FRA) (1995) | time | 5.83 | 9.53 | 13.30 | 17.20 | 21.20 | 25.27 | 29.63 | 34.10 | 38.90 | 43.83 | | 49.74 | 3 / 6 | | | |
| | reaction time | 0.141 | | | | | | | | | | | | | | | |
| | interval | | 3.70 | 3.77 | 3.90 | 4.00 | 4.07 | 4.36 | 4.47 | 4.80 | 4.93 | 5.91 | | | 11.37 | 12.43 | 14.20 |
| | velocity | 7.72 | 9.46 | 9.28 | 8.97 | 8.75 | 8.60 | 8.03 | 7.83 | 7.29 | 7.10 | 6.77 | 8.04 | | 9.23 | 8.45 | 7.39 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| | strides | 21 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 18 | 162 | | | | |
| Hinti, Saad (MAR) (2002) | time | 5.83 | 9.63 | 13.57 | 17.67 | 22.00 | 26.43 | 31.00 | 35.63 | | | | 52.98 | 1 / 7 | | | |
| | reaction time | 0.191 | | | | | | | | | | | | | | | |
| | interval | | 3.80 | 3.94 | 4.10 | 4.33 | 4.43 | 4.57 | 4.63 | | | | | | | | |
| | velocity | 7.72 | 9.21 | 8.88 | 8.54 | 8.08 | 7.90 | 7.66 | 7.56 | | | | 7.55 | | 11.84 | 13.33 | |
| H1 lead leg | R | | | | | | | | | | | | | 8.87 | 7.88 | | |
| | strides | 21 | 14 | 14 | 15 | 15 | 15 | 15 | 15 | | | 124 | | | | | |
| Warholm, Karsten (NOR) (1996) | time | 5.67 | | | | | | | | | | | dnf | 7 / -- | | | |
| | reaction time | 0.163 | | | | | | | | | | | | | | | |
| | interval | | | | | | | | | | | | | | | | |
| | velocity | 7.94 | | | | | | | | | | | | | | | |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| | strides | 20 | | | | | | | | | | | 20 | | | | |



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=uxJ3fVJiGzc&t=18s>

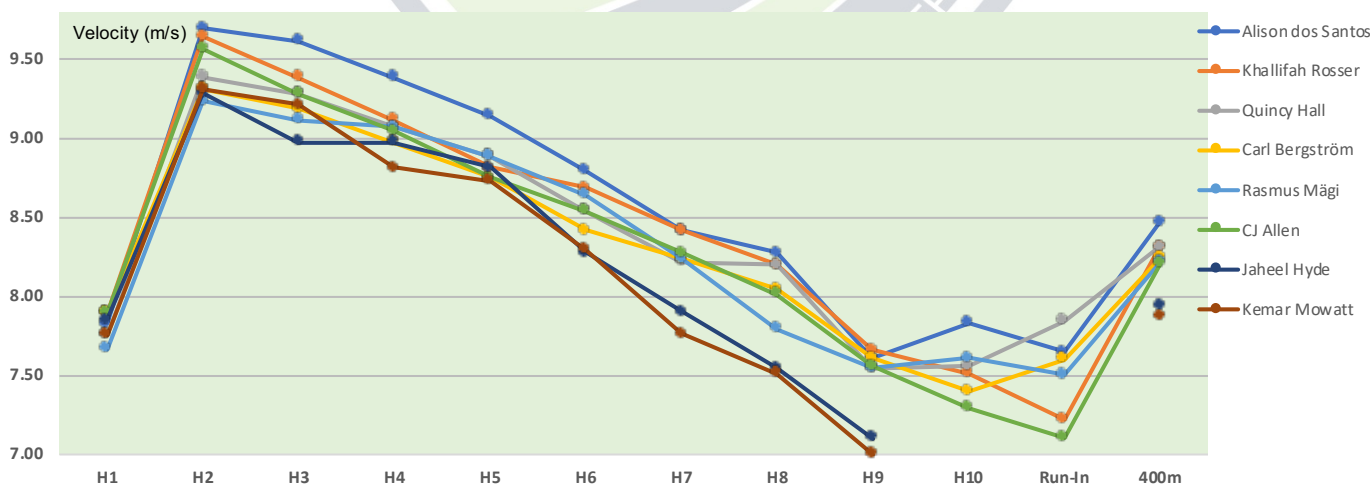
2022 Prefontaine Classic (Eugene, OR) (TV Analysis)

Men's 400m Hurdles

Date: 2022.05.28

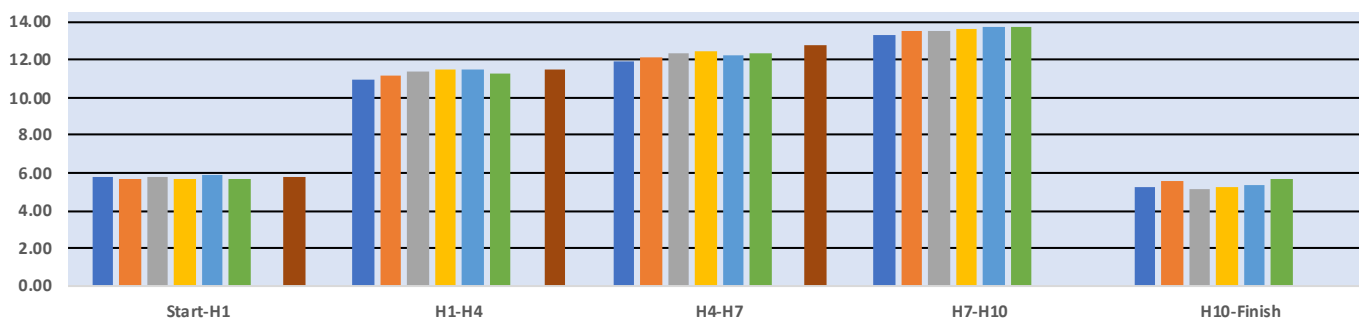
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| dos Santos, Alison (BRA) (2000) | time | 5.75 | 9.36 | 13.00 | 16.73 | 20.56 | 24.54 | 28.70 | 32.93 | 37.53 | 42.00 | | 47.23 | 7 / 1 | | | |
| | reaction time | 0.194 | | | | | | | | | | | | | | | |
| | interval | | 3.61 | 3.64 | 3.73 | 3.83 | 3.98 | 4.16 | 4.23 | 4.60 | 4.47 | 5.23 | | | 10.98 | 11.97 | 13.30 |
| | velocity | 7.83 | 9.70 | 9.62 | 9.38 | 9.14 | 8.79 | 8.41 | 8.27 | 7.61 | 7.83 | 7.65 | 8.47 | | 9.56 | 8.77 | 7.89 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Rosser, Khalifah (USA) (1995) | time | 5.70 | 9.33 | 13.06 | 16.90 | 20.87 | 24.90 | 29.06 | 33.33 | 37.90 | 42.56 | | 48.10 | 4 / 2 | | | |
| | reaction time | 0.158 | | | | | | | | | | | | | | | |
| | interval | | 3.63 | 3.73 | 3.84 | 3.97 | 4.03 | 4.16 | 4.27 | 4.57 | 4.66 | 5.54 | PB | | 11.20 | 12.16 | 13.50 |
| | velocity | 7.89 | 9.64 | 9.38 | 9.11 | 8.82 | 8.68 | 8.41 | 8.20 | 7.66 | 7.51 | 7.22 | 8.32 | | 9.38 | 8.63 | 7.78 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Hall, Quincy (USA) (1995) | time | 5.80 | 9.53 | 13.30 | 17.16 | 21.10 | 25.20 | 29.46 | 33.73 | 38.37 | 43.00 | | 48.10 | 6 / 3 | | | |
| | reaction time | 0.213 | | | | | | | | | | | | | | | |
| | interval | | 3.73 | 3.77 | 3.86 | 3.94 | 4.10 | 4.26 | 4.27 | 4.64 | 4.63 | 5.10 | PB | | 11.36 | 12.30 | 13.54 |
| | velocity | 7.76 | 9.38 | 9.28 | 9.07 | 8.88 | 8.54 | 8.22 | 8.20 | 7.54 | 7.56 | 7.84 | 8.32 | | 9.24 | 8.54 | 7.75 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Bergström, Carl (SWE) (2000) | time | 5.70 | 9.46 | 13.27 | 17.17 | 21.17 | 25.33 | 29.58 | 33.93 | 38.53 | 43.26 | | 48.52 | 9 / 4 | | | |
| | reaction time | 0.172 | | | | | | | | | | | | | | | |
| | interval | | 3.76 | 3.81 | 3.90 | 4.00 | 4.16 | 4.25 | 4.35 | 4.60 | 4.73 | 5.26 | PB | | 11.47 | 12.41 | 13.68 |
| | velocity | 7.89 | 9.31 | 9.19 | 8.97 | 8.75 | 8.41 | 8.24 | 8.05 | 7.61 | 7.40 | 7.60 | 8.24 | | 9.15 | 8.46 | 7.68 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Mägi, Rasmus (EST) (1992) | time | 5.87 | 9.66 | 13.50 | 17.36 | 21.30 | 25.35 | 29.60 | 34.09 | 38.73 | 43.33 | | 48.66 | 3 / 5 | | | |
| | reaction time | 0.174 | | | | | | | | | | | | | | | |
| | interval | | 3.79 | 3.84 | 3.86 | 3.94 | 4.05 | 4.25 | 4.49 | 4.64 | 4.80 | 5.33 | | | 11.49 | 12.24 | 13.73 |
| | velocity | 7.67 | 9.23 | 9.11 | 9.07 | 8.88 | 8.64 | 8.24 | 7.80 | 7.54 | 7.61 | 7.50 | 8.22 | | 9.14 | 8.58 | 7.65 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Allen, CJ (USA) (1995) | time | 5.70 | 9.36 | 13.13 | 17.00 | 21.00 | 25.10 | 29.33 | 33.70 | 38.33 | 43.13 | | 48.76 | 5 / 6 | | | |
| | reaction time | 0.156 | | | | | | | | | | | | | | | |
| | interval | | 3.66 | 3.77 | 3.87 | 4.00 | 4.10 | 4.23 | 4.37 | 4.63 | 4.80 | 5.63 | | | 11.30 | 12.33 | 13.80 |
| | velocity | 7.89 | 9.56 | 9.28 | 9.04 | 8.75 | 8.54 | 8.27 | 8.01 | 7.56 | 7.29 | 7.10 | 8.20 | | 9.29 | 8.52 | 7.61 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Hyde, Jaheel (JAM) (1997) | time | 5.73 | 9.50 | 13.40 | 17.30 | 21.27 | 25.50 | 29.93 | 34.57 | 39.50 | | | 50.38 | 2 / 7 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | | | |
| | interval | | 3.77 | 3.90 | 3.90 | 3.97 | 4.23 | 4.43 | 4.64 | 4.93 | | | | | | | |
| | velocity | 7.85 | 9.28 | 8.97 | 8.97 | 8.82 | 8.27 | 7.90 | 7.54 | 7.10 | | | | | | | |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Mowatt, Kemar (JAM) (1995) | time | 5.80 | 9.56 | 13.36 | 17.33 | 21.34 | 25.56 | 30.07 | 34.73 | 39.73 | | | 50.81 | 8 / 8 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | | | |
| | interval | | 3.76 | 3.80 | 3.97 | 4.01 | 4.22 | 4.51 | 4.66 | 5.00 | | | | | | | |
| | velocity | 7.76 | 9.31 | 9.21 | 8.82 | 8.73 | 8.29 | 7.76 | 7.51 | 7.00 | | | | | | | |
| H1 lead leg | L | | | | | | | | | | | | | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 25fps

Timing From: First Movement

Source: <https://www.youtube.com/watch?v=KZZSTexdh0&t=29s>

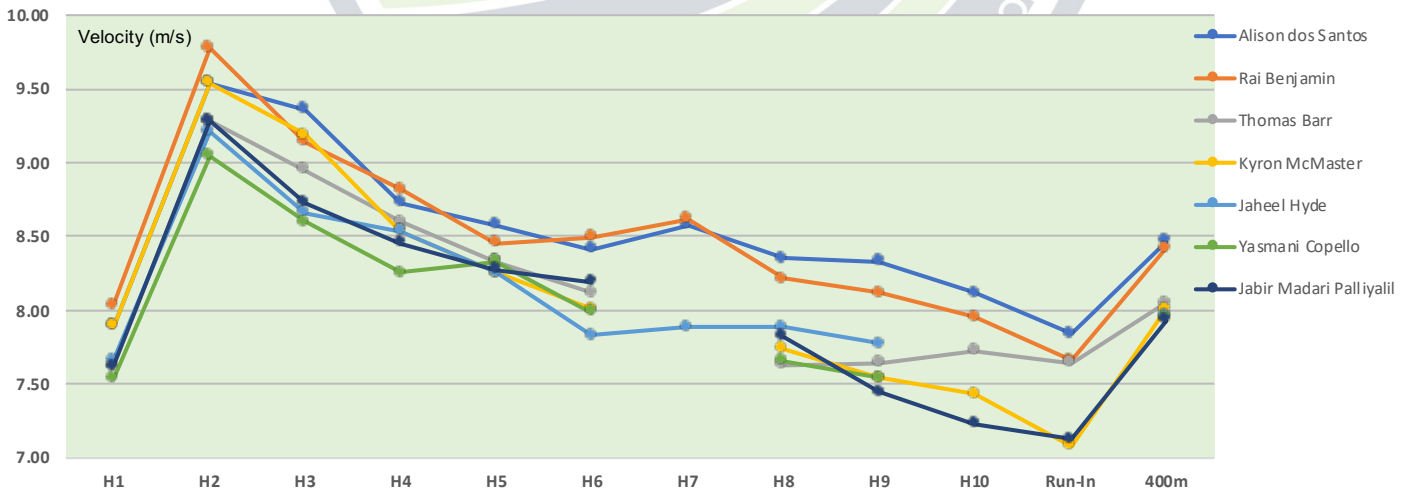
2022 Doha Diamond League (Doha, QAT) (TV Analysis)

Men's 400m Hurdles

Date 2022.05.13

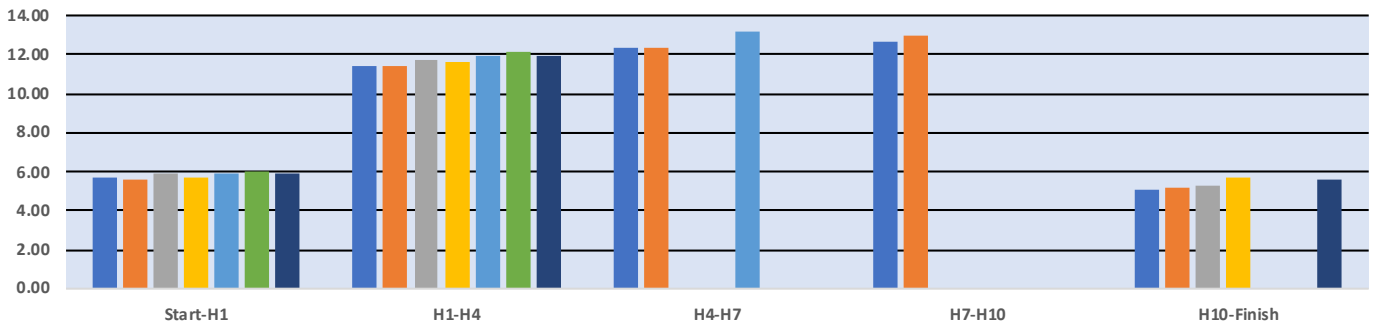
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| dos Santos, Alison (BRA) (2000) | time | 5.70 | 9.37 | 13.11 | 17.12 | 21.20 | 25.36 | 29.44 | 33.63 | 37.83 | 42.14 | | 47.24 | 7 / 1 | | | |
| | reaction time | 0.172 | | | | | | | | | | | | | | | |
| | interval | | 3.67 | 3.74 | 4.01 | 4.08 | 4.16 | 4.08 | 4.19 | 4.20 | 4.31 | 5.10 | | | 11.42 | 12.32 | 12.70 |
| | velocity | 7.89 | 9.54 | 9.36 | 8.73 | 8.58 | 8.41 | 8.58 | 8.35 | 8.33 | 8.12 | 7.84 | 8.47 | | 9.19 | 8.52 | 8.27 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Benjamin, Rai (USA) (1997) | time | 5.60 | 9.18 | 13.01 | 16.98 | 21.12 | 25.24 | 29.30 | 33.56 | 37.87 | 42.27 | | 47.49 | 6 / 2 | | | |
| | reaction time | 0.206 | | | | | | | | | | | | | | | |
| | interval | | 3.58 | 3.83 | 3.97 | 4.14 | 4.12 | 4.06 | 4.26 | 4.31 | 4.40 | 5.22 | | | 11.38 | 12.32 | 12.97 |
| | velocity | 8.04 | 9.78 | 9.14 | 8.82 | 8.45 | 8.50 | 8.62 | 8.22 | 8.12 | 7.95 | 7.66 | 8.42 | | 9.23 | 8.52 | 8.10 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Barr, Thomas (IRL) (1992) | time | 5.90 | 9.67 | 13.58 | 17.65 | 21.85 | 26.16 | | 35.33 | 39.91 | 44.44 | | 49.67 | 2 / 3 | | | |
| | reaction time | 0.171 | | | | | | | | | | | | | | | |
| | interval | | 3.77 | 3.91 | 4.07 | 4.20 | 4.31 | | 9.17 | 4.58 | 4.53 | 5.23 | | | 11.75 | | |
| | velocity | 7.63 | 9.28 | 8.95 | 8.60 | 8.33 | 8.12 | | 7.63 | 7.64 | 7.73 | 7.65 | 8.05 | | 8.94 | | |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| McMaster, Kyron (IVB) (1997) | time | 5.70 | 9.37 | 13.18 | 17.28 | 21.52 | 25.89 | | 34.93 | 39.57 | 44.28 | | 49.93 | 3 / 4 | | | |
| | reaction time | 0.208 | | | | | | | | | | | | | | | |
| | interval | | 3.67 | 3.81 | 4.10 | 4.24 | 4.37 | | 9.04 | 4.64 | 4.71 | 5.65 | | | 11.58 | | |
| | velocity | 7.89 | 9.54 | 9.19 | 8.54 | 8.25 | 8.01 | | 7.74 | 7.54 | 7.43 | 7.08 | 8.01 | | 9.07 | | |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Hyde, Jaheel (JAM) (1997) | time | 5.87 | 9.67 | 13.71 | 17.81 | 22.05 | 26.52 | 30.96 | 35.40 | 39.90 | | | 50.23 | 8 / 5 | | | |
| | reaction time | 0.167 | | | | | | | | | | | | | | | |
| | interval | | 3.80 | 4.04 | 4.10 | 4.24 | 4.47 | 4.44 | 4.44 | 4.50 | | | | | 11.94 | 13.15 | |
| | velocity | 7.67 | 9.21 | 8.66 | 8.54 | 8.25 | 7.83 | 7.88 | 7.88 | 7.78 | | | 7.96 | | 8.79 | 7.98 | |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Copello, Yasmani (TUR) (1987) | time | 5.97 | 9.84 | 13.91 | 18.15 | 22.35 | 26.73 | | 35.87 | 40.51 | | | 50.30 | 5 / 6 | | | |
| | reaction time | 0.191 | | | | | | | | | | | | | | | |
| | interval | | 3.87 | 4.07 | 4.24 | 4.20 | 4.38 | | 9.14 | 4.64 | | | | | 12.18 | | |
| | velocity | 7.54 | 9.04 | 8.60 | 8.25 | 8.33 | 7.99 | | 7.66 | 7.54 | | | 7.95 | | 8.62 | | |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Madari Palliyalil, Jabir (IND) (1996) | time | 5.90 | 9.67 | 13.68 | 17.82 | 22.05 | 26.32 | | 35.27 | 39.97 | 44.81 | | 50.42 | 1 / 7 | | | |
| | reaction time | 0.156 | | | | | | | | | | | | | | | |
| | interval | | 3.77 | 4.01 | 4.14 | 4.23 | 4.27 | | 8.95 | 4.70 | 4.84 | 5.61 | | | 11.92 | | |
| | velocity | 7.63 | 9.28 | 8.73 | 8.45 | 8.27 | 8.20 | | 7.82 | 7.45 | 7.23 | 7.13 | 7.93 | | 8.81 | | |
| H1 lead leg | L | | | | | | | | | | | | | | | | |



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=SqvYbwH11HA>

Women's 400m Hurdles

Biomechanical Analysis

2022 Top 10 Times - Women's 400m Hurdles

| | | 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) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 22-Jul | 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 | | | | |
| McLaughlin, Sydney (USA) (1999) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 USATF National Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 25-Jun | 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 |
| H1 lead leg | R | strides | 22 | 14 | 14 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 18.2 | 168.2 | | | | |
| McLaughlin, Sydney (USA) (1999) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Music City Track Carnival (Nashville, TN) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 5-Jun | 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 | 5.78 | 7.75 | | 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 |
| H1 lead leg | R | strides | 14 | 14 | 14 | 14 | 16 | 13 | 15 | 15 | 15 | 16 | 117 | | | | | |
| McLaughlin, Sydney (USA) (1999) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Gyulai István Memorial (Székesfehérvár, HUN) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 8-Aug | 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 | 15 | 18 | 141 | | | | |
| McLaughlin, Sydney (USA) (1999) | | | | | | | | | | | | | | | | | | |
| Semi-Final 3 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 20-Jul | 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 | 7.67 | | 8.54 | 7.79 | 7.23 |
| H1 lead leg | R | strides | 22 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 16 | 18 | 172 | | | | |
| Boi, Femke (NED) (2000) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Bauhaus Galan (Stockholm, SWE) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 30-Jun | time | 6.36 | 10.38 | 14.46 | 18.64 | 22.94 | 27.42 | 32.02 | 36.70 | 41.48 | 46.40 | 52.27 | 6 / 1 | | | | |
| reaction time | 0.203 | interval | 4.02 | 4.08 | 4.18 | 4.30 | 4.48 | 4.60 | 4.68 | 4.78 | 4.92 | 5.87 | | | 12.28 | 13.38 | 14.38 | |
| | | velocity | 7.08 | 8.71 | 8.58 | 8.37 | 8.14 | 7.81 | 7.61 | 7.48 | 7.32 | 7.11 | 6.81 | 7.65 | | 8.55 | 7.85 | 7.30 |
| H1 lead leg | L | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 19 | 176 | | | | |
| Boi, Femke (NED) (2000) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 22-Jul | 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 | | | | |
| Boi, Femke (NED) (2000) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Bislett Games (Oslo, NOR) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 16-Jun | time | 6.32 | 10.34 | 14.48 | 18.62 | 22.88 | 27.38 | 31.98 | 36.66 | 41.58 | 46.74 | 52.61 | 6 / 1 | | | | |
| reaction time | 0.177 | interval | 4.02 | 4.14 | 4.14 | 4.26 | 4.50 | 4.60 | 4.68 | 4.92 | 5.16 | 5.87 | | | 12.30 | 13.36 | 14.76 | |
| | | velocity | 7.12 | 8.71 | 8.45 | 8.45 | 8.22 | 7.78 | 7.61 | 7.48 | 7.11 | 6.78 | 6.81 | 7.60 | | 8.54 | 7.86 | 7.11 |
| H1 lead leg | L | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 19.5 | 175.5 | | | | |
| Boi, Femke (NED) (2000) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 European Athletics Championships (Munich, GER) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 26-Aug | time | 6.43 | 10.46 | 14.70 | 18.93 | 23.27 | 27.73 | 32.37 | 37.10 | 41.97 | 46.93 | 52.67 | 3 / 1 | | | | |
| reaction time | | interval | 4.03 | 4.24 | 4.23 | 4.34 | 4.46 | 4.64 | 4.73 | 4.87 | 4.96 | 5.74 | CR | | 12.50 | 13.44 | 14.56 | |
| | | velocity | 7.00 | 8.68 | 8.25 | 8.27 | 8.06 | 7.85 | 7.54 | 7.40 | 7.19 | 7.06 | 6.97 | 7.59 | | 8.40 | 7.81 | 7.21 |
| H1 lead leg | L | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 18.7 | 175.7 | | | | |
| Boi, Femke (NED) (2000) | | | | | | | | | | | | | | | | | | |
| Semi-Final 2 - 2022 World Athletics Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 20-Jul | time | 6.30 | 10.27 | 14.50 | 18.73 | 23.17 | 27.77 | 32.47 | 37.20 | 42.13 | 47.17 | 52.84 | 3 / 1 | | | | |
| reaction time | 0.171 | interval | 3.97 | 4.23 | 4.23 | 4.44 | 4.60 | 4.70 | 4.73 | 4.93 | 5.04 | 5.67 | | | 12.43 | 13.74 | 14.70 | |
| | | velocity | 7.14 | 8.82 | 8.27 | 8.27 | 7.88 | 7.61 | 7.45 | 7.40 | 7.10 | 6.94 | 7.05 | 7.57 | | 8.45 | 7.64 | 7.14 |
| H1 lead leg | L | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 18 | 175 | | | | |
| McLaughlin, Sydney (USA) (1999) | | | | | | | | | | | | | | | | | | |
| Semi-Final 1 - 2022 USATF National Championships (Eugene, OR) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 24-Jun | 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 | strides | 22 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 16 | 18.2 | 172.2 | | | | |
| Boi, Femke (NED) (2000) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Athletissima (Lausanne, SUI) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 26-Aug | time | 6.27 | 10.36 | 14.55 | 18.97 | 23.40 | 28.00 | 32.67 | 37.34 | 42.30 | 47.33 | 52.95 | 5 / 1 | | | | |
| reaction time | 0.155 | interval | 4.09 | 4.19 | 4.42 | 4.43 | 4.60 | 4.67 | 4.67 | 4.96 | 5.03 | 5.62 | | | 12.70 | 13.70 | 14.66 | |
| | | velocity | 7.18 | 8.56 | 8.35 | 7.92 | 7.90 | 7.61 | 7.49 | 7.06 | 6.96 | 7.12 | 7.55 | | 8.27 | 7.66 | 7.16 | |
| H1 lead leg | L | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 19 | 176 | | | | |
| Boi, Femke (NED) (2000) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 9-Jun | time | 6.43 | 10.47 | 14.63 | 18.90 | 23.27 | 27.80 | 32.47 | 37.24 | 42.13 | 47.27 | 53.02 | 5 / 1 | | | | |
| reaction time | 0.188 | interval | 4.04 | 4.16 | 4.27 | 4.37 | 4.53 | 4.67 | 4.77 | 4.89 | 5.14 | 5.75 | | | 12.47 | 13.57 | 14.80 | |
| | | velocity | 7.00 | 8.66 | 8.41 | 8.20 | 8.01 | 7.73 | 7.49 | 7.34 | 7.16 | 6.81 | 6.96 | 7.54 | | 8.42 | 7.74 | 7.09 |
| H1 lead leg | L | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 19.5 | 161.5 | | | | |
| Boi, Femke (NED) (2000) | | | | | | | | | | | | | | | | | | |
| FINAL - 2022 Welkklasse (Zürich, SUI) (TV Analysis) | | | | | | | | | | | | | | | | | | |
| date | 8-Sep | time | 6.37 | 10.41 | 14.55 | 18.72 | 23.06 | 27.56 | 32.14 | 36.83 | 41.71 | 46.98 | 53.03 | 6 / 1 | | | | |
| reaction time | 0.189 | interval | 4.04 | 4.14 | 4.17 | 4.34 | 4.50 | 4.58 | 4.69 | 4.88 | 5.27 | 6.05 | | | 12.35 | 13.42 | 14.84 | |
| | | velocity | 7.06 | 8.66 | 8.45 | 8.39 | 8.06 | 7.78 | 7.64 | 7.46 | 7.17 | 6.64 | 6.61 | 7.54 | | 8.50 | | |

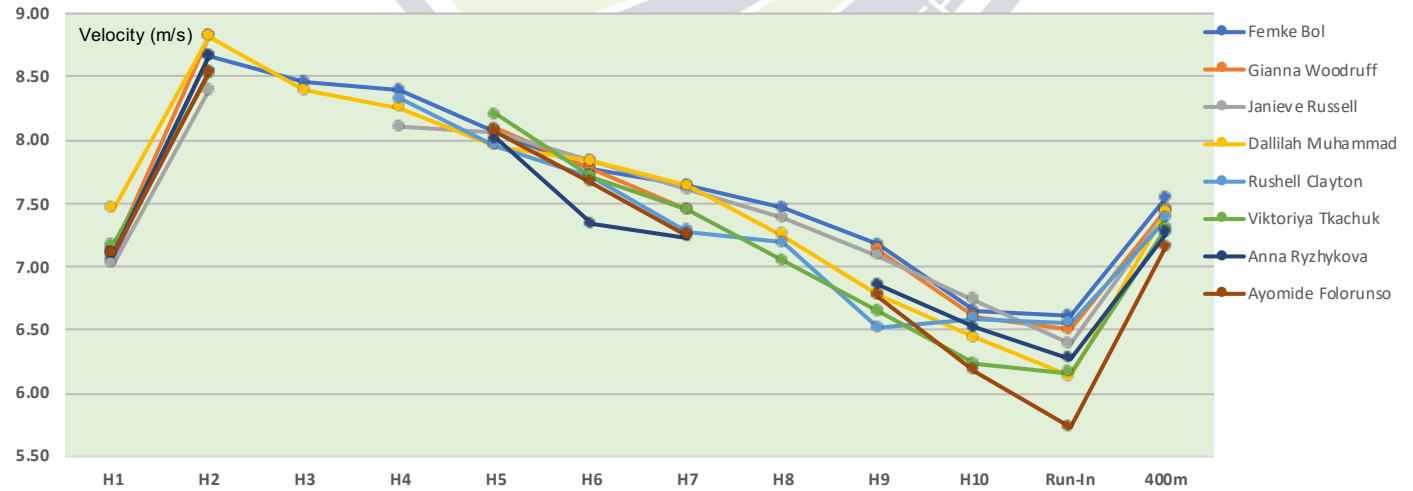
2022 Weltklasse (Zürich, SUI) (TV Analysis)

Women's 400m Hurdles

Date 2022.09.08

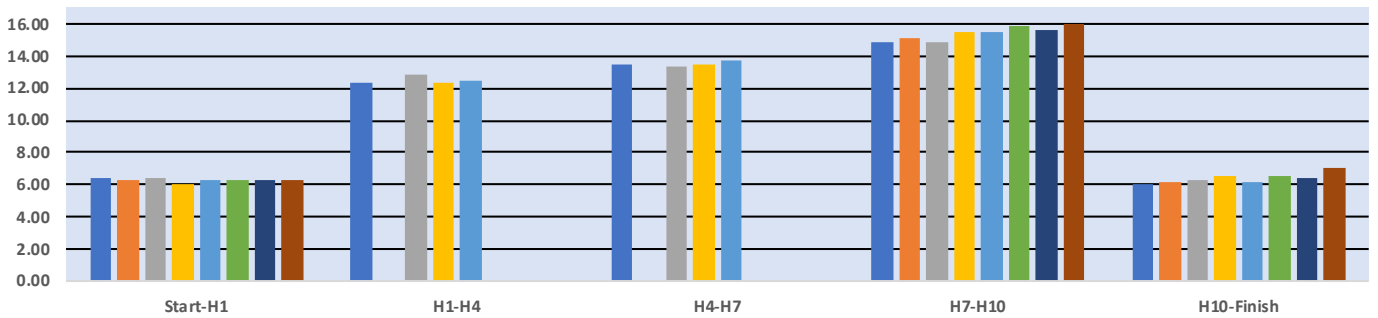
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Bol, Femke (NED) (2000) | time | 6.37 | 10.41 | 14.55 | 18.72 | 23.06 | 27.56 | 32.14 | 36.83 | 41.71 | 46.98 | | 53.03 | 6 / 1 | | | |
| | reaction time | 0.189 | | | | | | | | | | | | | | | |
| | interval | | 4.04 | 4.14 | 4.17 | 4.34 | 4.50 | 4.58 | 4.69 | 4.88 | 5.27 | 6.05 | | | 12.35 | 13.42 | 14.84 |
| | velocity | 7.06 | 8.66 | 8.45 | 8.39 | 8.06 | 7.78 | 7.64 | 7.46 | 7.17 | 6.64 | 6.61 | 7.54 | | 8.50 | 7.82 | 7.08 |
| H1 lead leg | L | | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 19 | 177 | | | | |
| Woodruff, Gianna (PAN) (1993) | time | 6.31 | 10.28 | | | 23.26 | 27.76 | 32.46 | | 42.27 | 47.57 | | 53.72 | 3 / 2 | | | |
| | reaction time | 0.203 | | | | | | | | | | | | | | | |
| | interval | | 3.97 | | | 12.98 | 4.50 | 4.70 | | 9.81 | 5.30 | 6.15 | | | | | 15.11 |
| | velocity | 7.13 | 8.82 | | | 8.09 | 7.78 | 7.45 | | 7.14 | 6.60 | 6.50 | 7.45 | | | | 6.95 |
| H1 lead leg | L | | 15 | | | 15 | 15 | | | 16 | 19.2 | 103.2 | | | | | |
| Russell, Janieve (JAM) (1993) | time | 6.41 | 10.58 | 19.22 | 23.56 | 28.03 | 32.63 | 37.37 | 42.31 | 47.51 | | | 53.77 | 4 / 3 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | 12.81 | 13.41 | 14.88 |
| | interval | | 4.17 | 8.64 | 4.34 | 4.47 | 4.60 | 4.74 | 4.94 | 5.20 | 6.26 | 6.39 | 7.44 | | 8.20 | 7.83 | 7.06 |
| | velocity | 7.02 | 8.39 | 8.10 | 8.06 | 7.83 | 7.61 | 7.38 | 7.09 | 6.73 | 6.39 | 6.39 | 7.44 | | | | |
| H1 lead leg | R | | 15 | | | 15 | 15 | 15 | 16 | 17 | 20 | 136 | | | | | |
| Muhammad, Dalilah (USA) (1990) | time | 6.04 | 10.01 | 14.18 | 18.42 | 22.82 | 27.29 | 31.87 | 36.70 | 41.87 | 47.31 | | 53.83 | 5 / 4 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | 12.38 | 13.45 | 15.44 |
| | interval | | 3.97 | 4.17 | 4.24 | 4.40 | 4.47 | 4.58 | 4.83 | 5.17 | 5.44 | 6.52 | | | 8.48 | 7.81 | 6.80 |
| | velocity | 7.45 | 8.82 | 8.39 | 8.25 | 7.95 | 7.83 | 7.64 | 7.25 | 6.77 | 6.43 | 6.13 | 7.43 | | | | |
| H1 lead leg | R | | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 20 | 179 | | | | | |
| Clayton, Rushell (JAM) (1992) | time | 6.34 | 10.44 | | 18.85 | 23.25 | 27.79 | 32.60 | 37.47 | 42.84 | 48.15 | | 54.25 | 7 / 5 | | | |
| | reaction time | 0.148 | | | | | | | | | | | | | 12.51 | 13.75 | 15.55 |
| | interval | | 4.10 | | 8.41 | 4.40 | 4.54 | 4.81 | 4.87 | 5.37 | 5.31 | 6.10 | | | 8.39 | 7.64 | 6.75 |
| | velocity | 7.10 | 8.54 | 8.32 | 7.95 | 7.71 | 7.28 | 7.19 | 6.52 | 6.59 | 6.56 | 7.37 | | | | | |
| H1 lead leg | R | | 15 | | 16 | 15 | 16 | 16 | 17 | 17 | 19.2 | 154.2 | | | | | |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.27 | 10.38 | | | 23.19 | 27.73 | 32.43 | 37.40 | 42.67 | 48.29 | | 54.79 | 8 / 6 | | | |
| | reaction time | 0.216 | | | | | | | | | | | | | | | 15.86 |
| | interval | | 4.11 | | 8.20 | 4.54 | 4.70 | 4.97 | 5.27 | 5.62 | 6.50 | | | | | | 6.62 |
| | velocity | 7.18 | 8.52 | | 8.20 | 7.71 | 7.45 | 7.04 | 6.64 | 6.23 | 6.15 | 7.30 | | | | | |
| H1 lead leg | L | | 15 | | | 15 | 15 | 16 | 16 | 17 | 20.5 | 136.5 | | | | | |
| Ryzykova, Anna (UKR) (1989) | time | 6.34 | 10.38 | | | 23.49 | 28.26 | 33.10 | | 43.31 | 48.68 | | 55.06 | 2 / 7 | | | |
| | reaction time | 0.167 | | | | | | | | | | | | | | | 15.58 |
| | interval | | 4.04 | | 13.11 | 4.77 | 4.84 | | 10.21 | 5.37 | 6.38 | | | | | | 6.74 |
| | velocity | 7.10 | 8.66 | | 8.01 | 7.34 | 7.23 | | 6.86 | 6.52 | 6.27 | 7.26 | | | | | |
| H1 lead leg | R | | 14 | | | 15 | 15 | | | 16 | 19.7 | 101.7 | | | | | |
| Folorunso, Ayomide (ITA) (1996) | time | 6.34 | 10.44 | | | 23.46 | 28.03 | 32.86 | | 43.21 | 48.88 | | 55.86 | 1 / 8 | | | |
| | reaction time | 0.179 | | | | | | | | | | | | | | | 16.02 |
| | interval | | 4.10 | | 13.02 | 4.57 | 4.83 | | 10.35 | 5.67 | 6.98 | | | | | | 6.55 |
| | velocity | 7.10 | 8.54 | | 8.06 | 7.66 | 7.25 | | 6.76 | 6.17 | 5.73 | 7.16 | | | | | |
| H1 lead leg | L | | 15 | | 15 | 16 | 16 | | | 17 | 22 | 124 | | | | | |



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=qwP7dW-uSxE>

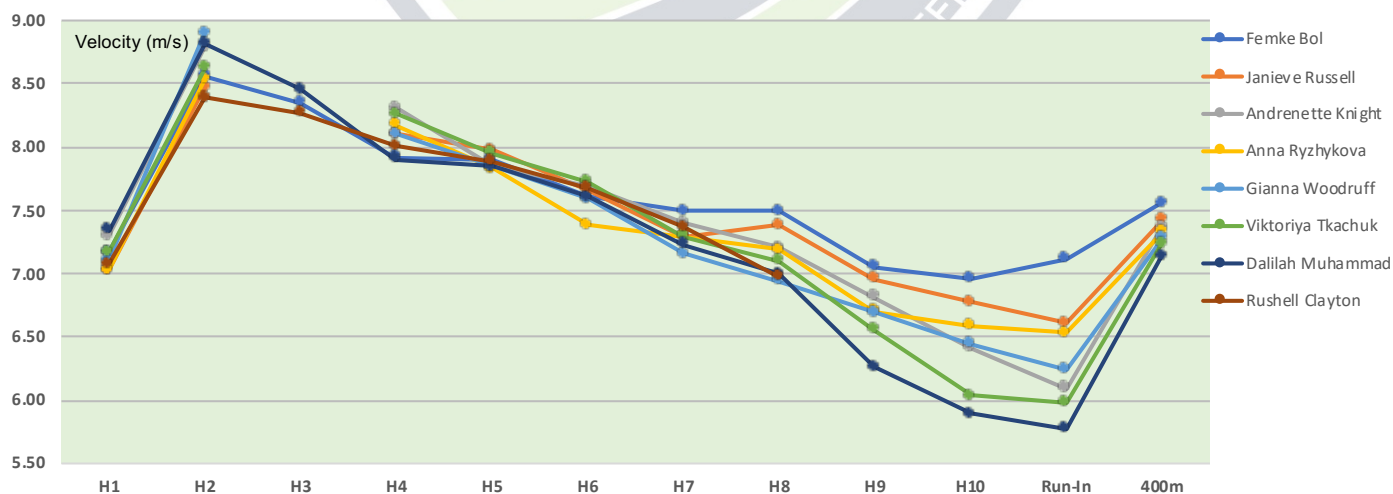
2022 Athletissima (Lausanne, SUI) (TV Analysis)

Women's 400m Hurdles

Date 2022.08.26

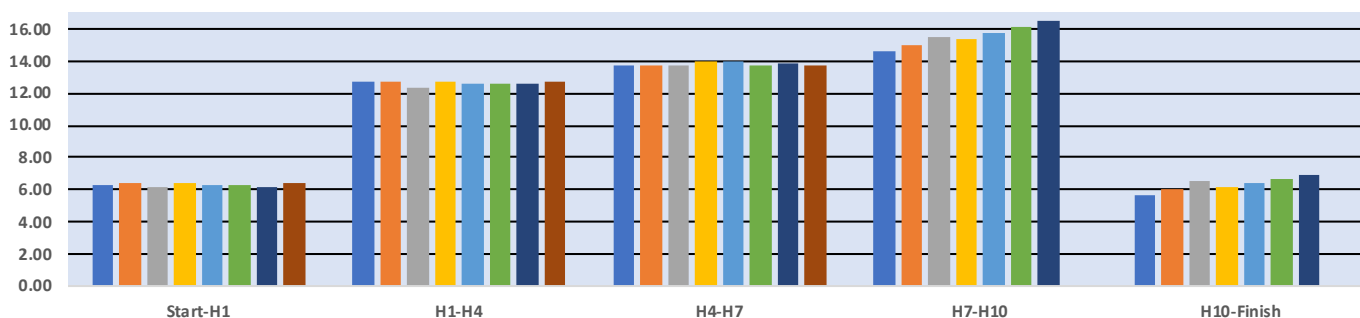
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Bol, Femke (NED) (2000) | time | 6.27 | 10.36 | 14.55 | 18.97 | 23.40 | 28.00 | 32.67 | 37.34 | 42.30 | 47.33 | | 52.95 | 5 / 1 | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | | | |
| | interval | | 4.09 | 4.19 | 4.42 | 4.43 | 4.60 | 4.67 | 4.67 | 4.96 | 5.03 | 5.62 | | | 12.70 | 13.70 | 14.66 |
| | velocity | 7.18 | 8.56 | 8.35 | 7.92 | 7.90 | 7.61 | 7.49 | 7.38 | 6.96 | 6.77 | 6.61 | 7.55 | | 8.27 | 7.66 | 7.16 |
| H1 lead leg | L | | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 19 | 176 | | | | |
| Russell, Janieve (JAM) (1993) | time | 6.40 | 10.53 | | 19.17 | 23.56 | 28.13 | 32.93 | 37.67 | 42.70 | 47.87 | | 53.92 | 2 / 2 | | | |
| | reaction time | 0.167 | | | | | | | | | | | | | | | |
| | interval | | 4.13 | | 8.64 | 4.39 | 4.57 | 4.80 | 4.74 | 5.03 | 5.17 | 6.05 | | | 12.77 | 13.76 | 14.94 |
| | velocity | 7.03 | 8.47 | | 8.10 | 7.97 | 7.66 | 7.29 | 7.38 | 6.96 | 6.77 | 6.61 | 7.42 | | 8.22 | 7.63 | 7.03 |
| H1 lead leg | R | | 23 | 15 | | 15 | 16 | 16 | 16 | 17 | 17 | 20 | 155 | | | | |
| Knight, Andrenette (JAM) (1996) | time | 6.16 | 10.14 | | 18.56 | 23.02 | 27.57 | 32.30 | 37.16 | 42.30 | 47.76 | | 54.33 | 1 / 3 | | | |
| | reaction time | 0.148 | | | | | | | | | | | | | | | |
| | interval | | 3.98 | | 8.42 | 4.46 | 4.55 | 4.73 | 4.86 | 5.14 | 5.46 | 6.57 | | | 12.40 | 13.74 | 15.46 |
| | velocity | 7.31 | 8.79 | | 8.31 | 7.85 | 7.69 | 7.40 | 7.20 | 6.81 | 6.41 | 6.09 | 7.36 | | 8.47 | 7.64 | 6.79 |
| H1 lead leg | R | | 22 | 15 | | 15 | 15 | 16 | 16 | 16 | 17 | 20 | 152 | | | | |
| Ryzhykova, Anna (UKR) (1989) | time | 6.40 | 10.50 | | 19.06 | 23.53 | 28.27 | 33.07 | 37.94 | 43.16 | 48.47 | | 54.59 | 3 / 4 | | | |
| | reaction time | 0.197 | | | | | | | | | | | | | | | |
| | interval | | 4.10 | | 8.56 | 4.47 | 4.74 | 4.80 | 4.87 | 5.22 | 5.31 | 6.12 | | | 12.66 | 14.01 | 15.40 |
| | velocity | 7.03 | 8.54 | | 8.18 | 7.83 | 7.38 | 7.29 | 7.19 | 6.70 | 6.59 | 6.54 | 7.33 | | 8.29 | 7.49 | 6.82 |
| H1 lead leg | R | | 22 | 14 | | 14 | 15 | 15 | 15 | 16 | 16 | 19.2 | 146.2 | | | | |
| Woodruff, Gianna (PAN) (1993) | time | 6.33 | 10.26 | | 18.90 | 23.36 | 27.97 | 32.86 | 37.90 | 43.13 | 48.56 | | 54.97 | 8 / 5 | | | |
| | reaction time | 0.193 | | | | | | | | | | | | | | | |
| | interval | | 3.93 | | 8.64 | 4.46 | 4.53 | 4.89 | 5.04 | 5.23 | 5.43 | 6.41 | | | 12.57 | 13.96 | 15.70 |
| | velocity | 7.11 | 8.91 | | 8.10 | 7.85 | 7.59 | 7.16 | 6.94 | 6.69 | 6.45 | 6.24 | 7.28 | | 8.35 | 7.52 | 6.69 |
| H1 lead leg | L | | 23 | 15 | | 15 | 15 | 15 | 16 | 16 | 17 | 19.5 | 151.5 | | | | |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.27 | 10.33 | | 18.80 | 23.20 | 27.73 | 32.53 | 37.46 | 42.80 | 48.60 | | 55.29 | 7 / 6 | | | |
| | reaction time | 0.211 | | | | | | | | | | | | | | | |
| | interval | | 4.06 | | 8.47 | 4.40 | 4.53 | 4.80 | 4.93 | 5.34 | 5.80 | 6.69 | | | 12.53 | 13.73 | 16.07 |
| | velocity | 7.18 | 8.62 | | 8.26 | 7.95 | 7.73 | 7.29 | 7.10 | 6.55 | 6.03 | 5.98 | 7.23 | | 8.38 | 7.65 | 6.53 |
| H1 lead leg | L | | 22 | 15 | | 15 | 15 | 15 | 16 | 17 | 18 | 20.7 | 153.7 | | | | |
| Muhammad, Dalilah (USA) (1990) | time | 6.13 | 10.10 | 14.24 | 18.67 | 23.13 | 27.73 | 32.57 | 37.57 | 43.16 | 49.10 | | 56.03 | 4 / 7 | | | |
| | reaction time | 0.184 | | | | | | | | | | | | | | | |
| | interval | | 3.97 | 4.14 | 4.43 | 4.46 | 4.60 | 4.84 | 5.00 | 5.59 | 5.94 | 6.93 | | | 12.54 | 13.90 | 16.53 |
| | velocity | 7.34 | 8.82 | 8.45 | 7.90 | 7.85 | 7.61 | 7.23 | 7.00 | 6.26 | 5.89 | 5.77 | 7.14 | | 8.37 | 7.55 | 6.35 |
| H1 lead leg | R | | 22 | 14 | 14 | 15 | 15 | 15 | 15 | 16 | 17 | 158 | | | | | |
| Clayton, Rushell (JAM) (1992) | time | 6.36 | 10.53 | 14.76 | 19.13 | 23.57 | 28.13 | 32.88 | 37.90 | fell | | | dnf | 6 / -- | | | |
| | reaction time | 0.161 | | | | | | | | | | | | | | | |
| | interval | | 4.17 | 4.23 | 4.37 | 4.44 | 4.56 | 4.75 | 5.02 | | | | | | 12.77 | 13.75 | |
| | velocity | 7.08 | 8.39 | 8.27 | 8.01 | 7.88 | 7.68 | 7.37 | 6.97 | | | | | | 8.22 | 7.64 | |
| H1 lead leg | R | | 22 | 15 | 15 | 15 | 15 | 15 | 16 | | | 128 | | | | | |



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=OIGvQel3Cwk>

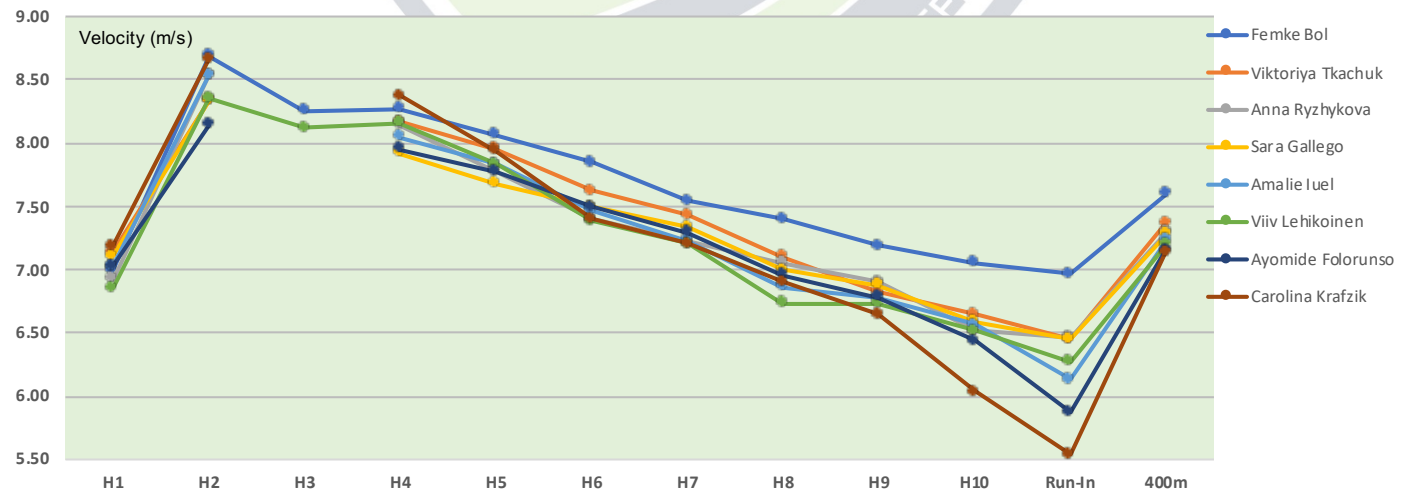
2022 European Athletics Championships (Munich, GER) (TV Analysis)

Women's 400m Hurdles

Date 2022.08.19

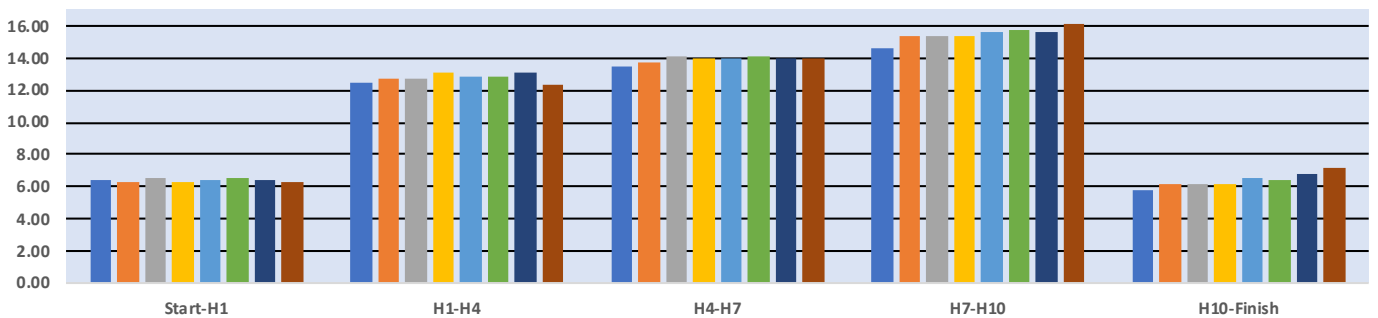
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Bol, Femke (NED) (2000) | time | 6.43 | 10.46 | 14.70 | 18.93 | 23.27 | 27.73 | 32.37 | 37.10 | 41.97 | 46.93 | 52.67 | 52.67 | 3 / 1 | | | |
| | reaction time | 0.279 | | | | | | | | | | | | | | | |
| | interval | | 4.03 | 4.24 | 4.23 | 4.34 | 4.46 | 4.64 | 4.73 | 4.87 | 4.96 | 5.74 | CR | | 12.50 | 13.44 | 14.56 |
| | velocity | 7.00 | 8.68 | 8.25 | 8.27 | 8.06 | 7.85 | 7.54 | 7.40 | 7.19 | 7.06 | 6.97 | 7.59 | | 8.40 | 7.81 | 7.21 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.30 | 10.50 | | 19.07 | 23.47 | 28.06 | 32.77 | 37.70 | 42.83 | 48.10 | | 54.30 | 7 / 2 | | | |
| | reaction time | 0.195 | | | | | | | | | | | | | | | |
| | interval | | 4.20 | | 8.57 | 4.40 | 4.59 | 4.71 | 4.93 | 5.13 | 5.27 | 6.20 | | | 12.77 | 13.70 | 15.33 |
| | velocity | 7.14 | 8.33 | | 8.17 | 7.95 | 7.63 | 7.43 | 7.10 | 6.82 | 6.64 | 6.45 | 7.37 | | 8.22 | 7.66 | 6.85 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Ryzhykova, Anna (UKR) (1989) | time | 6.50 | 10.60 | | 19.20 | 23.70 | 28.43 | 33.27 | 38.23 | 43.30 | 48.67 | | 54.86 | 5 / 3 | | | |
| | reaction time | 0.250 | | | | | | | | | | | | | | | |
| | interval | | 4.10 | | 8.60 | 4.50 | 4.73 | 4.84 | 4.96 | 5.07 | 5.37 | 6.19 | | | 12.70 | 14.07 | 15.40 |
| | velocity | 6.92 | 8.54 | | 8.14 | 7.78 | 7.40 | 7.23 | 7.06 | 6.90 | 6.52 | 6.46 | 7.29 | | 8.27 | 7.46 | 6.82 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Gallego, Sara (ESP) (2000) | time | 6.33 | 10.53 | | 19.37 | 23.93 | 28.60 | 33.37 | 38.37 | 43.46 | 48.77 | | 54.97 | 6 / 4 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | | | |
| | interval | | 4.20 | | 8.84 | 4.56 | 4.67 | 4.77 | 5.00 | 5.09 | 5.31 | 6.20 | | | 13.04 | 14.00 | 15.40 |
| | velocity | 7.11 | 8.33 | | 7.92 | 7.68 | 7.49 | 7.34 | 7.00 | 6.88 | 6.59 | 6.45 | 7.28 | | 8.05 | 7.50 | 6.82 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Iuel, Amalie (NOR) (1996) | time | 6.40 | 10.50 | | 19.20 | 23.67 | 28.36 | 33.20 | 38.30 | 43.47 | 48.80 | | 55.32 | 1 / 5 | | | |
| | reaction time | 0.186 | | | | | | | | | | | | | | | |
| | interval | | 4.10 | | 8.70 | 4.47 | 4.69 | 4.84 | 5.10 | 5.17 | 5.33 | 6.52 | | | 12.80 | 14.00 | 15.60 |
| | velocity | 7.03 | 8.54 | | 8.05 | 7.83 | 7.46 | 7.23 | 6.86 | 6.77 | 6.57 | 6.13 | 7.23 | | 8.20 | 7.50 | 6.73 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Lehikoinen, Viivi (FIN) (1999) | time | 6.57 | 10.76 | 15.07 | 19.36 | 23.83 | 28.57 | 33.43 | 38.63 | 43.83 | 49.20 | | 55.58 | 4 / 6 | | | |
| | reaction time | 0.291 | | | | | | | | | | | | | | | |
| | interval | | 4.19 | 4.31 | 4.29 | 4.47 | 4.74 | 4.86 | 5.20 | 5.37 | 5.37 | 6.38 | | | 12.79 | 14.07 | 15.77 |
| | velocity | 6.85 | 8.35 | 8.12 | 8.16 | 7.83 | 7.38 | 7.20 | 6.73 | 6.73 | 6.52 | 6.27 | 7.20 | | 8.21 | 7.46 | 6.66 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| Folorunso, Ayomide (ITA) (1996) | time | 6.40 | 10.70 | | 19.50 | 24.00 | 28.67 | 33.47 | 38.50 | 43.66 | 49.10 | | 55.91 | 2 / 7 | | | |
| | reaction time | 0.197 | | | | | | | | | | | | | | | |
| | interval | | 4.30 | | 8.80 | 4.50 | 4.67 | 4.80 | 5.03 | 5.16 | 5.44 | 6.81 | | | 13.10 | 13.97 | 15.63 |
| | velocity | 7.03 | 8.14 | | 7.95 | 7.78 | 7.49 | 7.29 | 6.96 | 6.78 | 6.43 | 5.87 | 7.15 | | 8.02 | 7.52 | 6.72 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| Krafzik, Carolina (GER) (1995) | time | 6.26 | 10.30 | | 18.66 | 23.07 | 27.80 | 32.66 | 37.73 | 43.00 | 48.80 | | 56.02 | 8 / 8 | | | |
| | reaction time | 0.215 | | | | | | | | | | | | | | | |
| | interval | | 4.04 | | 8.36 | 4.41 | 4.73 | 4.86 | 5.07 | 5.27 | 5.80 | 7.22 | | | 12.40 | 14.00 | 16.14 |
| | velocity | 7.19 | 8.66 | | 8.37 | 7.94 | 7.40 | 7.20 | 6.90 | 6.64 | 6.03 | 5.54 | 7.14 | | 8.47 | 7.50 | 6.51 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

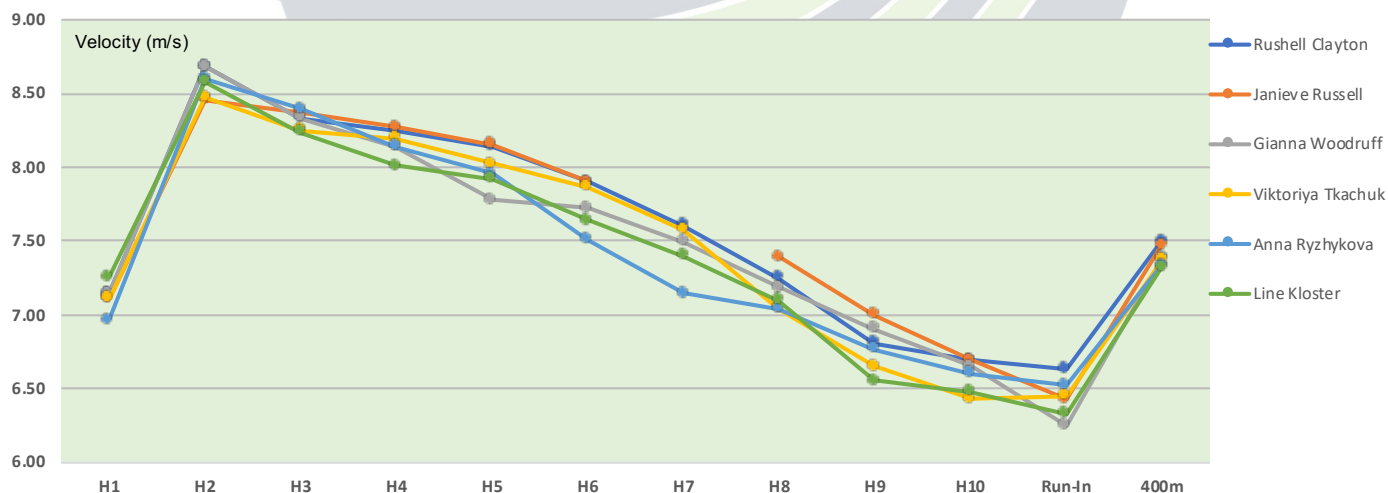
Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: First Movement

Source: https://www.youtube.com/watch?v=xQ-7q_dGwBg

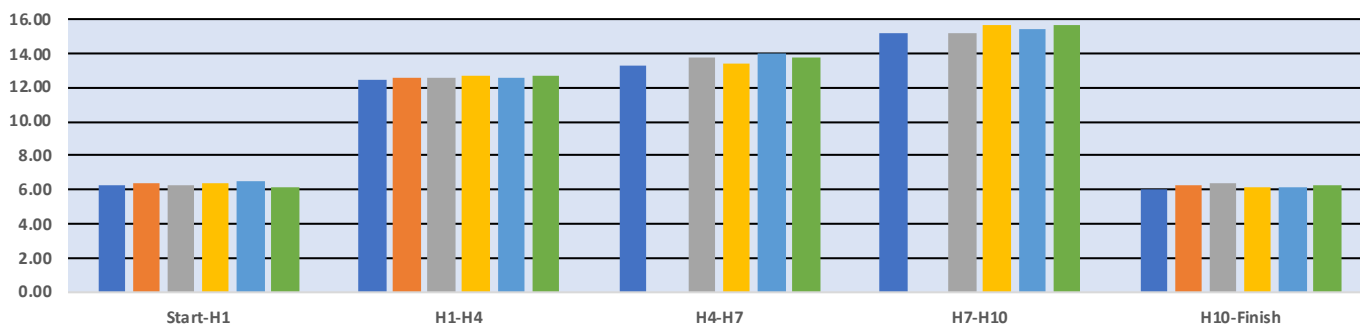
2022 Herculis Meeting International d'Athlétisme (Monaco, MON) (TV Analysis)

| Women's 400m Hurdles | | Date 2022.08.10 | | | | | | | | | | | FINAL | | | | |
|---------------------------------|---------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
| Clayton, Rushell (JAM) (1992) | time | 6.30 | 10.33 | 14.53 | 18.77 | 23.07 | 27.50 | 32.10 | 36.93 | 42.07 | 47.30 | | 53.33 | 6 / 1 | | | |
| | reaction time | 0.179 | | | | | | | | | | | | | | | |
| | interval | | 4.03 | 4.20 | 4.24 | 4.30 | 4.43 | 4.60 | 4.83 | 5.14 | 5.23 | 6.03 | | | 12.47 | 13.33 | 15.20 |
| | velocity | 7.14 | 8.68 | 8.33 | 8.25 | 8.14 | 7.90 | 7.61 | 7.25 | 6.81 | 6.69 | 6.63 | 7.50 | | 8.42 | 7.88 | 6.91 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| | strides | 21 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 19.7 | 179.7 | | | | |
| Russell, Janieve (JAM) (1993) | time | 6.33 | 10.47 | 14.65 | 18.88 | 23.17 | 27.60 | | 37.07 | 42.07 | 47.30 | | 53.52 | 3 / 2 | | | |
| | reaction time | 0.180 | | | | | | | | | | | | | | | |
| | interval | | 4.14 | 4.18 | 4.23 | 4.29 | 4.43 | | 9.47 | 5.00 | 5.23 | 6.22 | | | 12.55 | | |
| | velocity | 7.11 | 8.45 | 8.37 | 8.27 | 8.16 | 7.90 | | 7.39 | 7.00 | 6.69 | 6.43 | 7.47 | | 8.37 | | |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| | strides | 23 | 15 | 15 | 15 | 15 | 15 | | 16 | 17 | 20 | 151 | | | | | |
| Woodruff, Gianna (PAN) (1993) | time | 6.30 | 10.33 | 14.53 | 18.83 | 23.33 | 27.86 | 32.53 | 37.40 | 42.47 | 47.73 | | 54.13 | 4 / 3 | | | |
| | reaction time | 0.203 | | | | | | | | | | | | | | | |
| | interval | | 4.03 | 4.20 | 4.30 | 4.50 | 4.53 | 4.67 | 4.87 | 5.07 | 5.26 | 6.40 | | | 12.53 | 13.70 | 15.20 |
| | velocity | 7.14 | 8.68 | 8.33 | 8.14 | 7.78 | 7.73 | 7.49 | 7.19 | 6.90 | 6.65 | 6.25 | 7.39 | | 8.38 | 7.66 | 6.91 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| | strides | 23 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 19.5 | 166.5 | | | | |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.33 | 10.46 | 14.70 | 18.97 | 23.33 | 27.78 | 32.40 | 37.37 | 42.63 | 48.07 | | 54.27 | 8 / 4 | | | |
| | reaction time | 0.253 | | | | | | | | | | | | | | | |
| | interval | | 4.13 | 4.24 | 4.27 | 4.36 | 4.45 | 4.62 | 4.97 | 5.26 | 5.44 | 6.20 | | | 12.64 | 13.43 | 15.67 |
| | velocity | 7.11 | 8.47 | 8.25 | 8.20 | 8.03 | 7.87 | 7.58 | 7.04 | 6.65 | 6.43 | 6.45 | 7.37 | | 8.31 | 7.82 | 6.70 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 19.7 | 180.7 | | | | |
| Ryzhykova, Anna (UKR) (1989) | time | 6.46 | 10.53 | 14.70 | 19.00 | 23.40 | 28.06 | 32.96 | 37.93 | 43.10 | 48.40 | | 54.53 | 5 / 5 | | | |
| | reaction time | 0.189 | | | | | | | | | | | | | | | |
| | interval | | 4.07 | 4.17 | 4.30 | 4.40 | 4.66 | 4.90 | 4.97 | 5.17 | 5.30 | 6.13 | | | 12.54 | 13.96 | 15.44 |
| | velocity | 6.97 | 8.60 | 8.39 | 8.14 | 7.95 | 7.51 | 7.14 | 7.04 | 6.77 | 6.60 | 6.53 | 7.34 | | 8.37 | 7.52 | 6.80 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| | strides | 22 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 16 | 19.2 | 158.2 | | | | | |
| Kloster, Line (NOR) (1990) | time | 6.20 | 10.28 | 14.53 | 18.90 | 23.32 | 27.90 | 32.63 | 37.56 | 42.90 | 48.30 | | 54.62 | 7 / 6 | | | |
| | reaction time | 0.156 | | | | | | | | | | | | | | | |
| | interval | | 4.08 | 4.25 | 4.37 | 4.42 | 4.58 | 4.73 | 4.93 | 5.34 | 5.40 | 6.32 | | | 12.70 | 13.73 | 15.67 |
| | velocity | 7.26 | 8.58 | 8.24 | 8.01 | 7.92 | 7.64 | 7.40 | 7.10 | 6.55 | 6.48 | 6.33 | 7.32 | | 8.27 | 7.65 | 6.70 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 20 | 179 | | | | |



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=gPZE18RRJqI>

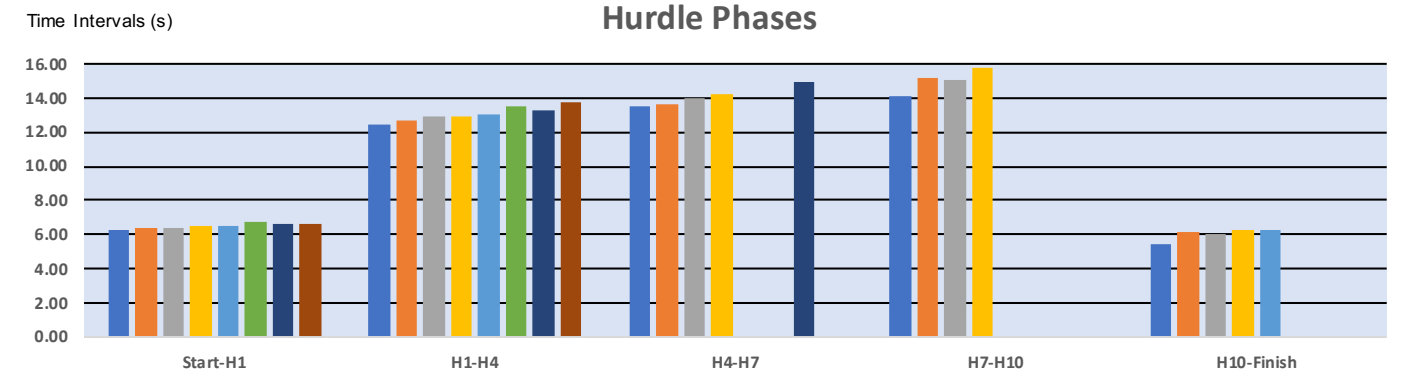
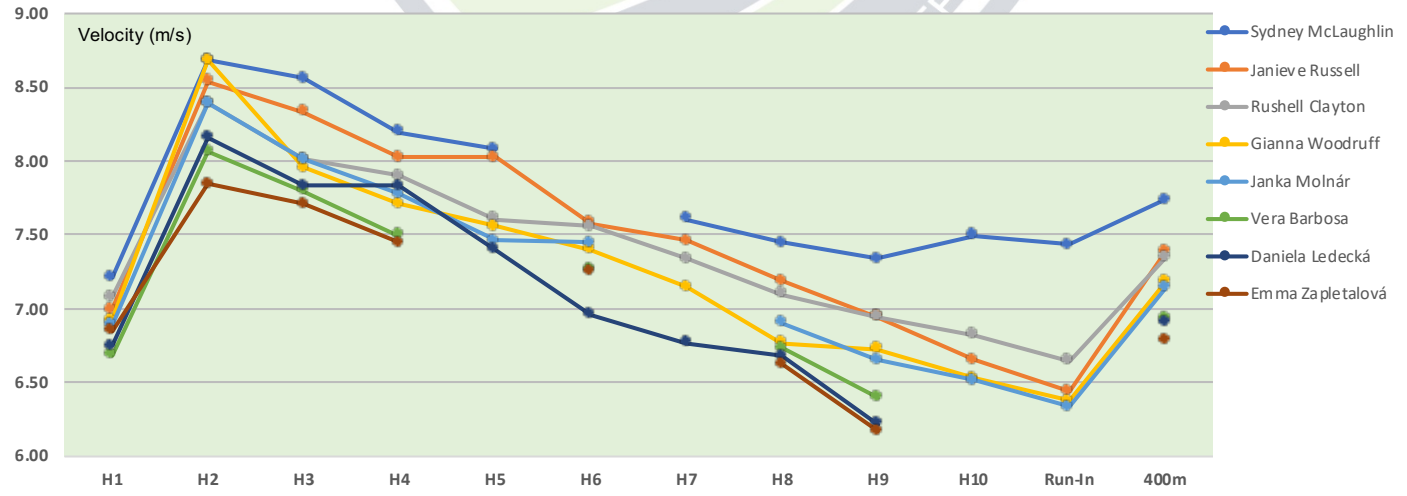
2022 Gyulai István Memorial (Székesfehérvár, HUN) (TV Analysis)

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 | | | | | | | | 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 | | | | | | | | 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 | | | | | | | | 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 | | | | | | | | 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 | | | | | | | | | | 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 | | | | | | | | | | 18 | 106 | | | | | |
| Ledecká, 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 | | | | | | | | | | 17 | 148 | | | | | |
| Zapletalová, Emma (SVK) (2000) | time | 6.57 | 11.03 | 15.57 | 20.27 | | 29.93 | | 40.50 | 46.17 | | | 59.00 | 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 | | | | | | | | | | 17 | 104 | | | | | |



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

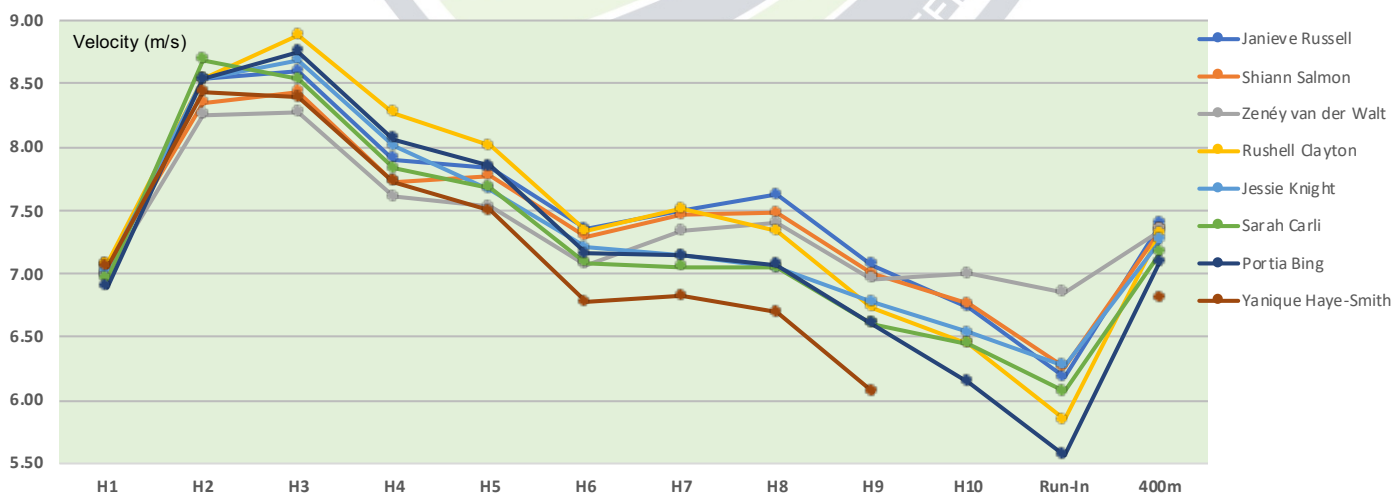
2022 Commonwealth Games (Birmingham, GBR) (TV Analysis)

Women's 400m Hurdles

Date 2022.08.06

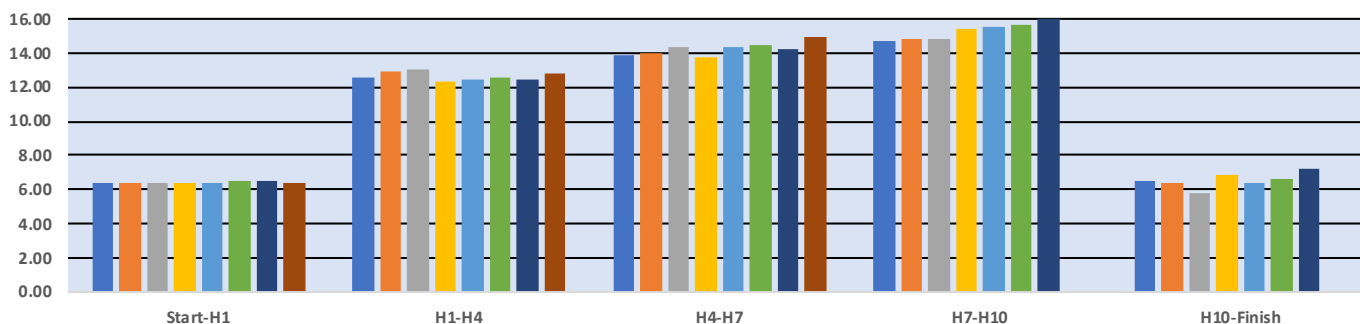
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|----------------------------------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Russell, Janieve (JAM) (1993) | time | 6.43 | 10.53 | 14.60 | 19.03 | 23.50 | 28.26 | 32.93 | 37.52 | 42.47 | 47.67 | | 54.14 | 7 / 1 | | | |
| | reaction time | 0.148 | | | | | | | | | | | | | | | |
| | interval velocity | 7.00 | 8.54 | 8.60 | 7.43 | 4.47 | 4.76 | 4.67 | 4.59 | 4.95 | 5.20 | 6.47 | 7.39 | | 12.60 | 13.90 | 14.74 |
| H1 lead leg | R | | | | | | | | | | | | | | 8.33 | 7.55 | 7.12 |
| Salmon, Shiann (JAM) (1999) | time | 6.36 | 10.55 | 14.70 | 19.23 | 23.73 | 28.53 | 33.22 | 37.90 | 42.90 | 48.08 | | 54.47 | 4 / 2 | | | |
| | reaction time | 0.195 | | | | | | | | | | | | | | | |
| | interval velocity | 7.08 | 8.35 | 8.43 | 7.73 | 7.78 | 7.29 | 7.46 | 7.48 | 5.00 | 5.18 | 6.39 | 7.34 | | 12.87 | 13.99 | 14.86 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.16 | 7.51 | 7.07 |
| van der Walt, Zenéy (RSA) (2000) | time | 6.43 | 10.67 | 14.90 | 19.50 | 24.15 | 29.10 | 33.87 | 38.60 | 43.63 | 48.63 | | 54.47 | 6 / 3 | | | |
| | reaction time | 0.168 | | | | | | | | | | | | | | | |
| | interval velocity | 7.00 | 8.25 | 8.27 | 7.61 | 7.53 | 7.07 | 7.34 | 7.40 | 5.03 | 5.00 | 5.84 | 7.34 | | 13.07 | 14.37 | 14.76 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.03 | 7.31 | 7.11 |
| Clayton, Rushell (JAM) (1992) | time | 6.36 | 10.46 | 14.40 | 18.63 | 23.00 | 27.77 | 32.43 | 37.20 | 42.40 | 47.83 | | 54.67 | 5 / 4 | | | |
| | reaction time | 0.147 | | | | | | | | | | | | | | | |
| | interval velocity | 7.08 | 8.54 | 8.88 | 8.27 | 8.01 | 7.34 | 7.51 | 7.34 | 6.73 | 6.45 | 5.85 | 7.32 | | 12.27 | 13.80 | 15.40 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.56 | 7.61 | 6.82 |
| Knight, Jessie (GBR) (1994) | time | 6.40 | 10.50 | 14.53 | 18.90 | 23.47 | 28.33 | 33.23 | 38.20 | 43.37 | 48.73 | | 55.11 | 8 / 5 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | | | |
| | interval velocity | 7.03 | 8.54 | 8.68 | 8.01 | 7.66 | 7.20 | 7.14 | 7.04 | 6.77 | 6.53 | 6.27 | 7.26 | | 12.50 | 14.33 | 15.50 |
| H1 lead leg | R | | | | | | | | | | | | | | 8.40 | 7.33 | 6.77 |
| Carli, Sarah (AUS) (1994) | time | 6.47 | 10.50 | 14.60 | 19.07 | 23.63 | 28.57 | 33.53 | 38.50 | 43.80 | 49.23 | | 55.82 | 2 / 6 | | | |
| | reaction time | 0.263 | | | | | | | | | | | | | | | |
| | interval velocity | 6.96 | 8.68 | 8.54 | 7.83 | 7.68 | 7.09 | 7.06 | 7.04 | 6.60 | 6.45 | 6.07 | 7.17 | | 12.60 | 14.46 | 15.70 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.33 | 7.26 | 6.69 |
| Bing, Portia (NZL) (1993) | time | 6.53 | 10.63 | 14.63 | 18.97 | 23.43 | 28.32 | 33.22 | 38.17 | 43.47 | 49.17 | | 56.36 | 9 / 7 | | | |
| | reaction time | 0.173 | | | | | | | | | | | | | | | |
| | interval velocity | 6.89 | 8.54 | 8.75 | 8.06 | 7.85 | 7.16 | 7.14 | 7.07 | 6.60 | 6.14 | 5.56 | 7.10 | | 12.44 | 14.25 | 15.95 |
| H1 lead leg | R | | | | | | | | | | | | | | 8.44 | 7.37 | 6.58 |
| Haye-Smith, Yanique (TKS) (1990) | time | 6.38 | 10.53 | 14.70 | 19.23 | 23.90 | 29.07 | 34.20 | 39.43 | 45.20 | | | 58.78 | 3 / 8 | | | |
| | reaction time | 0.170 | | | | | | | | | | | | | | | |
| | interval velocity | 7.05 | 8.43 | 8.39 | 7.73 | 7.49 | 6.77 | 6.82 | 6.69 | 6.07 | | | 6.81 | | 12.85 | 14.97 | |
| H1 lead leg | R | | | | | | | | | | | | | | 8.17 | 7.01 | |



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=E0V3Xr9uJk>

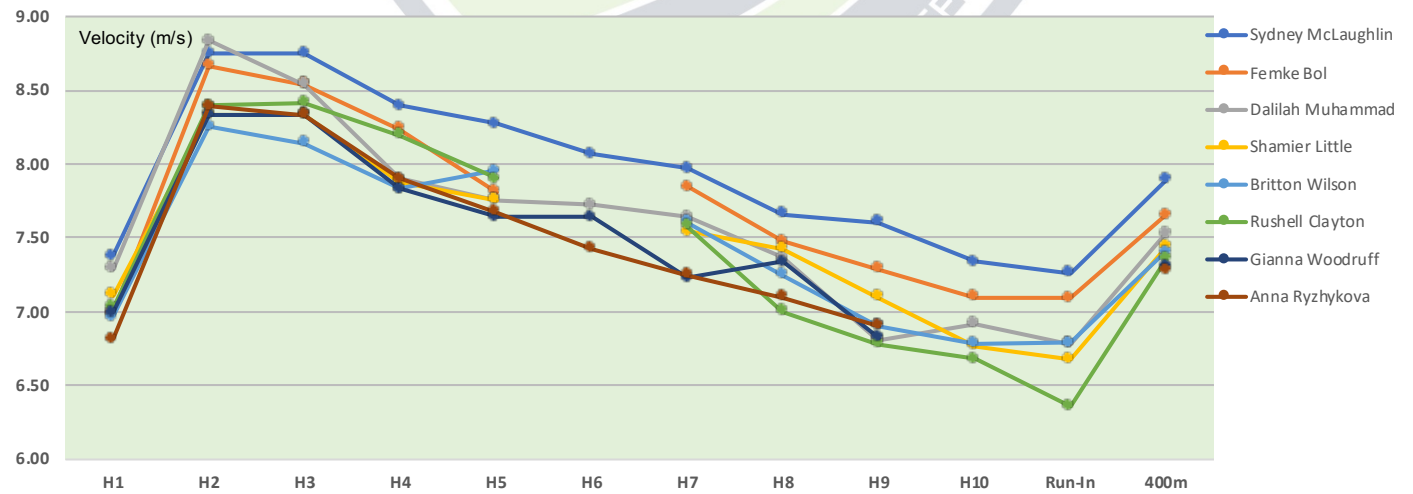
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.07.22

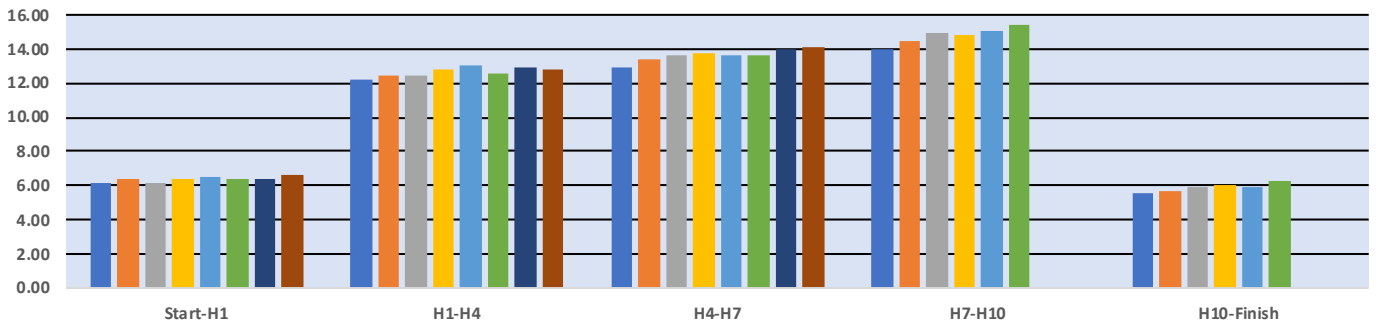
FINAL

| | | 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 | 50.68 | 5 / 1 | | | |
| | reaction time | 0.158 | | | | | | | | | | | | | | | |
| | interval velocity | 7.38 | 8.75 | 8.75 | 8.17 | 8.23 | 8.34 | 8.06 | 7.97 | 7.66 | 7.61 | 7.34 | 7.26 | 7.89 | 12.17 | 12.96 | 13.94 |
| H1 lead leg | R | | | | | | | | | | | | 169.7 | | 8.63 | 8.10 | 7.53 |
| 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 velocity | 7.00 | 8.66 | 8.54 | 8.24 | 7.81 | | 7.85 | 7.48 | 7.29 | 7.10 | 7.09 | 7.65 | | 12.39 | 13.40 | 14.41 |
| H1 lead leg | L | | | | | | | | | | | 146 | | 8.47 | 7.84 | 7.29 | |
| 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 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 | | 12.49 | 13.62 | 14.95 |
| H1 lead leg | R | | | | | | | | | | | 157 | | 8.41 | 7.71 | 7.02 | |
| 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 velocity | 7.11 | 8.33 | 8.33 | 7.88 | 7.76 | | 7.54 | 7.43 | 7.10 | 6.77 | 6.68 | 7.44 | | 12.84 | 13.79 | 14.81 |
| H1 lead leg | R | | | | | | | | | | | 128 | | 8.18 | 7.61 | 7.09 | |
| 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 velocity | 6.97 | 8.25 | 8.14 | 7.83 | 7.95 | | 7.61 | 7.25 | 6.90 | 6.78 | 6.79 | 7.40 | | 13.01 | 13.60 | 15.06 |
| H1 lead leg | R | | | | | | | | | | | 130 | | 8.07 | 7.72 | 6.97 | |
| 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 velocity | 7.03 | 8.39 | 8.41 | 8.20 | 7.90 | | 7.58 | 7.00 | 6.78 | 6.68 | 6.36 | 7.36 | | 12.60 | 13.67 | 15.40 |
| H1 lead leg | L | | | | | | | | | | | 130 | | 8.33 | 7.68 | 6.82 | |
| 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 velocity | 7.00 | 8.33 | 8.33 | 7.83 | 7.64 | 7.64 | 7.23 | 7.34 | 6.82 | | | 7.31 | | 12.87 | 14.00 | |
| H1 lead leg | R | | | | | | | | | | | 147 | | 8.16 | 7.50 | | |
| 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 velocity | 6.82 | 8.39 | 8.33 | 7.90 | 7.68 | 7.43 | 7.25 | 7.10 | 6.90 | | | 7.28 | | 12.80 | 14.10 | |
| H1 lead leg | R | | | | | | | | | | | 137 | | 8.20 | 7.45 | | |



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=RMZQOI-Gf4o&t=11769s>

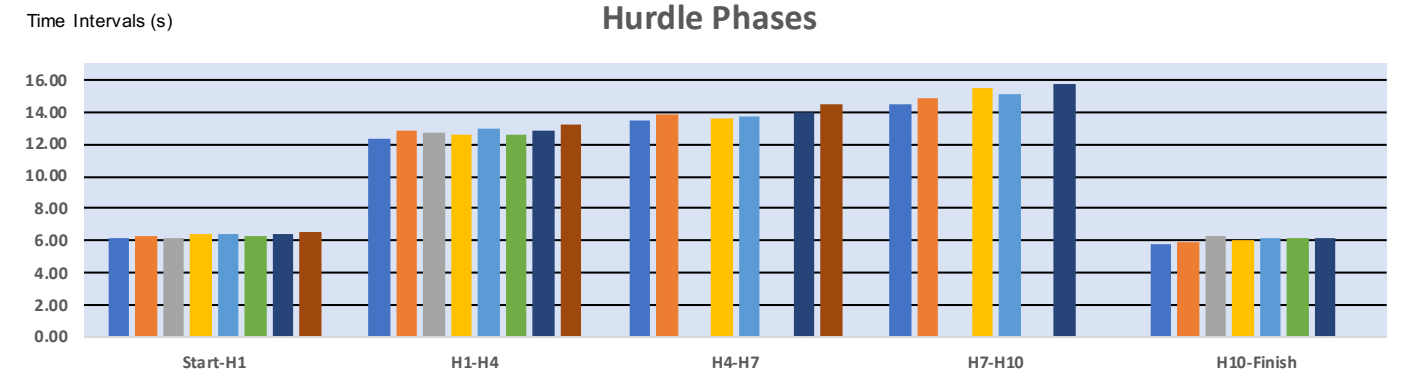
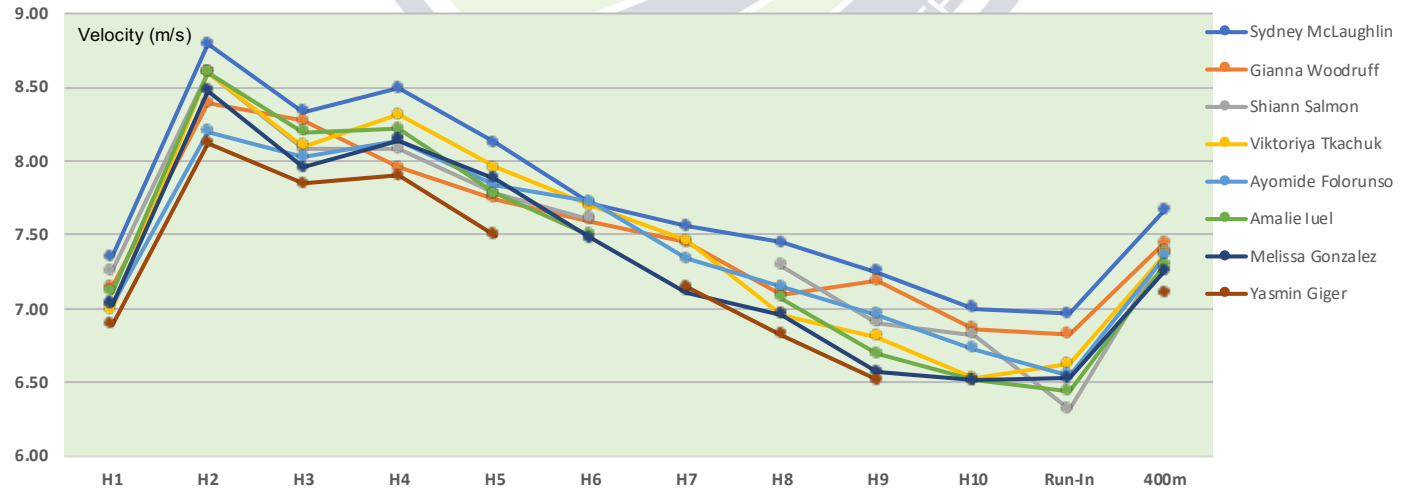
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

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 | 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 | 7.67 | | 8.54 | 7.79 | 7.23 |
| H1 lead leg | R | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | |
| | interval | | 4.17 | 4.23 | 4.40 | 4.52 | 4.61 | 4.70 | 4.93 | 4.87 | 5.10 | 5.86 | AR PB | | 12.80 | 13.83 | 14.90 |
| | velocity | 7.14 | 8.39 | 8.27 | 7.95 | 7.74 | 7.59 | 7.45 | 7.10 | 7.19 | 6.86 | 6.83 | 7.45 | | 8.20 | 7.59 | 7.05 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | |
| | interval | | 4.07 | 4.33 | 4.33 | 4.50 | 4.60 | | 9.60 | 5.07 | 5.13 | 6.33 | | | 12.73 | | |
| | velocity | 7.26 | 8.60 | 8.08 | 8.08 | 7.78 | 7.61 | | 7.29 | 6.90 | 6.82 | 6.32 | 7.39 | | 8.25 | | |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | |
| | interval | | 4.07 | 4.32 | 4.21 | 4.40 | 4.55 | 4.69 | 5.03 | 5.14 | 5.36 | 6.04 | | | 12.60 | 13.64 | 15.53 |
| | velocity | 7.00 | 8.60 | 8.10 | 8.31 | 7.95 | 7.69 | 7.46 | 6.96 | 6.81 | 6.53 | 6.62 | 7.37 | | 8.33 | 7.70 | 6.76 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | |
| | interval | | 4.27 | 4.36 | 4.30 | 4.47 | 4.53 | 4.77 | 4.90 | 5.03 | 5.20 | 6.11 | NR PB | | 12.93 | 13.77 | 15.13 |
| | velocity | 7.03 | 8.20 | 8.03 | 8.14 | 7.83 | 7.73 | 7.34 | 7.14 | 6.96 | 6.73 | 6.55 | 7.36 | | 8.12 | 7.63 | 6.94 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | |
| | interval | | 4.07 | 4.27 | 4.26 | 4.50 | 4.67 | | 9.90 | 5.23 | 5.37 | 6.21 | | | 12.60 | | |
| | velocity | 7.11 | 8.60 | 8.20 | 8.22 | 7.78 | 7.49 | | 7.07 | 6.69 | 6.52 | 6.44 | 7.30 | | 8.33 | | |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | |
| | interval | | 4.13 | 4.40 | 4.30 | 4.44 | 4.68 | 4.92 | 5.03 | 5.33 | 5.37 | 6.13 | | | 12.83 | 14.04 | 15.73 |
| | velocity | 7.03 | 8.47 | 7.95 | 8.14 | 7.88 | 7.48 | 7.11 | 6.96 | 6.57 | 6.52 | 6.53 | 7.26 | | 8.18 | 7.48 | 6.68 |
| H1 lead leg | L | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | |
| | interval | | 4.31 | 4.46 | 4.43 | 4.67 | | 9.80 | 5.13 | 5.37 | | | | | 13.20 | 14.47 | |
| | velocity | 6.89 | 8.12 | 7.85 | 7.90 | 7.49 | | 7.14 | 6.82 | 6.52 | | | 7.10 | | 7.95 | 7.26 | |
| H1 lead leg | R | | | | | | | | | | | | | | | | |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=B-Pu9se9z3A>

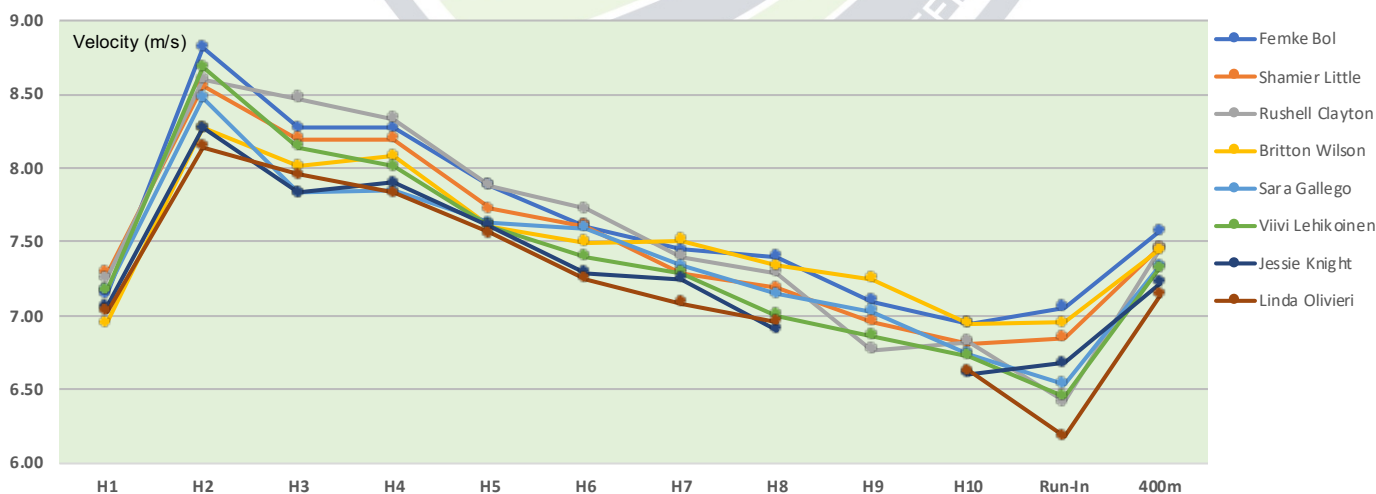
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.07.20

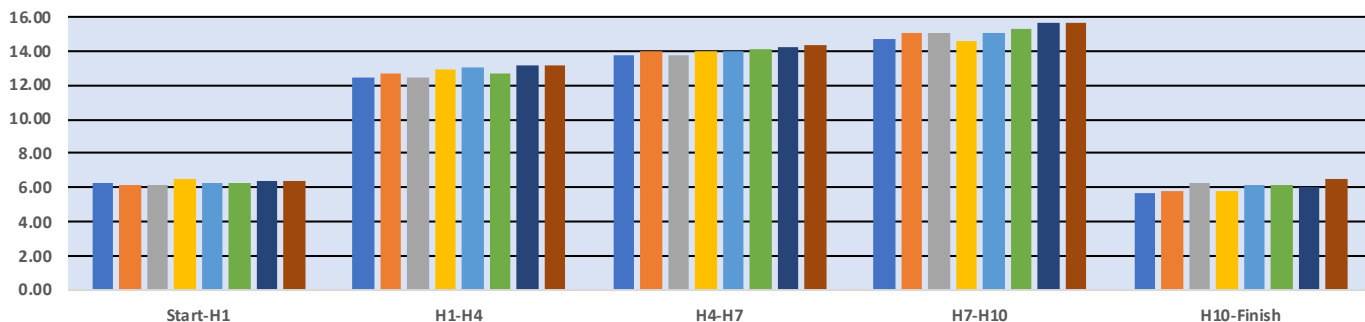
Semi-Final 2

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|---------------------------------------|---------------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Bol, Femke (NED) (2000) | time | 6.30 | 10.27 | 14.50 | 18.73 | 23.17 | 27.77 | 32.47 | 37.20 | 42.13 | 47.17 | | 52.84 | 3 / 1 | | | |
| | reaction time | 0.171 | interval | 3.97 | 4.23 | 4.23 | 4.44 | 4.60 | 4.70 | 4.73 | 4.93 | 5.04 | 5.67 | | 12.43 | 13.74 | 14.70 |
| | H1 lead leg | L | velocity | 7.14 | 8.82 | 8.27 | 8.27 | 7.88 | 7.61 | 7.45 | 7.40 | 6.94 | 7.10 | 6.94 | 7.57 | 8.45 | 7.64 |
| | | | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 18 | 175 | | | |
| Little, Shamier (USA) (1995) | time | 6.17 | 10.26 | 14.53 | 18.80 | 23.33 | 27.93 | 32.73 | 37.60 | 42.63 | 47.77 | | 53.61 | 6 / 2 | | | |
| | reaction time | 0.178 | interval | 4.09 | 4.27 | 4.27 | 4.53 | 4.60 | 4.80 | 4.87 | 5.03 | 5.14 | 5.84 | | 12.63 | 13.93 | 15.04 |
| | H1 lead leg | R | velocity | 7.29 | 8.56 | 8.20 | 8.20 | 7.73 | 7.61 | 7.29 | 7.19 | 6.96 | 6.81 | 6.85 | 7.46 | 8.31 | 7.54 |
| | | | strides | 23 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 19.2 | 179.2 | | | |
| Clayton, Rushell (JAM) (1992) | time | 6.20 | 10.27 | 14.40 | 18.60 | 23.04 | 27.57 | 32.30 | 37.10 | 42.27 | 47.40 | | 53.63 | 8 / 3 | | | |
| | reaction time | 0.169 | interval | 4.07 | 4.13 | 4.20 | 4.44 | 4.53 | 4.73 | 4.80 | 5.17 | 5.13 | 6.23 | PB | 12.40 | 13.70 | 15.10 |
| | H1 lead leg | L | velocity | 7.26 | 8.60 | 8.47 | 8.33 | 7.88 | 7.73 | 7.40 | 7.29 | 6.77 | 6.82 | 6.42 | 7.46 | 8.47 | 7.66 |
| | | | strides | 22 | 14 | 14 | 15 | 15 | 15 | 15 | 16 | 16 | 19.2 | 176.2 | | | |
| Wilson, Britton (USA) (2000) | time | 6.47 | 10.70 | 15.07 | 19.40 | 24.00 | 28.67 | 33.33 | 38.10 | 42.93 | 47.97 | | 53.72 | 5 / 4 | | | |
| | reaction time | 0.159 | interval | 4.23 | 4.37 | 4.33 | 4.60 | 4.67 | 4.66 | 4.77 | 4.83 | 5.04 | 5.75 | | 12.93 | 13.93 | 14.64 |
| | H1 lead leg | R | velocity | 6.96 | 8.27 | 8.01 | 8.08 | 7.61 | 7.49 | 7.51 | 7.34 | 7.25 | 6.94 | 6.96 | 7.45 | 8.12 | 7.54 |
| | | | strides | 23 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 18.2 | 177.2 | | | |
| Gallego, Sara (ESP) (2000) | time | 6.27 | 10.40 | 14.87 | 19.33 | 23.92 | 28.53 | 33.30 | 38.20 | 43.18 | 48.37 | | 54.49 | 7 / 5 | | | |
| | reaction time | 0.136 | interval | 4.13 | 4.47 | 4.46 | 4.59 | 4.61 | 4.77 | 4.90 | 4.98 | 5.19 | 6.12 | | 13.06 | 13.97 | 15.07 |
| | H1 lead leg | L | velocity | 7.18 | 8.47 | 7.83 | 7.85 | 7.63 | 7.59 | 7.34 | 7.14 | 7.03 | 6.74 | 6.54 | 7.34 | 8.04 | 7.52 |
| | | | strides | 24 | 15 | 16 | 16 | 16 | 16 | 17 | 17 | 21 | 174 | | | | |
| Lehikoinen, Viivi (FIN) (1999) | time | 6.27 | 10.30 | 14.60 | 18.97 | 23.57 | 28.30 | 33.10 | 38.10 | 43.20 | 48.40 | | 54.60 | 4 / 6 | | | |
| | reaction time | 0.168 | interval | 4.03 | 4.30 | 4.37 | 4.60 | 4.73 | 4.80 | 5.00 | 5.10 | 5.20 | 6.20 | NR PB | 12.70 | 14.13 | 15.30 |
| | H1 lead leg | R | velocity | 7.18 | 8.68 | 8.14 | 8.01 | 7.61 | 7.40 | 7.29 | 7.00 | 6.86 | 6.73 | 6.45 | 7.33 | 8.27 | 7.43 |
| | | | strides | 23 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 17 | 20.2 | 187.2 | | | |
| Knight, Jessie (GBR) (1994) | time | 6.37 | 10.60 | 15.07 | 19.50 | 24.10 | 28.90 | 33.73 | 38.80 | 43.90 | 49.40 | | 55.39 | 2 / 7 | | | |
| | reaction time | 0.148 | interval | 4.23 | 4.47 | 4.43 | 4.60 | 4.80 | 4.83 | 5.07 | 10.60 | 5.99 | | 13.13 | 14.23 | 15.67 | |
| | H1 lead leg | R | velocity | 7.06 | 8.27 | 7.83 | 7.90 | 7.61 | 7.29 | 7.25 | 6.90 | 6.60 | 6.68 | 7.22 | 8.00 | 7.38 | 6.70 |
| | | | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 19 | 146 | | | | |
| Olivieri, Linda (ITA) (1998) | time | 6.40 | 10.70 | 15.10 | 19.57 | 24.20 | 29.03 | 33.97 | 39.00 | 44.10 | 49.57 | | 56.04 | 1 / 8 | | | |
| | reaction time | 0.135 | interval | 4.30 | 4.40 | 4.47 | 4.63 | 4.83 | 4.94 | 5.03 | 10.57 | 6.47 | | 13.17 | 14.40 | 15.60 | |
| | H1 lead leg | R | velocity | 7.03 | 8.14 | 7.95 | 7.83 | 7.56 | 7.25 | 7.09 | 6.96 | 6.62 | 6.18 | 7.14 | 7.97 | 7.29 | 6.73 |
| | | | strides | 23 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 130 | | | | | |



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>

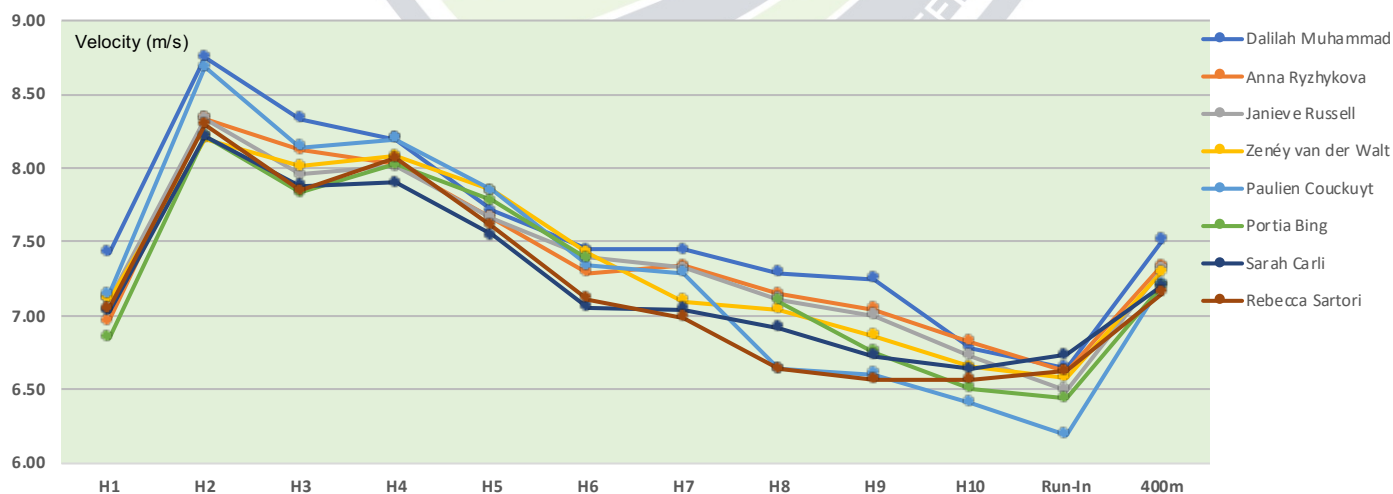
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.07.20

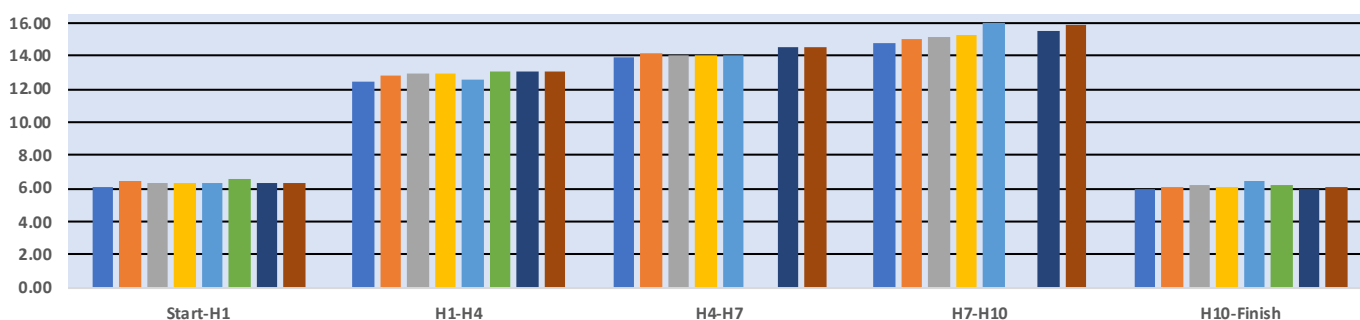
Semi-Final 1

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 | |
|---|---------------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-----------|--------------|-------|-------|--------|------|
| Muhammad, Dalilah (USA) (1990) | time | 6.06 | 10.06 | 14.26 | 18.53 | 23.07 | 27.77 | 32.47 | 37.27 | 42.10 | 47.26 | | 53.28 | 4 / 1 | | | | |
| | reaction time | 0.224 | interval | 4.00 | 4.20 | 4.27 | 4.54 | 4.70 | 4.80 | 4.83 | 5.16 | 6.02 | | | 12.47 | 13.94 | 14.79 | |
| | H1 lead leg | R | velocity | 7.43 | 8.75 | 8.33 | 8.20 | 7.71 | 7.45 | 7.29 | 7.25 | 6.78 | 6.64 | 7.51 | | 8.42 | 7.53 | 7.10 |
| | | | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 19 | 177 | | | | | |
| Ryzhykova, Anna (UKR) (1989) | time | 6.46 | 10.66 | 14.97 | 19.33 | 23.90 | 28.70 | 33.47 | 38.37 | 43.34 | 48.47 | | 54.51 | 5 / 2 | | | | |
| | reaction time | 0.175 | interval | 4.20 | 4.31 | 4.36 | 4.46 | 4.77 | 4.90 | 4.97 | 5.13 | 6.04 | | | 12.87 | 14.14 | 15.00 | |
| | H1 lead leg | R | velocity | 6.97 | 8.33 | 8.12 | 8.03 | 7.66 | 7.29 | 7.34 | 7.14 | 7.04 | 6.82 | 7.34 | | 8.16 | 7.43 | 7.00 |
| | | | strides | 22 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 19 | 172 | | | | | |
| Russell, Janieve (JAM) (1993) | time | 6.33 | 10.53 | 14.93 | 19.30 | 23.87 | 28.60 | 33.38 | 38.30 | 43.30 | 48.50 | | 54.66 | 6 / 3 | | | | |
| | reaction time | 0.130 | interval | 4.20 | 4.40 | 4.37 | 4.57 | 4.73 | 4.78 | 4.92 | 5.00 | 6.16 | | | 12.97 | 14.08 | 15.12 | |
| | H1 lead leg | R | velocity | 7.11 | 8.33 | 7.95 | 8.01 | 7.66 | 7.40 | 7.32 | 7.11 | 7.00 | 6.73 | 6.49 | | 8.10 | 7.46 | 6.94 |
| | | | strides | 23 | 15 | 15 | 15 | 16 | 16 | 16 | 16 | 17 | 184 | | | | | |
| van der Walt, Zenéy (RSA) (2000) | time | 6.33 | 10.60 | 14.97 | 19.30 | 23.76 | 28.47 | 33.40 | 38.37 | 43.47 | 48.73 | | 54.81 | 3 / 4 | | | | |
| | reaction time | 0.162 | interval | 4.27 | 4.37 | 4.33 | 4.46 | 4.71 | 4.93 | 4.97 | 5.10 | 6.08 | PB | | 12.97 | 14.10 | 15.33 | |
| | H1 lead leg | L | velocity | 7.11 | 8.20 | 8.01 | 8.08 | 7.85 | 7.43 | 7.10 | 7.04 | 6.86 | 6.65 | 6.58 | | 8.10 | 7.45 | 6.85 |
| | | | strides | 22 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 16 | 19.7 | 180.7 | | | | |
| Couckuyt, Paulien (BEL) (1997) | time | 6.30 | 10.33 | 14.63 | 18.90 | 23.36 | 28.13 | 32.93 | 38.20 | 43.50 | 48.96 | | 55.42 | 8 / 5 | | | | |
| | reaction time | 0.201 | interval | 4.03 | 4.30 | 4.27 | 4.46 | 4.77 | 4.80 | 5.27 | 5.30 | 5.46 | 6.46 | | 12.60 | 14.03 | 16.03 | |
| | H1 lead leg | L | velocity | 7.14 | 8.68 | 8.14 | 8.20 | 7.85 | 7.34 | 7.29 | 6.64 | 6.60 | 6.41 | 6.19 | 7.22 | | 8.33 | 7.48 |
| | | | strides | 23 | 15 | 15 | 15 | 16 | 17 | 17 | 17 | 21 | 187 | | | | | |
| Bing, Portia (NZL) (1993) | time | 6.57 | 10.83 | 15.30 | 19.66 | 24.16 | 28.90 | | 38.76 | 43.94 | 49.32 | | 55.53 | 1 / 6 | | | | |
| | reaction time | 0.191 | interval | 4.26 | 4.47 | 4.36 | 4.50 | 4.74 | | 9.86 | 5.18 | 5.38 | 6.21 | | 13.09 | | | |
| | H1 lead leg | R | velocity | 6.85 | 8.22 | 7.83 | 8.03 | 7.78 | 7.38 | | 7.10 | 6.76 | 6.51 | 6.44 | | 8.02 | | |
| | | | strides | 22 | 14 | 14 | 14 | 14 | 15 | | 16 | 16 | 19 | 144 | | | | |
| Carli, Sarah (AUS) (1994) | time | 6.40 | 10.66 | 15.10 | 19.53 | 24.17 | 29.13 | 34.10 | 39.16 | 44.36 | 49.63 | | 55.57 | 7 / 7 | | | | |
| | reaction time | 0.257 | interval | 4.26 | 4.44 | 4.43 | 4.64 | 4.96 | 4.97 | 5.06 | 5.20 | 5.27 | 5.94 | | 13.13 | 14.57 | 15.53 | |
| | H1 lead leg | L | velocity | 7.03 | 8.22 | 7.88 | 7.90 | 7.54 | 7.06 | 7.04 | 6.92 | 6.73 | 6.64 | 6.73 | 7.20 | | 8.00 | 7.21 |
| | | | strides | 23 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 17 | 17 | 19.7 | 186.7 | | | |
| Sartori, Rebecca (ITA) (1997) | time | 6.38 | 10.60 | 15.06 | 19.40 | 24.00 | 28.92 | 33.93 | 39.20 | 44.53 | 49.86 | | 55.90 | 2 / 8 | | | | |
| | reaction time | 0.199 | interval | 4.22 | 4.46 | 4.34 | 4.60 | 4.92 | 5.01 | 5.27 | 5.33 | 6.04 | | | 13.02 | 14.53 | 15.93 | |
| | H1 lead leg | L | velocity | 7.05 | 8.29 | 7.85 | 8.06 | 7.61 | 7.11 | 6.99 | 6.64 | 6.57 | 6.62 | 7.16 | | 8.06 | 7.23 | 6.59 |
| | | | strides | 22 | 15 | 15 | 15 | 16 | 16 | 17 | 17 | 17 | 19.5 | 168.5 | | | | |



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

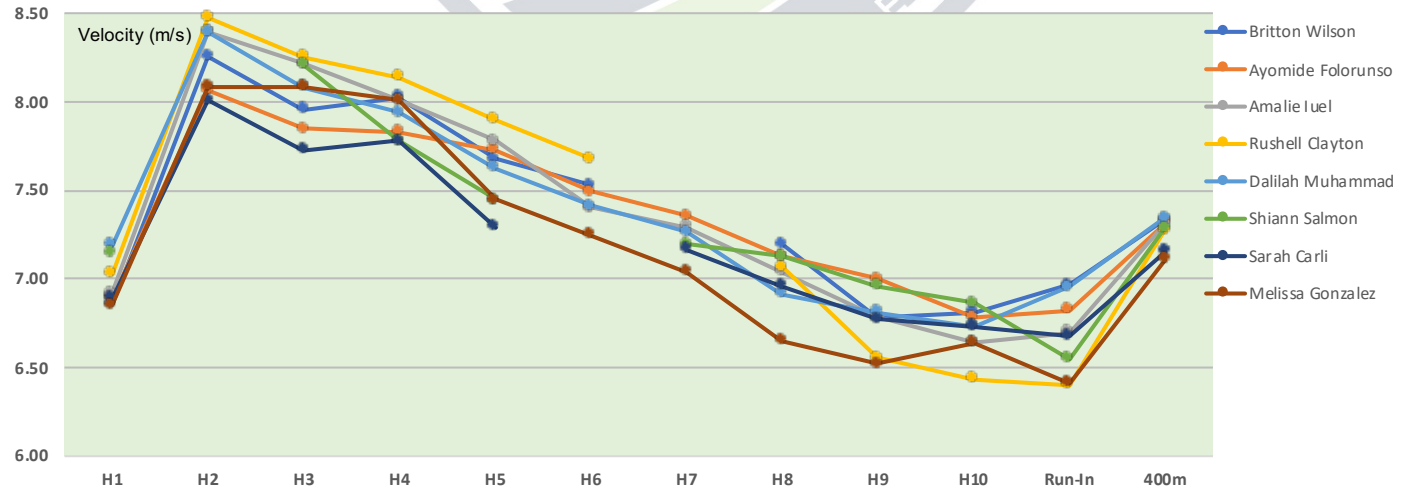
Heat 5

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Wilson, Britton (USA) (2000) | time | 6.56 | 10.80 | 15.20 | 19.56 | 24.12 | 28.77 | | 38.50 | 43.66 | 48.80 | | 54.54 | 4 / 1 | | | |
| | reaction time | 0.154 | | | | | | | | | | | | | | | |
| | interval | | 4.24 | 4.40 | 4.36 | 4.56 | 4.65 | | 9.73 | 5.16 | 5.14 | 5.74 | | | 13.00 | | |
| | velocity | 6.86 | 8.25 | 7.95 | 8.03 | 7.68 | 7.53 | | 7.19 | 6.78 | 6.81 | 6.97 | 7.33 | | 8.08 | | |
| H1 lead leg | R | | 23 | 15 | 15 | 15 | 15 | | | 16 | 16 | 18 | 148 | | | | |
| Folorunso, Ayomide (ITA) (1996) | time | 6.53 | 10.87 | 15.33 | 19.80 | 24.33 | 29.00 | 33.76 | 38.67 | 43.67 | 48.83 | | 54.69 | 5 / 2 | | | |
| | reaction time | 0.176 | | | | | | | | | | | | | | | |
| | interval | | 4.34 | 4.46 | 4.47 | 4.53 | 4.67 | 4.76 | 4.91 | 5.00 | 5.16 | 5.86 | | | 13.27 | 13.96 | 15.07 |
| | velocity | 6.89 | 8.06 | 7.85 | 7.83 | 7.73 | 7.49 | 7.35 | 7.13 | 7.00 | 6.78 | 6.83 | 7.31 | | 7.91 | 7.52 | 6.97 |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 15 | | 16 | 17 | 17 | 20 | 168 | | | | |
| Iuel, Amalie (NOR) (1996) | time | 6.50 | 10.67 | 14.93 | 19.30 | 23.80 | 28.53 | 33.33 | 38.30 | 43.46 | 48.73 | | 54.70 | 7 / 3 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | | | |
| | interval | | 4.17 | 4.26 | 4.37 | 4.50 | 4.73 | 4.80 | 4.97 | 5.16 | 5.27 | 5.97 | PB | | 12.80 | 14.03 | 15.40 |
| | velocity | 6.92 | 8.39 | 8.22 | 8.01 | 7.78 | 7.40 | 7.29 | 7.04 | 6.78 | 6.64 | 6.70 | 7.31 | | 8.20 | 7.48 | 6.82 |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 19 | 179 | | | | |
| Clayton, Rushell (JAM) (1992) | time | 6.40 | 10.53 | 14.77 | 19.07 | 23.50 | 28.06 | | 37.96 | 43.30 | 48.74 | | 54.99 | 2 / 4 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | | | |
| | interval | | 4.13 | 4.24 | 4.30 | 4.43 | 4.56 | | 9.90 | 5.34 | 5.44 | 6.25 | | | 12.67 | | |
| | velocity | 7.03 | 8.47 | 8.25 | 8.14 | 7.90 | 7.68 | | 7.07 | 6.55 | 6.43 | 6.40 | 7.27 | | 8.29 | | |
| H1 lead leg | L | | 22 | 15 | 15 | 15 | 15 | | | 17 | 17 | 19.5 | 150.5 | | | | |

Date 2022.07.19

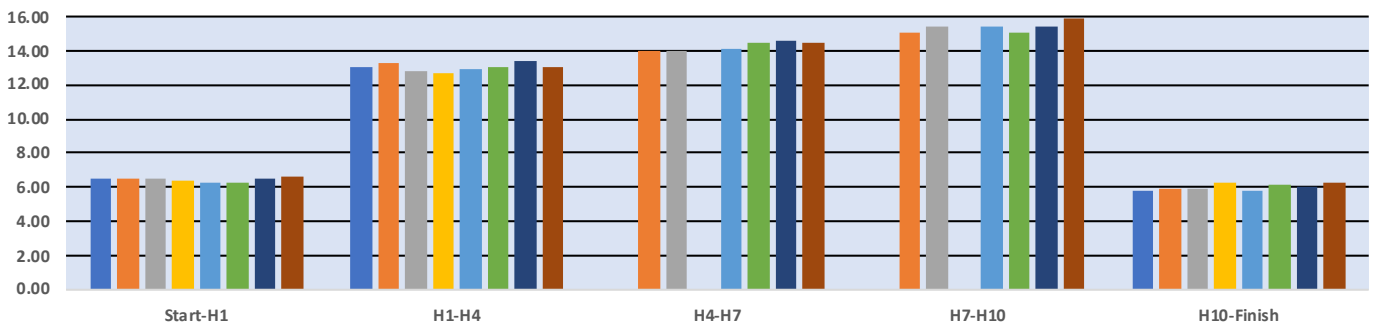
Heat 4

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|---------------------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Muhammad, Dalilah (USA) (1990) | time | 6.26 | 10.43 | 14.76 | 19.17 | 23.76 | 28.48 | 33.30 | 38.36 | 43.50 | 48.70 | | 54.45 | 3 / 1 | | | |
| | reaction time | 0.169 | | | | | | | | | | | | | | | |
| | interval | | 4.17 | 4.33 | 4.41 | 4.59 | 4.72 | 4.82 | 5.06 | 5.14 | 5.20 | 5.75 | | | 12.91 | 14.13 | 15.40 |
| | velocity | 7.19 | 8.39 | 8.08 | 7.94 | 7.63 | 7.42 | 7.26 | 6.92 | 6.81 | 6.73 | 6.96 | 7.35 | | 8.13 | 7.43 | 6.82 |
| H1 lead leg | R | | 22 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 19 | 1679 | | | | |
| Salmon, Shiann (JAM) (1999) | time | 6.30 | | 14.83 | 19.33 | 24.03 | | 33.76 | 38.67 | 43.70 | 48.80 | | 54.91 | 2 / 2 | | | |
| | reaction time | 0.176 | | | | | | | | | | | | | | | |
| | interval | | | 8.53 | 4.50 | 4.70 | | 9.73 | 4.91 | 5.03 | 5.10 | 6.11 | | | 13.03 | 14.43 | 15.04 |
| | velocity | 7.14 | | 8.21 | 7.78 | 7.45 | | 7.19 | 7.13 | 6.96 | 6.86 | 6.55 | 7.28 | | 8.06 | 7.28 | 6.98 |
| H1 lead leg | L | | 22 | | 15 | 15 | | | 16 | 16 | 16 | 19.7 | 119.7 | | | | |
| Carli, Sarah (AUS) (1994) | time | 6.53 | 10.90 | 15.43 | 19.93 | 24.73 | | 34.50 | 39.53 | 44.70 | 49.90 | | 55.89 | 4 / 3 | | | |
| | reaction time | 0.279 | | | | | | | | | | | | | | | |
| | interval | | 4.37 | 4.53 | 4.50 | 4.80 | | 9.77 | 5.03 | 5.17 | 5.20 | 5.99 | | | 13.40 | 14.57 | 15.40 |
| | velocity | 6.89 | 8.01 | 7.73 | 7.78 | 7.29 | | 7.16 | 6.96 | 6.77 | 6.73 | 6.68 | 7.16 | | 7.84 | 7.21 | 6.82 |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 16 | | | 16 | 17 | 19.2 | 153.2 | | | | |
| Gonzalez, Melissa (COL) (1994) | time | 6.57 | 10.90 | 15.23 | 19.60 | 24.30 | 29.13 | 34.10 | 39.36 | 44.73 | 50.00 | | 56.24 | 5 / 4 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | | | |
| | interval | | 4.33 | 4.33 | 4.37 | 4.70 | 4.83 | 4.97 | 5.26 | 5.37 | 5.27 | 6.24 | | | 13.03 | 14.50 | 15.90 |
| | velocity | 6.85 | 8.08 | 8.08 | 8.01 | 7.45 | 7.25 | 7.04 | 6.65 | 6.52 | 6.64 | 6.41 | 7.11 | | 8.06 | 7.24 | 6.60 |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 17 | 20 | 187 | | | | |



Time Intervals (s)

Hurdle Phases



Heat 5

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: Gun Flash

Source: <https://www.youtube.com/watch?v=FRLzKktf6RA>

Heat 4

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 30fps

Timing From: Gun Flash

Source: <https://www.youtube.com/watch?v=FRLzKktf6RA>

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

Women's 400m Hurdles

Date 2022.07.19

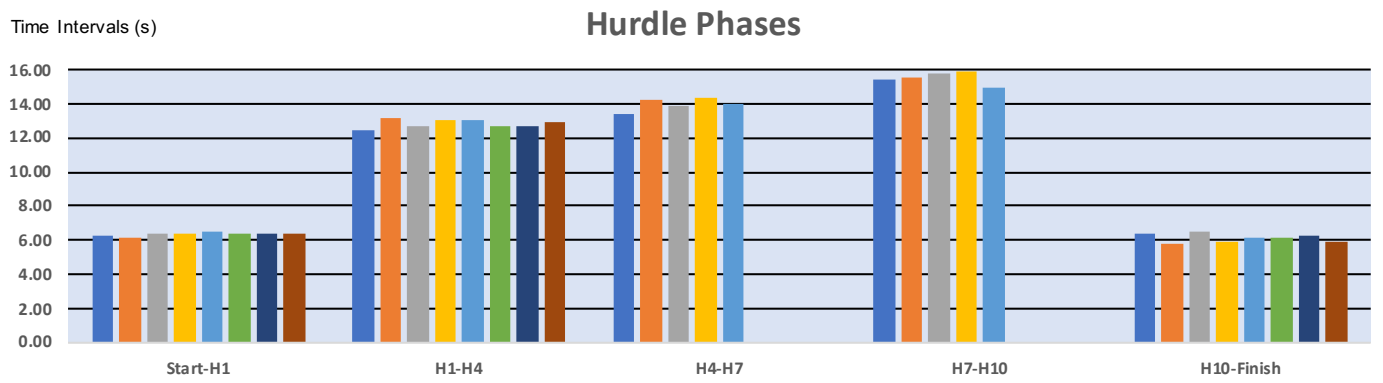
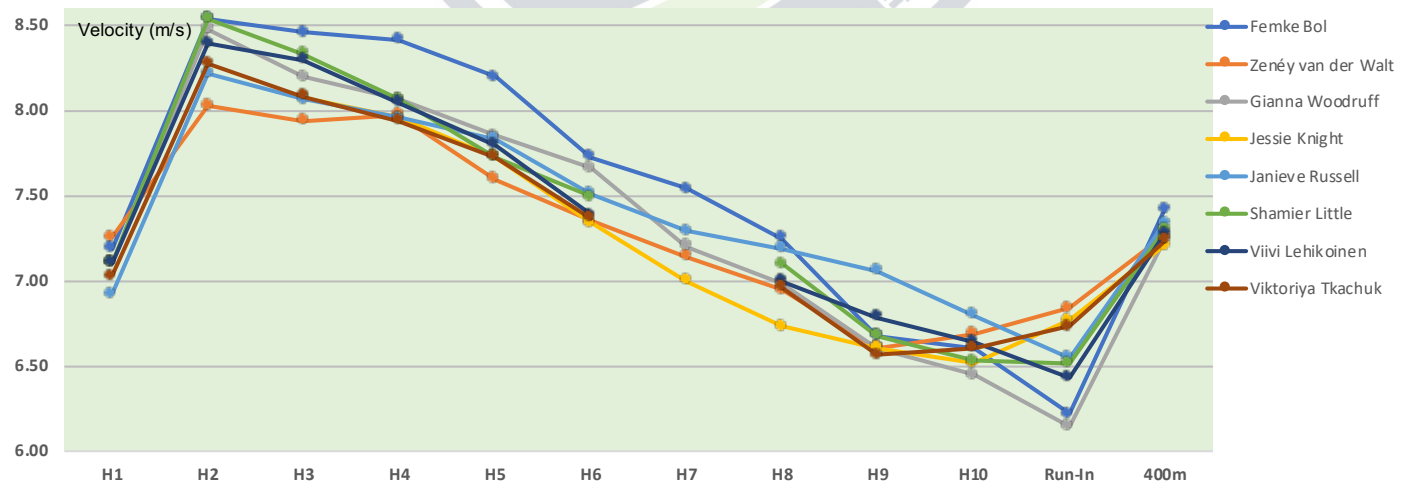
Heat 3

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|---|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Bol, Femke (NED) (2000) | time | 6.26 | 10.36 | 14.50 | 18.66 | 22.93 | 27.46 | 32.10 | 36.93 | 42.17 | 47.47 | | 53.90 | 8 / 1 | | | |
| | reaction time | 0.191 | | | | | | | | | | | | | | | |
| | interval | | 4.10 | 4.14 | 4.16 | 4.27 | 4.53 | 4.64 | 4.83 | 5.24 | 5.30 | 6.43 | | | 12.40 | 13.44 | 15.37 |
| | velocity | 7.19 | 8.54 | 8.45 | 8.41 | 8.20 | 7.73 | 7.54 | 7.25 | 6.68 | 6.60 | 6.22 | 7.42 | | 8.47 | 7.81 | 6.83 |
| H1 lead leg | L | | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 18.7 | 177.7 | | | | |
| van der Walt, Zenéy (RSA) (2000) | time | 6.20 | 10.56 | 14.97 | 19.36 | 23.97 | 28.73 | 33.63 | 38.67 | 43.97 | 49.20 | | 55.05 | 7 / 2 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | | | |
| | interval | | 4.36 | 4.41 | 4.39 | 4.61 | 4.76 | 4.90 | 5.04 | 5.30 | 5.23 | 5.85 | | | 13.16 | 14.27 | 15.57 |
| | velocity | 7.26 | 8.03 | 7.94 | 7.97 | 7.59 | 7.35 | 7.14 | 6.94 | 6.60 | 6.69 | 6.84 | 7.27 | | 7.98 | 7.36 | 6.74 |
| H1 lead leg | L | | 22 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 19 | 179 | | | | |
| Woodruff, Gianna (PAN) (1993) | time | 6.33 | 10.46 | 14.73 | 19.07 | 23.53 | 28.10 | 32.96 | 37.97 | 43.27 | 48.70 | | 55.21 | 6 / 3 | | | |
| | reaction time | 0.185 | | | | | | | | | | | | | | | |
| | interval | | 4.13 | 4.27 | 4.34 | 4.46 | 4.57 | 4.86 | 5.01 | 5.30 | 5.43 | 6.51 | | | 12.74 | 13.89 | 15.74 |
| | velocity | 7.11 | 8.47 | 8.20 | 8.06 | 7.85 | 7.66 | 7.20 | 6.99 | 6.60 | 6.45 | 6.14 | 7.25 | | 8.24 | 7.56 | 6.67 |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 17 | 20 | 184 | | | | |
| Knight, Jessie (GBR) (1994) | time | 6.33 | | 15.00 | 19.40 | 23.93 | 28.70 | 33.70 | 38.90 | 44.20 | 49.57 | | 55.48 | 2 / 4 | | | |
| | reaction time | 0.144 | | | 8.67 | 4.40 | 4.53 | 4.77 | 5.00 | 5.20 | 5.30 | 5.91 | | | 13.07 | 14.30 | 15.87 |
| | interval | | | | 8.07 | 7.95 | 7.73 | 7.34 | 7.00 | 6.73 | 6.60 | 6.52 | 7.21 | | 8.03 | 7.34 | 6.62 |
| | velocity | 7.11 | | | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 19 | 126 | | | |
| H1 lead leg | R | | | | | | | | | | | | | | | | |

Date 2022.07.19

Heat 2

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Russell, Janieve (JAM) (1993) | time | 6.50 | 10.76 | 15.10 | 19.50 | 23.97 | 28.63 | 33.43 | 38.30 | 43.26 | 48.41 | | 54.52 | 5 / 1 | | | |
| | reaction time | 0.124 | | | | | | | | | | | | | | | |
| | interval | | 4.26 | 4.34 | 4.40 | 4.47 | 4.66 | 4.80 | 4.87 | 4.96 | 5.15 | 6.11 | | | 13.00 | 13.93 | 14.98 |
| | velocity | 6.92 | 8.22 | 8.06 | 7.95 | 7.83 | 7.51 | 7.29 | 7.19 | 7.06 | 6.80 | 6.55 | 7.34 | | 8.08 | 7.54 | 7.01 |
| H1 lead leg | R | | 23 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 16 | 19.5 | 181.5 | | | | |
| Little, Shamier (USA) (1995) | time | 6.33 | 10.43 | 14.63 | 18.97 | 23.50 | 28.17 | | 38.03 | 43.27 | 48.63 | | 54.77 | 8 / 2 | | | |
| | reaction time | 0.165 | | | | | | | | | | | | | | | |
| | interval | | 4.10 | 4.20 | 4.34 | 4.53 | 4.67 | | 9.86 | 5.24 | 5.36 | 6.14 | | | 12.64 | | |
| | velocity | 7.11 | 8.54 | 8.33 | 8.06 | 7.73 | 7.49 | | 7.10 | 6.68 | 6.53 | 6.51 | 7.30 | | 8.31 | | |
| H1 lead leg | R | | 23 | 15 | 15 | 15 | 15 | | | 16 | 16 | 19 | 149 | | | | |
| Lehikoinen, Viivi (FIN) (1999) | time | 6.33 | 10.50 | 14.72 | 19.07 | 23.56 | 28.30 | | 38.30 | 43.46 | 48.73 | | 54.95 | 3 / 3 | | | |
| | reaction time | 0.165 | | | | | | | | | | | | | | | |
| | interval | | 4.17 | 4.22 | 4.35 | 4.49 | 4.74 | | 10.00 | 5.16 | 5.27 | 6.22 | | | 12.74 | | |
| | velocity | 7.11 | 8.39 | 8.29 | 8.05 | 7.80 | 7.38 | | 7.00 | 6.78 | 6.64 | 6.43 | 7.28 | | 8.24 | | |
| H1 lead leg | R | | 23 | 15 | 15 | 16 | 16 | | | 17 | 17 | 20.2 | 154.2 | | | | |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.40 | 10.63 | 14.96 | 19.37 | 23.90 | 28.65 | | 38.70 | 44.03 | 49.33 | | 55.27 | 2 / 4 | | | |
| | reaction time | 0.199 | | | | | | | | | | | | | | | |
| | interval | | 4.23 | 4.33 | 4.41 | 4.53 | 4.75 | | 10.05 | 5.33 | 5.30 | 5.94 | | | 12.97 | | |
| | velocity | 7.03 | 8.27 | 8.08 | 7.94 | 7.73 | 7.37 | | 6.97 | 6.57 | 6.60 | 6.73 | 7.24 | | 8.10 | | |
| H1 lead leg | L | | 15 | 15 | 15 | 15 | 15 | | | 17 | 17 | 19.2 | 128.2 | | | | |



Heat 3
 Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=FRLzKktf6RA>

Heat 2
 Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: First Movement
 Source: <https://www.youtube.com/watch?v=FRLzKktf6RA>

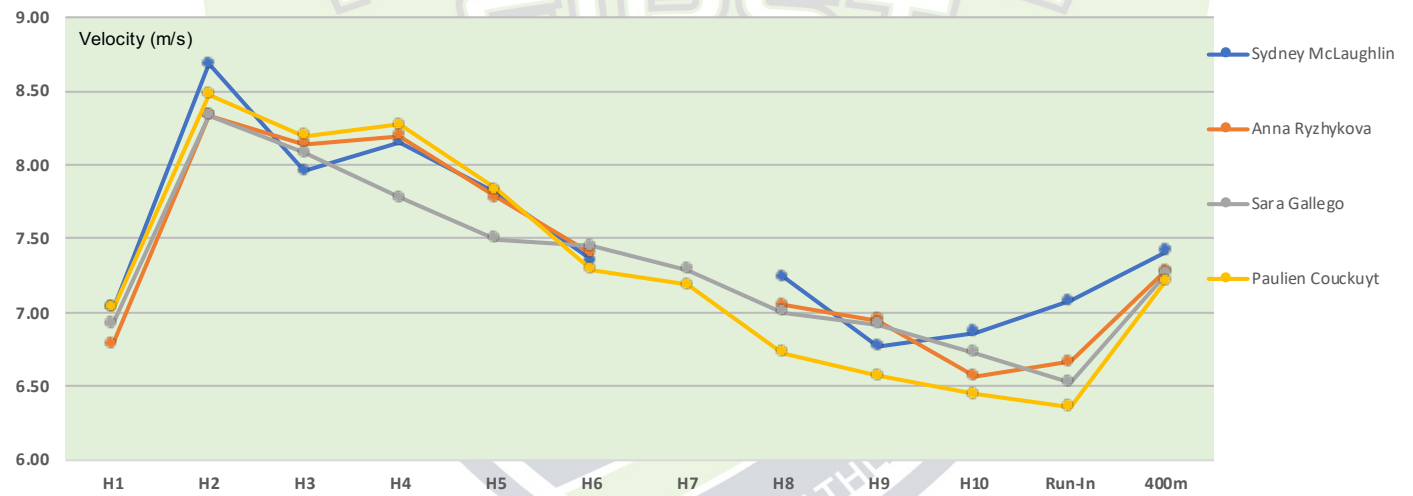
2022 World Athletics Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.07.19

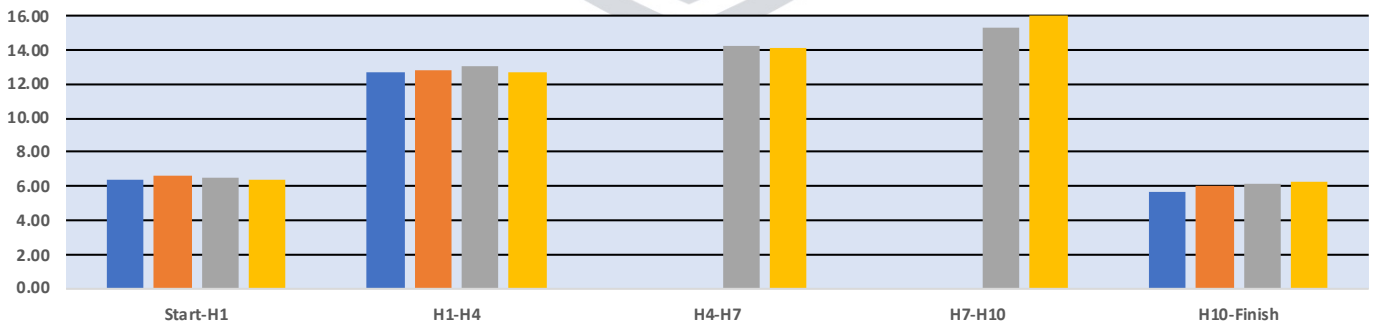
Heat 1

| | | 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 | | 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 | 7.41 | | | | 8.25 |
| H1 lead leg | R | | 22 | 14 | 14 | 14 | 14 | 15 | | 16 | 16 | 18 | 143 | | | | |
| 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 | | 4.20 | 4.30 | 4.27 | 4.50 | 4.73 | | 9.93 | 5.04 | 5.33 | 6.00 | | | | | 12.77 |
| | velocity | 6.79 | 8.33 | 8.14 | 8.20 | 7.78 | 7.40 | | 7.05 | 6.94 | 6.57 | 6.67 | 7.28 | | | | 8.22 |
| H1 lead leg | R | | 22 | 14 | 14 | 14 | 14 | 15 | | 15 | 15 | 19.2 | 142.2 | | | | |
| 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 | | 4.20 | 4.33 | 4.50 | 4.67 | 4.70 | 4.80 | 5.00 | 5.06 | 5.20 | 6.13 | | | | | 13.03 |
| | velocity | 6.92 | 8.33 | 8.08 | 7.78 | 7.49 | 7.45 | 7.29 | 7.00 | 6.92 | 6.73 | 6.53 | 7.26 | | | | 14.17 |
| H1 lead leg | L | | 23 | 15 | 16 | 16 | 16 | 16 | 17 | 17 | 17 | 20.2 | 189.2 | | 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 | | 4.13 | 4.27 | 4.23 | 4.47 | 4.80 | 4.87 | 5.20 | 5.33 | 5.43 | 6.29 | | | | | 12.63 |
| | velocity | 7.03 | 8.47 | 8.20 | 8.27 | 7.83 | 7.29 | 7.19 | 6.73 | 6.57 | 6.45 | 6.36 | 7.22 | | | | 14.14 |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 16 | 16 | 17 | 17 | 17 | 21 | 187 | | 8.31 | 7.43 | 6.58 |



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=FRLzKkif6RA>

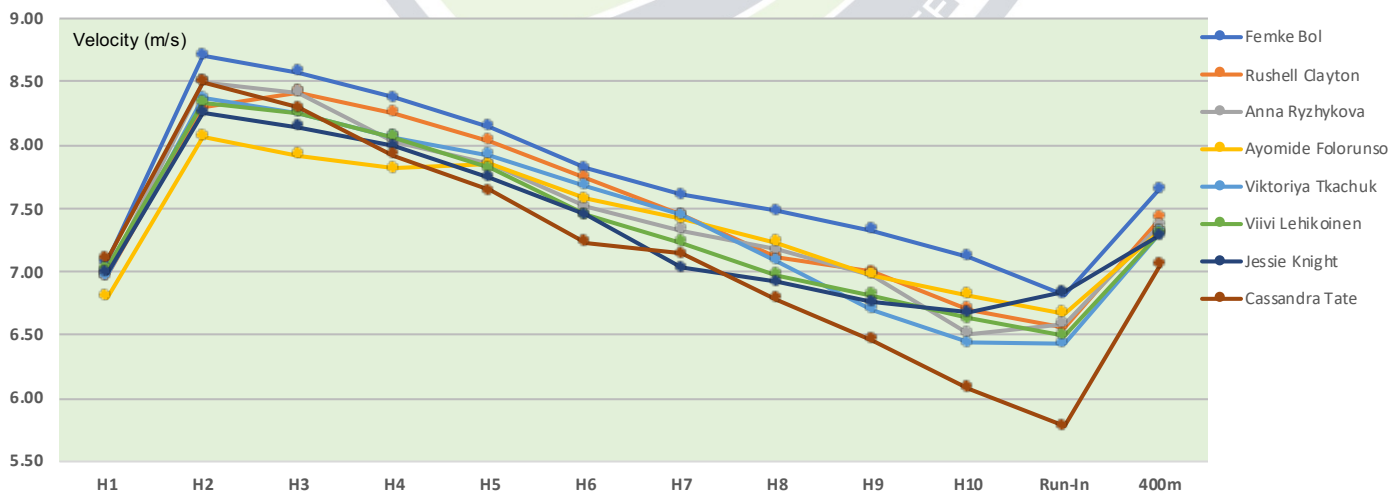
2022 Bauhaus Galan (Stockholm, SWE) (TV Analysis)

Women's 400m Hurdles

Date 2022.06.30

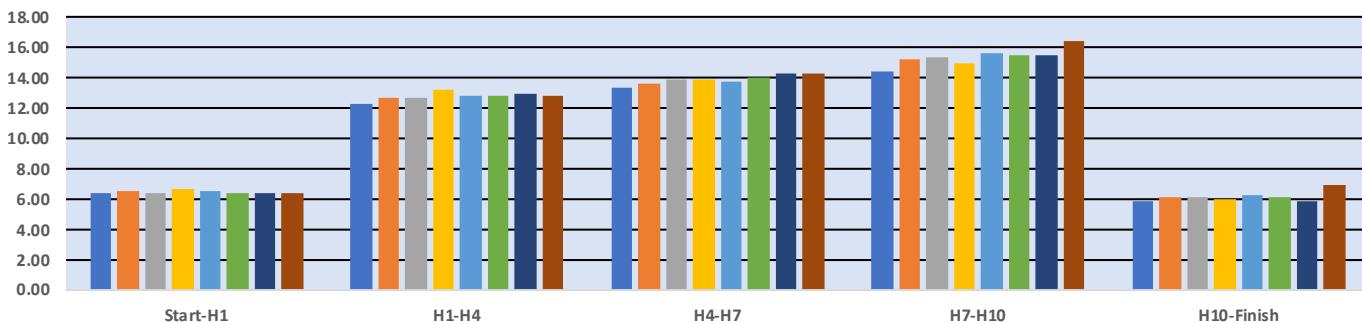
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Bol, Femke (NED) (2000) | time | 6.36 | 10.38 | 14.46 | 18.64 | 22.94 | 27.42 | 32.02 | 36.70 | 41.48 | 46.40 | | 52.27 | 6 / 1 | | | |
| | reaction time | 0.203 | | | | | | | | | | | | | | | |
| | interval velocity | 7.08 | 8.71 | 8.58 | 8.37 | 8.14 | 7.81 | 7.61 | 7.48 | 7.32 | 7.11 | 6.81 | 7.65 | | 12.28 | 13.38 | 14.38 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.55 | 7.85 | 7.30 |
| Clayton, Rushell (JAM) (1992) | time | 6.46 | 10.68 | 14.84 | 19.08 | 23.44 | 27.96 | 32.66 | 37.58 | 42.58 | 47.80 | | 53.90 | 7 / 2 | | | |
| | reaction time | 0.143 | | | | | | | | | | | | | | | |
| | interval velocity | 6.97 | 8.29 | 8.41 | 8.25 | 8.03 | 7.74 | 7.45 | 7.11 | 7.00 | 6.70 | 6.56 | 7.42 | | 12.62 | 13.58 | 15.14 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.32 | 7.73 | 6.94 |
| Ryzhykova, Anna (UKR) (1989) | time | 6.44 | 10.56 | 14.72 | 19.08 | 23.54 | 28.20 | 32.98 | 37.86 | 42.88 | 48.26 | | 54.33 | 4 / 3 | | | |
| | reaction time | 0.165 | | | | | | | | | | | | | | | |
| | interval velocity | 6.99 | 8.50 | 8.41 | 8.03 | 7.85 | 7.51 | 7.32 | 7.17 | 6.97 | 6.51 | 6.59 | 7.36 | | 12.64 | 13.90 | 15.28 |
| H1 lead leg | R | | | | | | | | | | | | | | 8.31 | 7.55 | 6.87 |
| Folorunso, Ayomide (ITA) (1996) | time | 6.62 | 10.96 | 15.38 | 19.86 | 24.32 | 28.94 | 33.66 | 38.50 | 43.52 | 48.66 | | 54.66 | 3 / 4 | | | |
| | reaction time | 0.192 | | | | | | | | | | | | | | | |
| | interval velocity | 6.80 | 8.06 | 7.92 | 7.81 | 7.85 | 7.58 | 7.42 | 7.23 | 6.97 | 6.81 | 6.67 | 7.32 | | 13.24 | 13.80 | 15.00 |
| H1 lead leg | L | | | | | | | | | | | | | | 7.93 | 7.61 | 7.00 |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.46 | 10.64 | 14.88 | 19.22 | 23.64 | 28.20 | 32.90 | 37.84 | 43.06 | 48.50 | | 54.72 | 8 / 5 | | | |
| | reaction time | 0.244 | | | | | | | | | | | | | | | |
| | interval velocity | 6.97 | 8.37 | 8.25 | 8.06 | 7.92 | 7.68 | 7.45 | 7.09 | 6.70 | 6.43 | 6.43 | 7.31 | | 12.76 | 13.68 | 15.60 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.23 | 7.68 | 6.73 |
| Lehikoinen, Viivi (FIN) (1999) | time | 6.40 | 10.60 | 14.84 | 19.18 | 23.66 | 28.36 | 33.20 | 38.22 | 43.36 | 48.64 | | 54.80 | 2 / 6 | | | |
| | reaction time | 0.180 | | | | | | | | | | | | | | | |
| | interval velocity | 7.03 | 8.33 | 8.25 | 8.06 | 7.81 | 7.45 | 7.23 | 6.97 | 6.81 | 6.63 | 6.49 | 7.30 | | 12.78 | 14.02 | 15.44 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.22 | 7.49 | 6.80 |
| Knight, Jessie (GBR) (1994) | time | 6.44 | 10.68 | 14.98 | 19.36 | 23.88 | 28.58 | 33.56 | 38.62 | 43.80 | 49.04 | | 54.89 | 5 / 7 | | | |
| | reaction time | 0.157 | | | | | | | | | | | | | | | |
| | interval velocity | 6.99 | 8.25 | 8.14 | 7.99 | 7.74 | 7.45 | 7.03 | 6.92 | 6.76 | 6.68 | 6.84 | 7.29 | | 12.92 | 14.20 | 15.48 |
| H1 lead leg | R | | | | | | | | | | | | | | 8.13 | 7.39 | 6.78 |
| Tate, Cassandra (USA) (1990) | time | 6.34 | 10.46 | 14.68 | 19.10 | 23.68 | 28.52 | 33.42 | 38.58 | 44.00 | 49.76 | | 56.68 | 1 / 8 | | | |
| | reaction time | 0.214 | | | | | | | | | | | | | | | |
| | interval velocity | 7.10 | 8.50 | 8.29 | 7.92 | 7.64 | 7.23 | 7.14 | 6.78 | 6.46 | 6.08 | 5.78 | 7.06 | | 12.76 | 14.32 | 16.34 |
| H1 lead leg | L | | | | | | | | | | | | | | 8.23 | 7.33 | 6.43 |



Time Intervals (s)

Hurdle Phases



Evaluated with: ObjectusVideo

Quality & Frame Rate: 1920 x 1080 @ 50fps

Timing From: First Movement

Source: <https://www.youtube.com/watch?v=52zTAhBw4Bk>

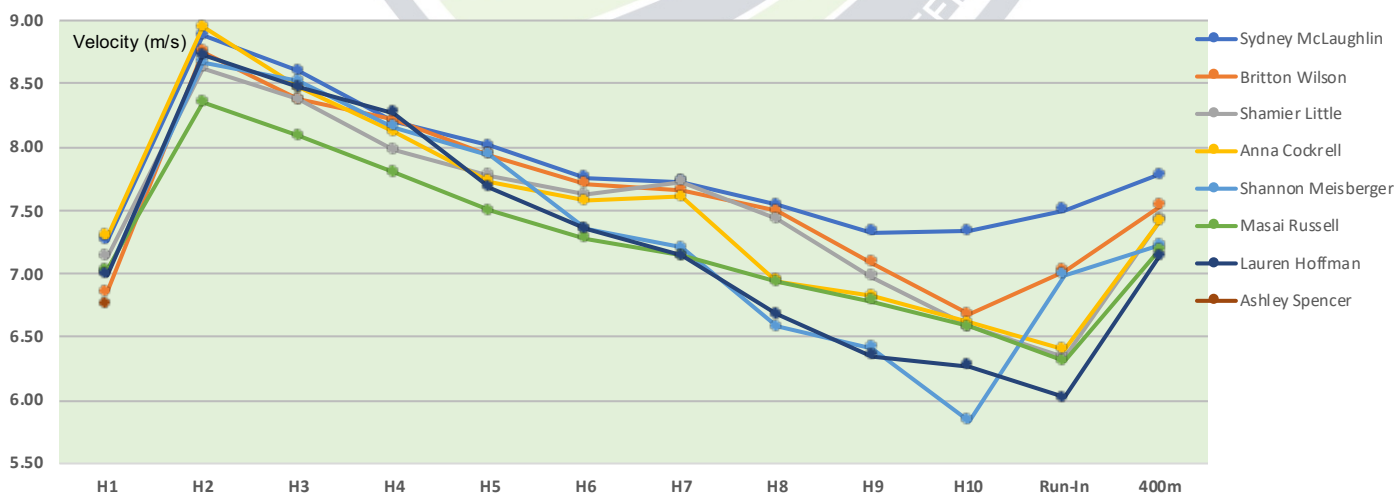
2022 USATF National Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.06.25

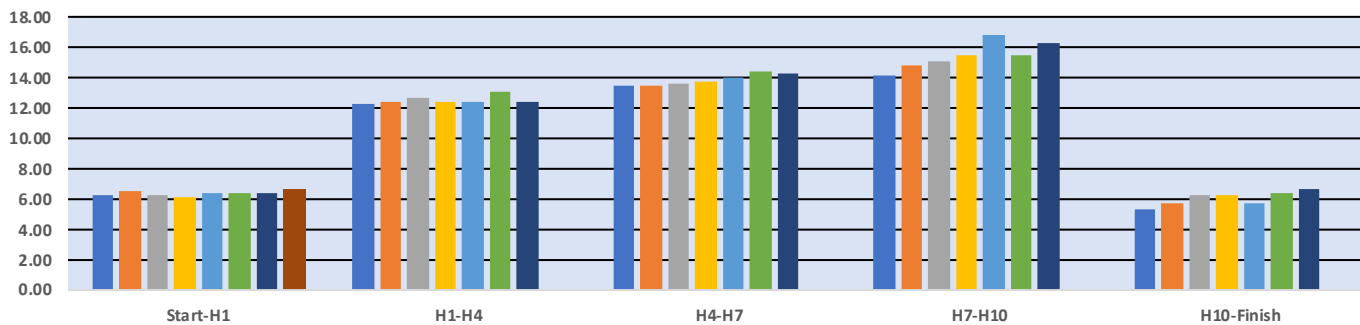
FINAL

| | | 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 | 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 |
| H1 lead leg | R | | | | | | | | | | | | 18.2 | 168.2 | | | |
| 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 | 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 |
| H1 lead leg | R | | | | | | | | | | | | 160 | | | | |
| 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 |
| H1 lead leg | R | | | | | | | | | | | | 144 | | | | |
| 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 |
| H1 lead leg | L | | | | | | | | | | | | 142 | | | | |
| 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 |
| H1 lead leg | L | | | | | | | | | | | | 130 | | | | |
| 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 |
| H1 lead leg | R | | | | | | | | | | | | 139 | | | | |
| 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 |
| H1 lead leg | L | | | | | | | | | | | | 135 | | | | |
| Spencer, Ashley (USA) (1993) | time | 6.67 | | | | | | | | | | | | dnf | 3 / -- | | |
| | reaction time | | | | | | | | | | | | | | | | |
| | interval | 6.75 | | | | | | | | | | | | | | | |
| H1 lead leg | R | | | | | | | | | | | | 23 | | | | |



Time Intervals (s)

Hurdle Phases



First & 2nd Place

3rd - 7th Place

Evaluated with: ObjectusVideo

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

Quality & Frame Rate: 1920 x 1080 @ 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=6aGddPD9Jfs>

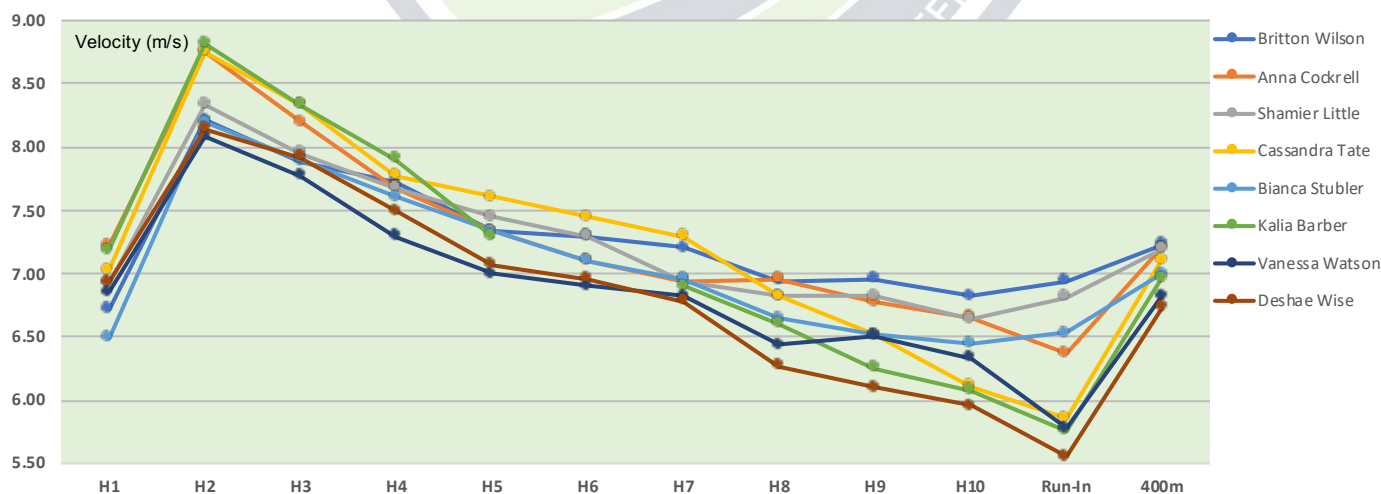
2022 USATF National Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.06.24

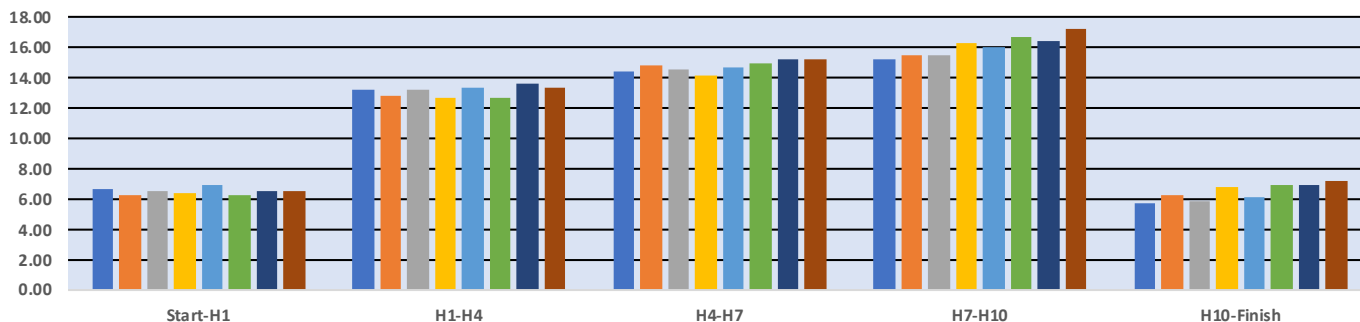
Semi-Final 2

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|-------------------------------------|---------------|------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Wilson, Britton (USA) (2000) | time | 6.70 | 10.96 | 15.40 | 19.93 | 24.70 | 29.50 | 34.36 | 39.40 | 44.43 | 49.56 | 55.32 | 55.32 | 6 / 1 | | | |
| | reaction time | | interval | 4.26 | 4.44 | 4.53 | 4.77 | 4.80 | 4.86 | 5.04 | 5.13 | 5.76 | | | 13.23 | 14.43 | 15.20 |
| | velocity | 6.72 | 8.22 | 7.88 | 7.73 | 7.34 | 7.29 | 7.20 | 6.94 | 6.96 | 6.82 | 6.94 | 7.23 | | 7.94 | 7.28 | 6.91 |
| | H1 lead leg | L | strides | 24 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 18.5 | 186.5 | | | |
| Cockrell, Anna (USA) (1997) | time | 6.23 | 10.23 | 14.50 | 19.06 | 23.83 | 28.76 | 33.80 | 38.83 | 44.00 | 49.26 | 55.54 | 55.54 | 5 / 2 | | | |
| | reaction time | | interval | 4.00 | 4.27 | 4.56 | 4.77 | 4.93 | 5.04 | 5.03 | 5.17 | 5.26 | 6.28 | | 12.83 | 14.74 | 15.46 |
| | velocity | 7.22 | 8.75 | 8.20 | 7.68 | 7.34 | 7.10 | 6.94 | 6.96 | 6.77 | 6.65 | 6.37 | 7.20 | | 8.18 | 7.12 | 6.79 |
| | H1 lead leg | L | strides | 22 | 14 | 14 | 15 | 15 | 16 | 16 | 16 | 20 | 179 | | | | |
| Little, Shamier (USA) (1995) | time | 6.50 | 10.70 | 15.10 | 19.66 | 24.36 | 29.16 | 34.20 | 39.33 | 44.46 | 49.73 | 55.60 | 55.60 | 7 / 3 | | | |
| | reaction time | | interval | 4.20 | 4.40 | 4.56 | 4.70 | 4.80 | 5.04 | 5.13 | 5.13 | 5.27 | 5.87 | | 13.16 | 14.54 | 15.53 |
| | velocity | 6.92 | 8.33 | 7.95 | 7.68 | 7.45 | 7.29 | 6.94 | 6.82 | 6.82 | 6.64 | 6.81 | 7.19 | | 7.98 | 7.22 | 6.76 |
| | H1 lead leg | R | strides | 23 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 20 | 182 | | | | |
| Tate, Cassandra (USA) (1990) | time | 6.40 | 10.40 | 14.60 | 19.10 | 23.70 | 28.40 | 33.20 | 38.33 | 43.70 | 49.43 | 56.26 | 56.26 | 4 / 4 | | | |
| | reaction time | | interval | 4.00 | 4.20 | 4.50 | 4.60 | 4.70 | 4.80 | 5.13 | 5.37 | 5.73 | 6.83 | | 12.70 | 14.10 | 16.23 |
| | velocity | 7.03 | 8.75 | 8.33 | 7.78 | 7.61 | 7.45 | 7.29 | 6.82 | 6.52 | 6.11 | 5.86 | 7.11 | | 8.27 | 7.45 | 6.47 |
| | H1 lead leg | R | strides | 22 | 14 | 14 | 15 | 15 | 15 | 15 | 16 | 17 | 21 | 179 | | | |
| Stubler, Bianca (USA) (1999) | time | 6.93 | 11.20 | 15.63 | 20.23 | 25.00 | 29.93 | 34.96 | 40.23 | 45.60 | 51.03 | 57.15 | 57.15 | 2 / 5 | | | |
| | reaction time | | interval | 4.27 | 4.43 | 4.60 | 4.77 | 4.93 | 5.03 | 5.27 | 5.37 | 5.43 | 6.12 | | 13.30 | 14.73 | 16.07 |
| | velocity | 6.49 | 8.20 | 7.90 | 7.61 | 7.34 | 7.10 | 6.96 | 6.64 | 6.52 | 6.45 | 6.54 | 7.00 | | 7.89 | 7.13 | 6.53 |
| | H1 lead leg | L | strides | 24 | 16 | 16 | 16 | 16 | 17 | 17 | 17 | 20 | 176 | | | | |
| Barber, Kaila (USA) (1993) | time | 6.26 | 10.23 | 14.43 | 18.86 | 23.66 | 28.46 | 33.80 | 39.10 | 44.70 | 50.46 | 57.41 | 57.41 | 3 / 6 | | | |
| | reaction time | | interval | 3.97 | 4.20 | 4.43 | 4.80 | 5.03 | 5.30 | 5.60 | 5.76 | 6.95 | | 12.60 | 14.94 | 16.66 | |
| | velocity | 7.19 | 8.82 | 8.33 | 7.90 | 7.29 | 6.90 | 6.60 | 6.25 | 6.08 | 5.76 | 6.97 | | 8.33 | 7.03 | 6.30 | |
| | H1 lead leg | L | strides | 23 | 15 | 15 | 15 | 16 | 17 | 17 | 17 | 21 | 156 | | | | |
| Watson, Vanessa (USA) (2001) | time | 6.57 | 10.90 | 15.40 | 20.20 | 25.20 | 30.27 | 35.40 | 40.84 | 46.22 | 51.75 | 58.67 | 58.67 | 9 / 7 | | | |
| | reaction time | | interval | 4.33 | 4.50 | 4.80 | 5.00 | 5.07 | 5.13 | 5.44 | 5.38 | 5.53 | 6.92 | | 13.63 | 15.20 | 16.35 |
| | velocity | 6.85 | 8.08 | 7.78 | 7.29 | 7.00 | 6.90 | 6.82 | 6.43 | 6.51 | 6.33 | 5.78 | 6.82 | | 7.70 | 6.91 | 6.42 |
| | H1 lead leg | R | strides | 24 | 16 | 16 | 16 | 17 | 17 | 17 | 17 | 140 | | | | | |
| Wise, Deshae (USA) (1999) | time | 6.49 | 10.79 | 15.21 | 19.88 | 24.83 | 29.86 | 35.02 | 40.60 | 46.34 | 52.22 | 59.42 | 59.42 | 8 / 8 | | | |
| | reaction time | | interval | 4.30 | 4.42 | 4.67 | 4.95 | 5.03 | 5.16 | 5.58 | 5.74 | 5.88 | 7.20 | | 13.39 | 15.14 | 17.20 |
| | velocity | 6.93 | 8.14 | 7.92 | 7.49 | 7.07 | 6.96 | 6.78 | 6.27 | 6.10 | 5.95 | 5.56 | 6.73 | | 7.84 | 6.94 | 6.10 |
| | H1 lead leg | R | strides | 24 | 16 | 16 | 16 | 16 | 16 | 17 | 17 | 138 | | | | | |



Time Intervals (s)

Hurdle Phases



1st - 6th Place

Evaluated with: ObjectusVideo

Quality & Frame Rate: 1280 x 720 @ 30fps

Timing From: Gun Flash

Source: <https://www.youtube.com/watch?v=4aPGPscxl2l>

7th & 8th 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

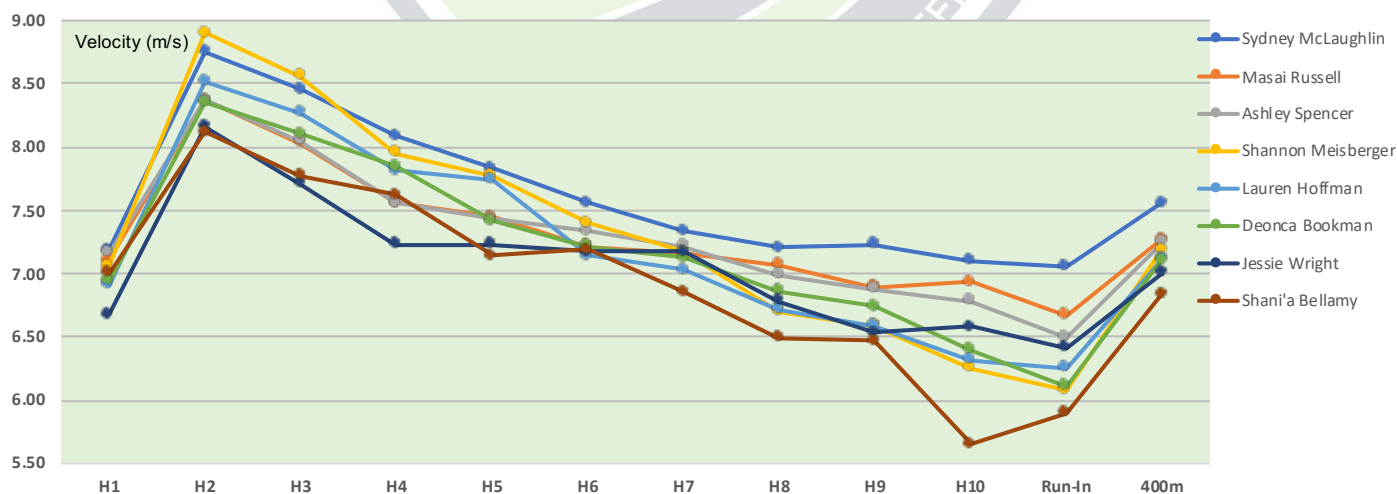
2022 USATF National Championships (Eugene, OR) (TV Analysis)

Women's 400m Hurdles

Date 2022.06.24

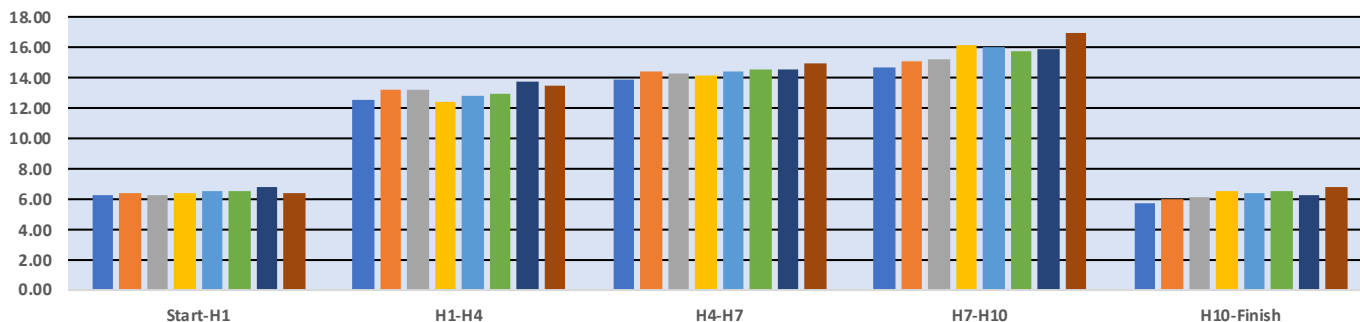
Semi-Final 1

| | | 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 | 52.90 | 5 / 1 | | | |
| | reaction time | | 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 | 22 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 16 | 18.2 | 172.2 | | | | |
| 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 | | 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 | 24 | 16 | 16 | 16 | 16 | 17 | 17 | 17 | 17 | 17 | 139 | | | | | |
| 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 | | 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 | 7.22 | 6.99 | 6.88 | 6.78 | 6.49 | 7.25 | | | 7.98 | 7.33 | 6.88 |
| | H1 lead leg L | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 127 | | | | | |
| 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 | | 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 | 22 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 17 | 147 | | | | | |
| 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 | | 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 | 23 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 17 | 17 | 133 | | | | | |
| 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 | | 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 | 24 | 16 | 16 | 16 | 17 | 17 | 17 | 18 | 18 | 18 | 124 | | | | | |
| 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 | | 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 | 24 | 16 | 17 | 17 | 17 | 17 | 17 | 18 | 18 | 18 | 126 | | | | | |
| 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 | | 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 | 23 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 115 | | | | | |



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=4aPGPscx12I>

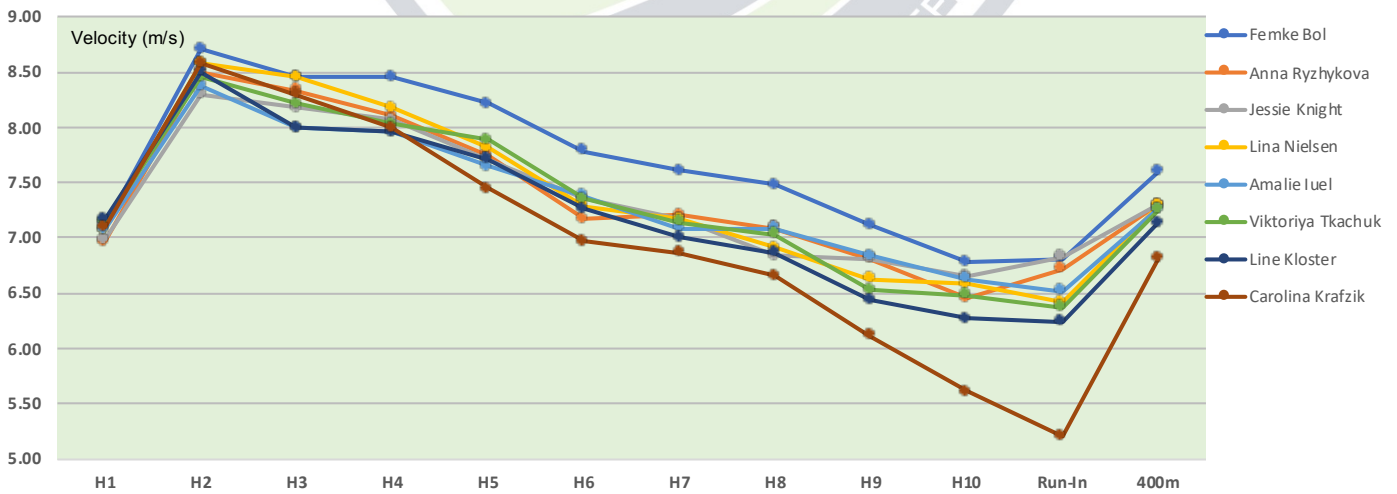
2022 Bislett Games (Oslo, NOR) (TV Analysis)

Women's 400m Hurdles

Date 2022.06.16

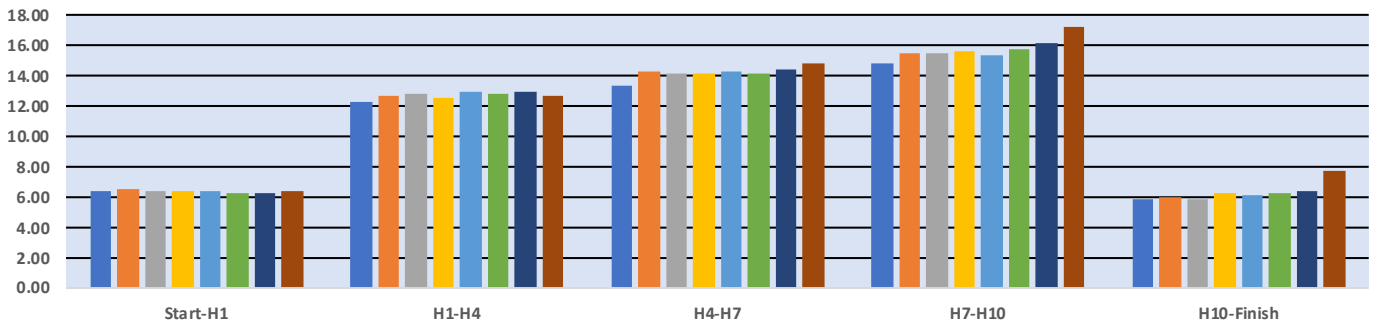
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 | |
|--|---------------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------|--------------|-------|-------|--------|------|
| Bol, Femke (NED) (2000) | time | 6.32 | 10.34 | 14.48 | 18.62 | 22.88 | 27.38 | 31.98 | 36.66 | 41.58 | 46.74 | 52.61 | | 6 / 1 | | | | |
| | reaction time | 0.177 | interval | 4.02 | 4.14 | 4.14 | 4.26 | 4.50 | 4.60 | 4.68 | 4.92 | 5.16 | 5.87 | | 12.30 | 13.36 | 14.76 | |
| | H1 lead leg | L | velocity | 7.12 | 8.71 | 8.45 | 8.45 | 8.22 | 7.78 | 7.61 | 7.48 | 7.11 | 6.78 | 6.81 | 7.60 | 8.54 | 7.86 | 7.11 |
| | | | strides | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 19.5 | 177.5 | | | | |
| Ryzhykova, Anna (UKR) (1989) | time | 6.46 | 10.58 | 14.78 | 19.10 | 23.62 | 28.50 | 33.36 | 38.30 | 43.44 | 48.86 | 54.81 | | 7 / 2 | | | | |
| | reaction time | 0.175 | interval | 4.12 | 4.20 | 4.32 | 4.52 | 4.88 | 4.86 | 4.94 | 5.14 | 5.42 | 5.95 | | 12.64 | 14.26 | 15.50 | |
| | H1 lead leg | R | velocity | 6.97 | 8.50 | 8.33 | 8.10 | 7.74 | 7.17 | 7.20 | 7.09 | 6.81 | 6.46 | 6.72 | 7.30 | 8.31 | 7.36 | 6.77 |
| | | | strides | 22 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 16 | 19.2 | 173.2 | | | | |
| Knight, Jessie (GBR) (1994) | time | 6.44 | 10.66 | 14.94 | 19.28 | 23.82 | 28.58 | 33.46 | 38.58 | 43.72 | 48.98 | 54.84 | | 4 / 3 | | | | |
| | reaction time | 0.160 | interval | 4.22 | 4.28 | 4.34 | 4.54 | 4.76 | 4.88 | 5.12 | 5.14 | 5.26 | 5.86 | | 12.84 | 14.18 | 15.52 | |
| | H1 lead leg | R | velocity | 6.99 | 8.29 | 8.18 | 8.06 | 7.71 | 7.35 | 7.17 | 6.84 | 6.81 | 6.65 | 6.83 | 7.29 | 8.18 | 7.40 | 6.77 |
| | | | strides | 22 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 19.2 | 179.2 | | | | |
| Nielsen, Lina (GBR) (1996) | time | 6.36 | 10.44 | 14.58 | 18.86 | 23.34 | 28.14 | 33.02 | 38.08 | 43.36 | 48.68 | 54.91 | | 8 / 4 | | | | |
| | reaction time | 0.147 | interval | 4.08 | 4.14 | 4.28 | 4.48 | 4.80 | 4.88 | 5.06 | 5.28 | 5.32 | 6.23 | | 12.50 | 14.16 | 15.66 | |
| | H1 lead leg | L | velocity | 7.08 | 8.58 | 8.45 | 8.18 | 7.81 | 7.29 | 7.17 | 6.92 | 6.63 | 6.58 | 6.42 | 7.28 | 8.40 | 7.42 | 6.70 |
| | | | strides | 23 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 19.2 | 180.2 | | | | |
| Luel, Amalie (NOR) (1994) | time | 6.36 | 10.54 | 14.92 | 19.32 | 23.90 | 28.64 | 33.58 | 38.52 | 43.64 | 48.92 | 55.06 | | 2 / 5 | | | | |
| | reaction time | 0.148 | interval | 4.18 | 4.38 | 4.40 | 4.58 | 4.74 | 4.94 | 5.12 | 5.28 | 6.14 | | 12.96 | 14.26 | 15.34 | | |
| | H1 lead leg | L | velocity | 7.08 | 8.37 | 7.99 | 7.95 | 7.64 | 7.38 | 7.09 | 7.09 | 6.84 | 6.63 | 6.51 | 7.26 | 8.10 | 7.36 | 6.84 |
| | | | strides | 23 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 19.7 | 183.7 | | | | |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.30 | 10.44 | 14.70 | 19.06 | 23.50 | 28.26 | 33.16 | 38.14 | 43.50 | 48.90 | 55.18 | | 5 / 6 | | | | |
| | reaction time | 0.142 | interval | 4.14 | 4.26 | 4.36 | 4.44 | 4.76 | 4.90 | 4.98 | 5.36 | 5.40 | 6.28 | | 12.76 | 14.10 | 15.74 | |
| | H1 lead leg | L | velocity | 7.14 | 8.45 | 8.22 | 8.03 | 7.88 | 7.35 | 7.14 | 7.03 | 6.53 | 6.48 | 6.37 | 7.25 | 8.23 | 7.45 | 6.67 |
| | | | strides | 22 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 17 | 20 | 183 | | | | |
| Kloster, Line (NOR) (1990) | time | 6.28 | 10.40 | 14.78 | 19.18 | 23.72 | 28.54 | 33.54 | 38.64 | 44.08 | 49.66 | 56.07 | | 3 / 7 | | | | |
| | reaction time | 0.135 | interval | 4.12 | 4.38 | 4.40 | 4.54 | 4.82 | 5.00 | 5.10 | 5.44 | 5.58 | 6.41 | | 12.90 | 14.36 | 16.12 | |
| | H1 lead leg | R | velocity | 7.17 | 8.50 | 7.99 | 7.95 | 7.71 | 7.26 | 7.00 | 6.86 | 6.43 | 6.27 | 6.24 | 7.13 | 8.14 | 7.31 | 6.51 |
| | | | strides | 22 | 14 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 17 | 20 | 182 | | | |
| Krafzik, Carolina (GER) (1995) | time | 6.34 | 10.42 | 14.64 | 19.02 | 23.72 | 28.74 | 33.84 | 39.10 | 44.82 | 51.06 | 58.74 | | 1 / 8 | | | | |
| | reaction time | 0.170 | interval | 4.08 | 4.22 | 4.38 | 4.70 | 5.02 | 5.10 | 5.26 | 5.72 | 6.24 | 7.68 | | 12.68 | 14.82 | 17.22 | |
| | H1 lead leg | L | velocity | 7.10 | 8.58 | 8.29 | 7.99 | 7.45 | 6.97 | 6.86 | 6.65 | 6.12 | 5.61 | 5.21 | 6.81 | 8.28 | 7.09 | 6.10 |
| | | | strides | 23 | 15 | 15 | 15 | 17 | 17 | 17 | 18 | 20 | 157 | | | | | |



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=T3w8xwhxrk>

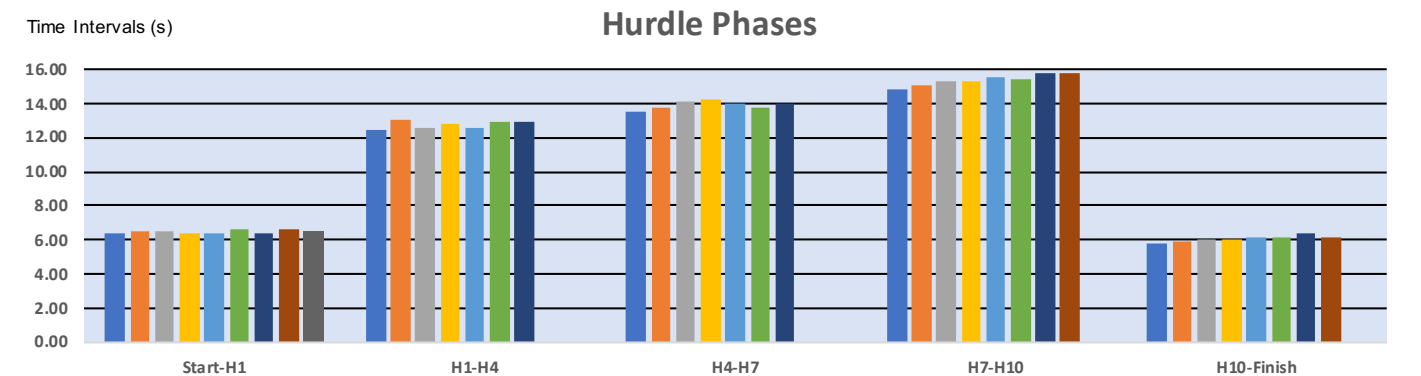
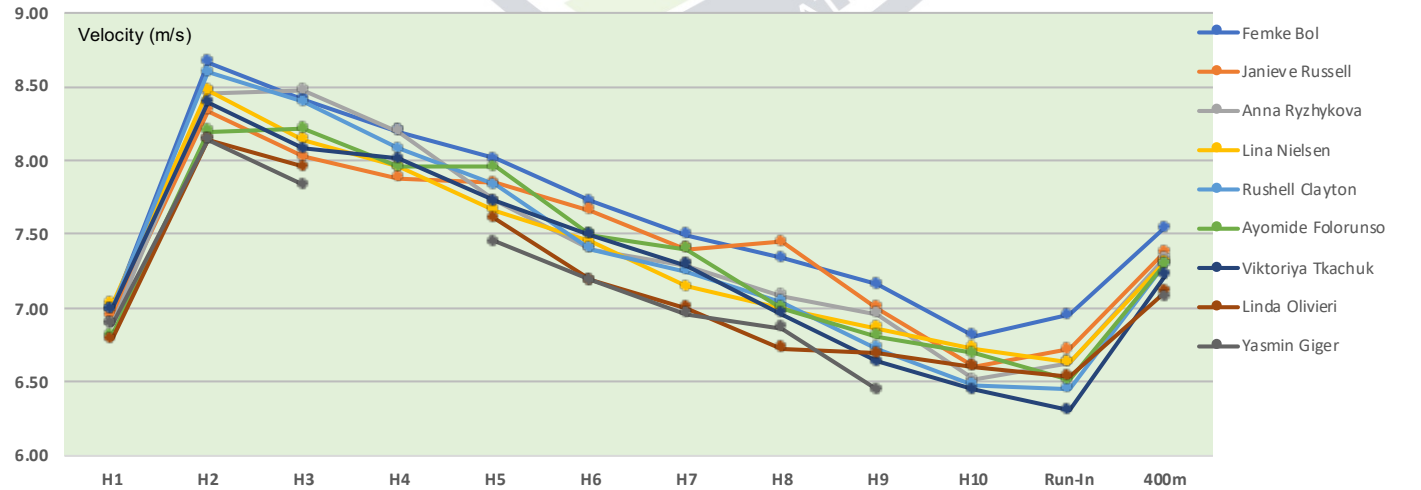
2022 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis)

Women's 400m Hurdles

Date: 2022.06.09

FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-----------|--------------|-------|-------|--------|
| Bol, Femke (NED) (2000) | time | 6.43 | 10.47 | 14.63 | 18.90 | 23.27 | 27.80 | 32.47 | 37.24 | 42.13 | 47.27 | | 53.02 | 5 / 1 | | | |
| | reaction time | 0.188 | | | | | | | | | | | | | | | |
| | interval | | 4.04 | 4.16 | 4.27 | 4.37 | 4.53 | 4.67 | 4.77 | 4.89 | 5.14 | 5.75 | | | 12.47 | 13.57 | 14.80 |
| | velocity | 7.00 | 8.66 | 8.41 | 8.20 | 8.01 | 7.73 | 7.49 | 7.34 | 7.16 | 6.81 | 6.96 | 7.54 | | 8.42 | 7.74 | 7.09 |
| H1 lead leg | L | | 22 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 19.5 | 161.5 | | | | |
| Russell, Janieve (JAM) (1993) | time | 6.47 | 10.67 | 15.03 | 19.47 | 23.93 | 28.50 | 33.23 | 37.93 | 42.93 | 48.23 | | 54.18 | 6 / 2 | | | |
| | reaction time | 0.140 | | | | | | | | | | | | | | | |
| | interval | | 4.20 | 4.36 | 4.44 | 4.46 | 4.57 | 4.73 | 4.70 | 5.00 | 5.30 | 5.95 | | | 13.00 | 13.76 | 15.00 |
| | velocity | 6.96 | 8.33 | 8.03 | 7.88 | 7.85 | 7.66 | 7.40 | 7.45 | 7.00 | 6.60 | 6.72 | 7.38 | | 8.08 | 7.63 | 7.00 |
| H1 lead leg | R | | 23 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 17 | 20 | 169 | | | | |
| Ryzhykova, Anna (UKR) (1989) | time | 6.53 | 10.67 | 14.80 | 19.07 | 23.60 | 28.33 | 33.13 | 38.07 | 43.10 | 48.47 | | 54.50 | 4 / 3 | | | |
| | reaction time | 0.187 | | | | | | | | | | | | | | | |
| | interval | | 4.14 | 4.13 | 4.27 | 4.53 | 4.73 | 4.80 | 4.94 | 5.03 | 5.37 | 6.03 | | | 12.54 | 14.06 | 15.34 |
| | velocity | 6.89 | 8.45 | 8.47 | 8.20 | 7.73 | 7.40 | 7.29 | 7.09 | 6.96 | 6.52 | 6.63 | 7.34 | | 8.37 | 7.47 | 6.84 |
| H1 lead leg | R | | 22 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 16 | 19.5 | 159.5 | | | | |
| Nielsen, Lina (GBR) (1996) | time | 6.40 | 10.53 | 14.83 | 19.23 | 23.80 | 28.50 | 33.40 | 38.40 | 43.50 | 48.70 | | 54.73 | 9 / 4 | | | |
| | reaction time | 0.148 | | | | | | | | | | | | | | | |
| | interval | | 4.13 | 4.30 | 4.40 | 4.57 | 4.70 | 4.90 | 5.00 | 5.10 | 5.20 | 6.03 | PB | | 12.83 | 14.17 | 15.30 |
| | velocity | 7.03 | 8.47 | 8.14 | 7.95 | 7.66 | 7.45 | 7.14 | 7.00 | 6.86 | 6.73 | 6.63 | 7.31 | | 8.18 | 7.41 | 6.86 |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 16 | 16 | 16 | 16 | 16 | 19 | 182 | | | | |
| Clayton, Rushell (JAM) (1992) | time | 6.43 | 10.50 | 14.67 | 19.00 | 23.47 | 28.20 | 33.03 | 38.00 | 43.20 | 48.60 | | 54.80 | 7 / 5 | | | |
| | reaction time | 0.164 | | | | | | | | | | | | | | | |
| | interval | | 4.07 | 4.17 | 4.33 | 4.47 | 4.73 | 4.83 | 4.97 | 5.20 | 5.40 | 6.20 | | | 12.57 | 14.03 | 15.57 |
| | velocity | 7.00 | 8.60 | 8.39 | 8.08 | 7.83 | 7.40 | 7.25 | 7.04 | 6.73 | 6.48 | 6.45 | 7.30 | | 8.35 | 7.48 | 6.74 |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 17 | 20 | 170 | | | | |
| Folorunso, Ayomide (ITA) (1996) | time | 6.60 | 10.87 | 15.13 | 19.53 | 23.93 | 28.60 | 33.33 | 38.33 | 43.47 | 48.70 | | 54.84 | 3 / 6 | | | |
| | reaction time | 0.192 | | | | | | | | | | | | | | | |
| | interval | | 4.27 | 4.26 | 4.40 | 4.40 | 4.67 | 4.73 | 5.00 | 5.14 | 5.23 | 6.14 | | | 12.93 | 13.80 | 15.37 |
| | velocity | 6.82 | 8.20 | 8.22 | 7.95 | 7.95 | 7.49 | 7.40 | 7.00 | 6.81 | 6.69 | 6.51 | 7.29 | | 8.12 | 7.61 | 6.83 |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 17 | 20.5 | 170.5 | | | | |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.43 | 10.60 | 14.93 | 19.30 | 23.83 | 28.50 | 33.30 | 38.33 | 43.60 | 49.03 | | 55.37 | 8 / 7 | | | |
| | reaction time | 0.193 | | | | | | | | | | | | | | | |
| | interval | | 4.17 | 4.33 | 4.37 | 4.53 | 4.67 | 4.80 | 5.03 | 5.27 | 5.43 | 6.34 | | | 12.87 | 14.00 | 15.73 |
| | velocity | 7.00 | 8.39 | 8.08 | 8.01 | 7.73 | 7.49 | 7.29 | 6.96 | 6.64 | 6.45 | 6.31 | 7.22 | | 8.16 | 7.50 | 6.68 |
| H1 lead leg | L | | 22 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 20 | 166 | | | | |
| Olivieri, Linda (ITA) (1998) | time | 6.63 | 10.93 | 15.33 | | 24.53 | 29.40 | 34.40 | 39.60 | 44.83 | 50.13 | | 56.25 | 2 / 8 | | | |
| | reaction time | 0.150 | | | | | | | | | | | | | | | |
| | interval | | 4.30 | 4.40 | | 9.20 | 4.87 | 5.00 | 5.20 | 5.23 | 5.30 | 6.12 | | | | | 15.73 |
| | velocity | 6.79 | 8.14 | 7.95 | | 7.61 | 7.19 | 7.00 | 6.73 | 6.69 | 6.60 | 6.54 | 7.11 | | | | 6.68 |
| H1 lead leg | R | | 23 | 15 | 15 | 15 | 15 | 15 | 17 | 17 | 17 | 149 | | | | | |
| Giger, Yasmin (SUI) (1999) | time | 6.53 | 10.83 | 15.30 | | 24.70 | 29.57 | 34.60 | 39.70 | 45.13 | | 56.52 | 1 / 9 | | | | |
| | reaction time | 0.155 | | | | | | | | | | | | | | | |
| | interval | | 4.30 | 4.47 | | 9.40 | 4.87 | 5.03 | 5.10 | 5.43 | | | | | | | |
| | velocity | 6.89 | 8.14 | 7.83 | | 7.45 | 7.19 | 6.96 | 6.86 | 6.45 | | | 7.08 | | | | |
| H1 lead leg | R | | 23 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | | 132 | | | | | |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: Gun Flash
 Source: <https://www.youtube.com/watch?v=jYFVape8BPc>

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

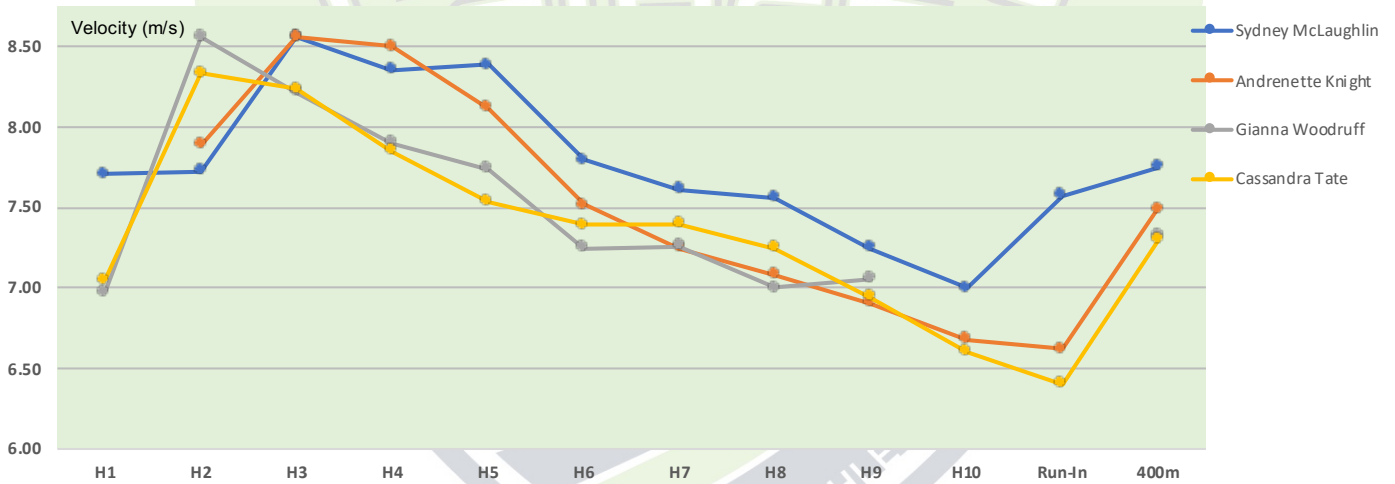
Women's 400m Hurdles

Date: 2022.06.05

(H5 5m long)

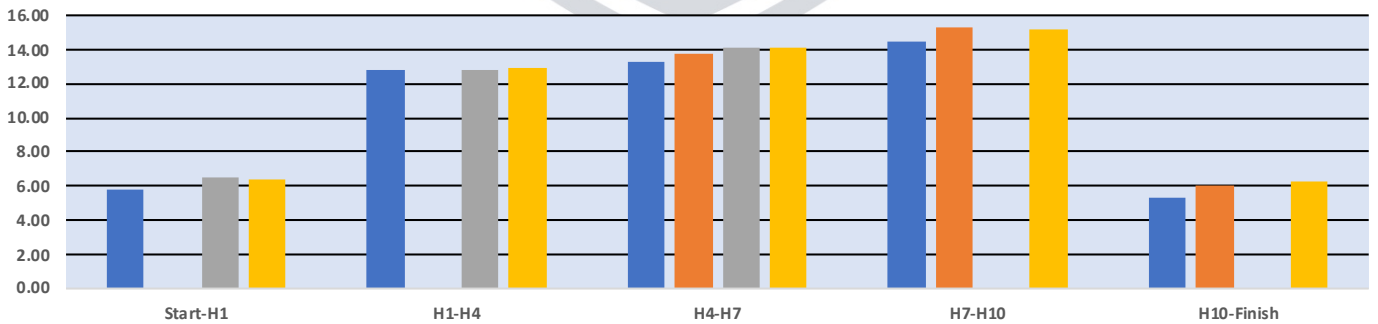
FINAL

| | | 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 | 51.61 | 5 / 1 | | | |
| | reaction time | | 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 |
| | H1 lead leg strides | | 14 | 14 | 14 | 16 | 13 | 15 | 15 | | 16 | 117 | | | | | |
| Knight, Andrenette (JAM) (1996) | time | | 10.14 | 14.23 | 18.35 | 23.28 | 27.27 | 32.10 | 37.04 | 42.11 | 47.35 | 53.39 | 53.39 | 4 / 2 | | | |
| | reaction time | | | 4.09 | 4.12 | 4.93 | 3.99 | 4.83 | 4.94 | 5.07 | 5.24 | 6.04 | PB | | | 13.75 | 15.25 |
| | velocity | | 7.89 | 8.56 | 8.50 | 8.11 | 7.52 | 7.25 | 7.09 | 6.90 | 6.68 | 6.62 | 7.49 | | | 7.64 | 6.89 |
| | H1 lead leg strides | | | 15 | 15 | 17 | 13 | 16 | 16 | | 16 | 108 | | | | | |
| Woodruff, Gianna (PAN) (1993) | time | 6.45 | 10.54 | 14.80 | 19.23 | 24.40 | 28.54 | 33.36 | 38.36 | 43.32 | | 54.63 | 54.63 | 6 / 3 | | | |
| | reaction time | | 4.09 | 4.26 | 4.43 | 5.17 | 4.14 | 4.82 | 5.00 | 4.96 | | 7.32 | | | 12.78 | 14.13 | |
| | velocity | 6.98 | 8.56 | 8.22 | 7.90 | 7.74 | 7.25 | 7.26 | 7.00 | 7.06 | | 7.32 | | | 8.22 | 7.43 | |
| | H1 lead leg strides | 23 | 15 | 15 | 15 | 17 | 13 | | 16 | 16 | | 130 | | | | | |
| Tate, Cassandra (USA) (1990) | time | 6.38 | 10.58 | 14.83 | 19.29 | 24.60 | 28.66 | 33.39 | 38.22 | 43.26 | 48.56 | 54.81 | 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 |
| | velocity | 7.05 | 8.33 | 8.24 | 7.85 | 7.53 | 7.39 | 7.40 | 7.25 | 6.94 | 6.60 | 6.40 | 7.30 | | 8.13 | 7.45 | 6.92 |
| | H1 lead leg strides | 21 | 14 | 14 | 14 | 17 | 13 | 15 | 15 | 15 | | 138 | | | | | |



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

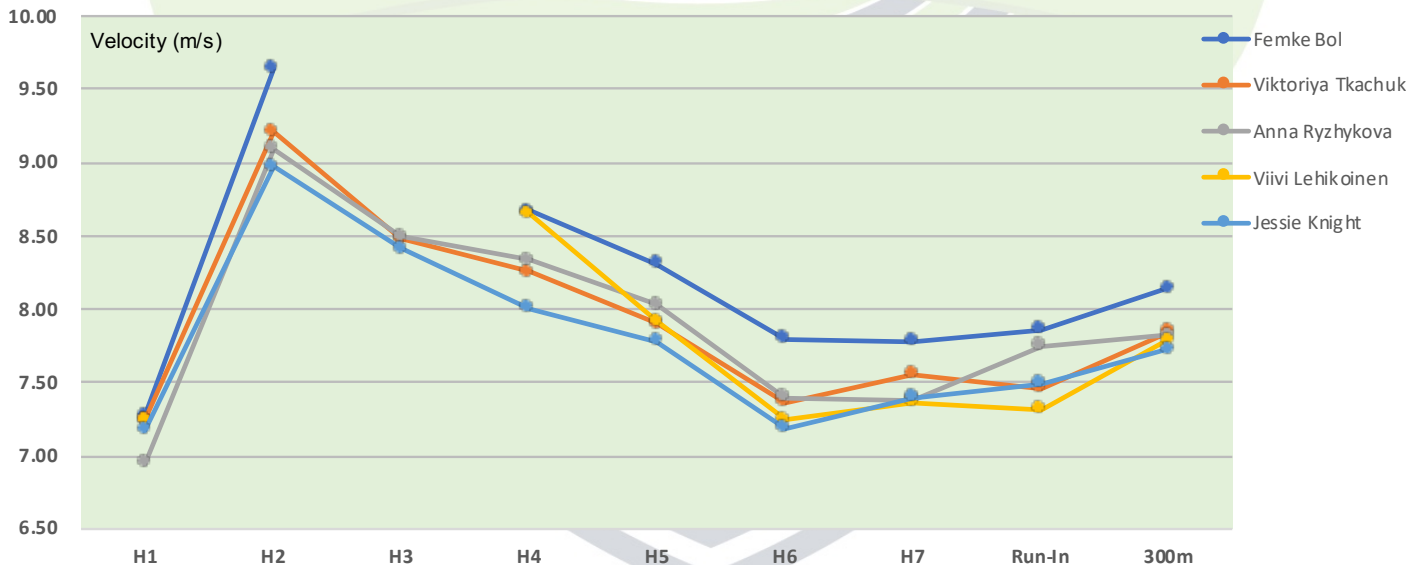
2022 Golden Spike (Ostrava, CZE) (300m Hurdles) (TV Analysis)

Women's 400m Hurdles

Date 2022.05.31

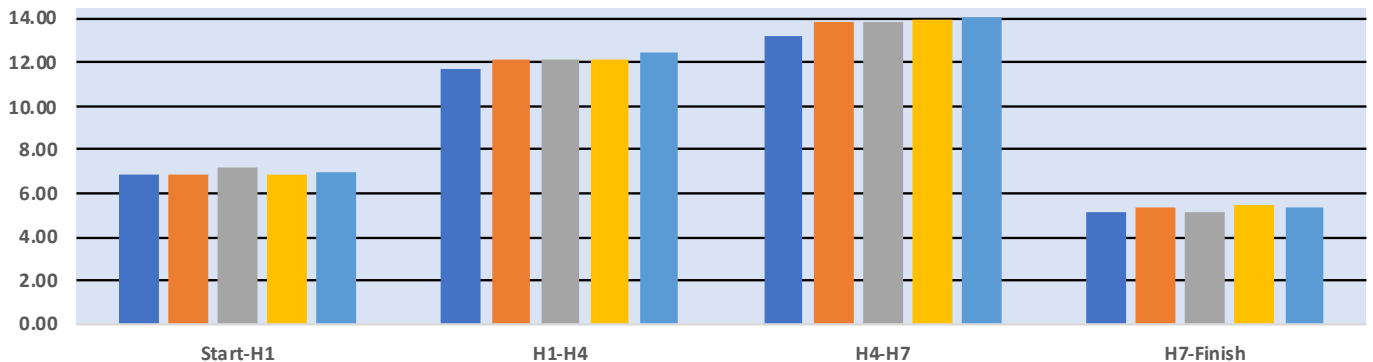
FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | Run-In | 300m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|--------|--------------|--------------|-------|-------|--------|
| Bol, Femke (NED) (2000) | time | 6.87 | 10.50 | | 18.57 | 22.78 | 27.27 | 31.77 | | 36.86 | 5 / 1 | | | |
| | reaction time | 0.215 | 3.63 | | 8.07 | 4.21 | 4.49 | 4.50 | 5.09 | WB PB | | 11.70 | 13.20 | |
| | velocity | 7.28 | 9.64 | | 8.67 | 8.31 | 7.80 | 7.78 | 7.86 | 8.14 | | 8.97 | 7.95 | |
| | H1 lead leg | L | 24 | 15 | | 15 | 15 | 15 | 18.5 | 102.5 | | | | |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.90 | 10.70 | 14.83 | 19.07 | 23.50 | 28.25 | 32.88 | | 38.24 | 3 / 2 | | | |
| | reaction time | 0.246 | 3.80 | 4.13 | 4.24 | 4.43 | 4.75 | 4.63 | 5.36 | NR PB | | 12.17 | 13.81 | |
| | velocity | 7.25 | 9.21 | 8.47 | 8.25 | 7.90 | 7.37 | 7.56 | 7.46 | 7.85 | | 8.63 | 7.60 | |
| | H1 lead leg | L | 24 | 15 | 15 | 15 | 15 | 15 | 19 | 118 | | | | |
| Ryzhykova, Anna (UKR) (1989) | time | 7.20 | 11.05 | 15.17 | 19.37 | 23.73 | 28.46 | 33.20 | | 38.36 | 6 / 3 | | | |
| | reaction time | 0.208 | 3.85 | 4.12 | 4.20 | 4.36 | 4.73 | 4.74 | 5.16 | PB | | 12.17 | 13.83 | |
| | velocity | 6.94 | 9.09 | 8.50 | 8.33 | 8.03 | 7.40 | 7.38 | 7.75 | 7.82 | | 8.63 | 7.59 | |
| | H1 lead leg | R | 24 | 14 | | 14 | 14 | 15 | 18 | 99 | | | | |
| Lehikoinen, Viivi (FIN) (1999) | time | 6.90 | | | 19.03 | 23.45 | 28.28 | 33.03 | | 38.50 | 7 / 4 | | | |
| | reaction time | 0.202 | | | 12.13 | 4.42 | 4.83 | 4.75 | 5.47 | NR PB | | 12.13 | 14.00 | |
| | velocity | 7.25 | | | 8.66 | 7.92 | 7.25 | 7.37 | 7.31 | 7.79 | | 8.66 | 7.50 | |
| | H1 lead leg | R | 26 | | 16 | 16 | 16 | 19.7 | 93.7 | | | | | |
| Knight, Jessie (GBR) (1994) | time | 6.97 | 10.87 | 15.03 | 19.40 | 23.90 | 28.77 | 33.50 | | 38.84 | 4 / 5 | | | |
| | reaction time | 0.170 | 3.90 | 4.16 | 4.37 | 4.50 | 4.87 | 4.73 | 5.34 | NR PB | | 12.43 | 14.10 | |
| | velocity | 7.17 | 8.97 | 8.41 | 8.01 | 7.78 | 7.19 | 7.40 | 7.49 | 7.72 | | 8.45 | 7.45 | |
| | H1 lead leg | R | 24 | 15 | 15 | 15 | 15 | 15 | 18.2 | 117.2 | | | | |



Hurdle Phases

Time Intervals (s)



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: Gun Flash
 Source: https://www.youtube.com/watch?v=VGSZ_MF2eqo

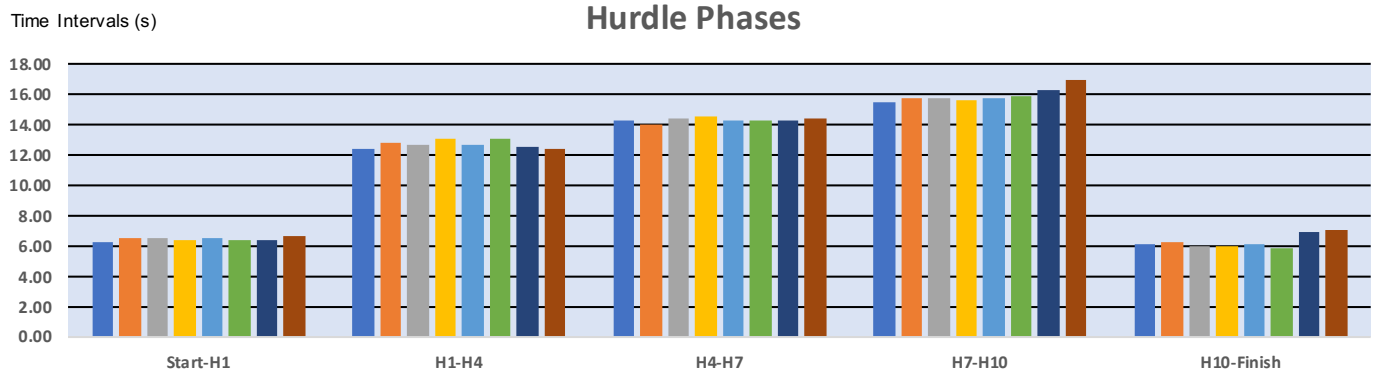
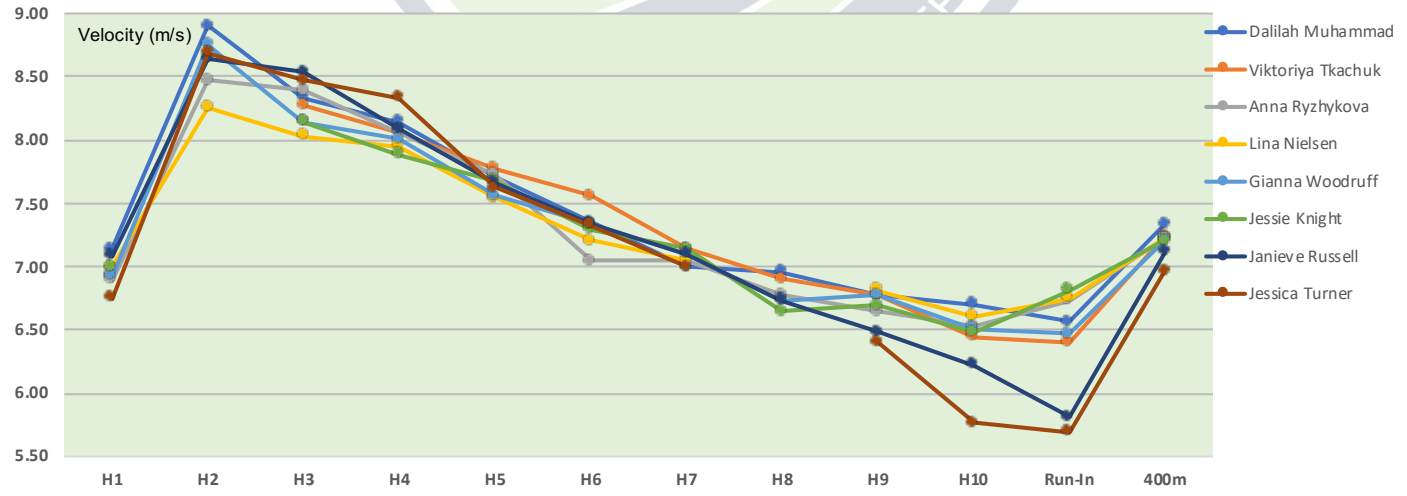
2022 Müller Birmingham Diamond League (Birmingham, GBR) (TV Analysis)

Women's 400m Hurdles

Date 2022.05.21

FINAL

| | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | H9 | H10 | Run-In | 400m | Lane / Place | H1-H4 | H4-H7 | H7-H10 |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------------|-------|-------|--------|
| Muhammad, Dalilah (USA) (1990) | time | 6.30 | 10.23 | 14.43 | 18.73 | 23.27 | 28.03 | 33.03 | 38.06 | 43.23 | 48.45 | | 54.54 | 4 / 1 | | | |
| | reaction time | 0.160 | | | | | | | | | | | | | 12.43 | 14.30 | 15.42 |
| | interval | | 3.93 | 4.20 | 4.30 | 4.54 | 4.76 | 5.00 | 5.03 | 5.17 | 5.22 | 6.09 | | | 8.45 | 7.34 | 6.81 |
| | velocity | 7.14 | 8.91 | 8.33 | 8.14 | 7.71 | 7.35 | 7.00 | 6.96 | 6.77 | 6.70 | 6.57 | 7.33 | | | | |
| H1 lead leg | R | | 22 | 14 | 15 | 15 | 15 | 16 | 16 | 16 | 16 | 20 | 180 | | | | |
| Tkachuk, Viktoriya (UKR) (1994) | time | 6.50 | | 14.96 | 19.30 | 23.80 | 28.43 | 33.33 | 38.40 | 43.57 | 49.00 | | 55.25 | 3 / 2 | | | |
| | reaction time | 0.188 | | | | | | | | | | | | | 12.80 | 14.03 | 15.67 |
| | interval | | | 8.46 | 4.34 | 4.50 | 4.63 | 4.90 | 5.07 | 5.17 | 5.43 | 6.25 | | | 8.20 | 7.48 | 6.70 |
| | velocity | 6.92 | | 8.27 | 8.06 | 7.78 | 7.56 | 7.14 | 6.90 | 6.77 | 6.45 | 6.40 | 7.24 | | | | |
| H1 lead leg | L | | 22 | | 15 | 15 | 15 | 16 | 16 | 17 | 17 | 20.7 | 153.7 | | | | |
| Ryzhykova, Anna (UKR) (1989) | time | 6.53 | 10.66 | 14.83 | 19.17 | 23.70 | 28.67 | 33.63 | 38.80 | 44.07 | 49.43 | | 55.37 | 5 / 3 | | | |
| | reaction time | 0.173 | | | | | | | | | | | | | 12.64 | 14.46 | 15.80 |
| | interval | | 4.13 | 4.17 | 4.34 | 4.53 | 4.97 | 4.96 | 5.17 | 5.27 | 5.36 | 5.94 | | | 8.31 | 7.26 | 6.65 |
| | velocity | 6.89 | 8.47 | 8.39 | 8.06 | 7.73 | 7.04 | 7.06 | 6.77 | 6.64 | 6.53 | 6.73 | 7.22 | | | | |
| H1 lead leg | R | | 22 | 14 | 14 | 14 | 15 | 15 | 16 | 16 | 16 | 19.2 | 175.2 | | | | |
| Nielsen, Lina (GBR) (1996) | time | 6.43 | 10.67 | 15.03 | 19.43 | 24.07 | 28.93 | 33.90 | | 44.17 | 49.47 | | 55.40 | 8 / 4 | | | |
| | reaction time | 0.156 | | | | | | | | | | | | | 13.00 | 14.47 | 15.57 |
| | interval | | 4.24 | 4.36 | 4.40 | 4.64 | 4.86 | 4.97 | | 10.27 | 5.30 | 5.93 | | | 8.08 | 7.26 | 6.74 |
| | velocity | 7.00 | 8.25 | 8.03 | 7.95 | 7.54 | 7.20 | 7.04 | | 6.82 | 6.60 | 6.75 | 7.22 | | | | |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 16 | 16 | | 16 | 19.2 | 150.2 | | | | | |
| Woodruff, Gianna (PAN) (1993) | time | 6.50 | 10.50 | 14.80 | 19.17 | 23.80 | 28.57 | 33.50 | 38.70 | 43.87 | 49.25 | | 55.43 | 7 / 5 | | | |
| | reaction time | 0.218 | | | | | | | | | | | | | 12.67 | 14.33 | 15.75 |
| | interval | | 4.00 | 4.30 | 4.37 | 4.63 | 4.77 | 4.93 | 5.20 | 5.17 | 5.38 | 6.18 | | | 8.29 | 7.33 | 6.67 |
| | velocity | 6.92 | 8.75 | 8.14 | 8.01 | 7.56 | 7.34 | 7.10 | 6.73 | 6.77 | 6.51 | 6.47 | 7.22 | | | | |
| H1 lead leg | L | | 23 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 17 | 20 | 182 | | | | |
| Knight, Jessie (GBR) (1994) | time | 6.43 | | 15.03 | 19.47 | 24.03 | 28.83 | 33.73 | 39.00 | 44.23 | 49.63 | | 55.50 | 2 / 6 | | | |
| | reaction time | 0.147 | | | | | | | | | | | | | 13.04 | 14.26 | 15.90 |
| | interval | | | 8.60 | 4.44 | 4.56 | 4.80 | 4.90 | 5.27 | 5.23 | 5.40 | 5.87 | | | 8.05 | 7.36 | 6.60 |
| | velocity | 7.00 | | 8.14 | 7.88 | 7.68 | 7.29 | 7.14 | 6.64 | 6.69 | 6.48 | 6.81 | 7.21 | | | | |
| H1 lead leg | R | | 22 | | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 19.2 | 149.2 | | | | |
| Russell, Janieve (JAM) (1993) | time | 6.35 | 10.40 | 14.50 | 18.83 | 23.40 | 28.17 | 33.10 | 38.30 | 43.70 | 49.33 | | 56.21 | 6 / 7 | | | |
| | reaction time | 0.135 | | | | | | | | | | | | | 12.48 | 14.27 | 16.23 |
| | interval | | 4.05 | 4.10 | 4.33 | 4.57 | 4.77 | 4.93 | 5.20 | 5.40 | 5.63 | 6.88 | | | 8.41 | 7.36 | 6.47 |
| | velocity | 7.09 | 8.64 | 8.54 | 8.08 | 7.66 | 7.34 | 7.10 | 6.73 | 6.48 | 6.22 | 5.81 | 7.12 | | | | |
| H1 lead leg | R | | 23 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 17 | 21 | 188 | | | | |
| Turner, Jessica (GBR) (1995) | time | 6.67 | 10.70 | 14.83 | 19.03 | 23.62 | 28.40 | 33.40 | | 44.33 | 50.40 | | 57.43 | 9 / 8 | | | |
| | reaction time | 0.24 | | | | | | | | | | | | | 12.36 | 14.37 | 17.00 |
| | interval | | 4.03 | 4.13 | 4.20 | 4.59 | 4.78 | 5.00 | | 10.93 | 6.07 | 7.03 | | | 8.50 | 7.31 | 6.18 |
| | velocity | 6.75 | 8.68 | 8.47 | 8.33 | 7.63 | 7.32 | 7.00 | | 6.40 | 5.77 | 5.69 | 6.97 | | | | |
| H1 lead leg | L | | 25 | 15 | 15 | 15 | 16 | 16 | 17 | | 19 | 138 | | | | | |



Evaluated with: ObjectusVideo
 Quality & Frame Rate: 1920 x 1080 @ 30fps
 Timing From: Gun Flash
 Source: <https://www.youtube.com/watch?v=MW6WqY1qkBs>