

Establishing the Baseline Race Strategy: Male Short Course 200-Yard Events

Select Competitions from 2010 - 2013

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Agenda

- I. Introduction
- II. Analysis of the 200Y Freestyle
- III. Analysis of the 200Y Backstroke
- IV. Analysis of the 200Y Breaststroke
- V. Analysis of the 200Y Butterfly
- VI. Conclusion – Establishing the Baseline

Introduction

Section I

Executive Summary

The Subject

- An analysis of the top five male finishers in each of the 200-stroke A-Finals from a selection of competitions over the past four years

The Objective

- To determine the most commonly used race strategy amongst the worlds best swimmers as a baseline for developing more detailed training plans

The Approach

- Separate and analyze each lap of the 200 for every race over the years to develop an average split delta, in percentage terms, for the second, third, and fourth 50 when base-lining from the first 50 of the race

The Advantage

- Using my results, I developed a list of recommended splits for a range of times in order to give elite level swimmers a factual approach to specific goal times
- Using percentages as a measurement, rather than absolute times, does not disfavor any swimmers

Criteria Used

Sex:

- Male

Session

- A-Final

Distance

- 200 Yards

Place:

- 1st – 5th

Stroke

- Freestyle
- Backstroke
- Breaststroke
- Butterfly

Meets

- Division 1 NCAA Championships:
 - 10,11,12,13

Note: In some scenarios a swimmer placing out of the top five may be included for comparison purposes.

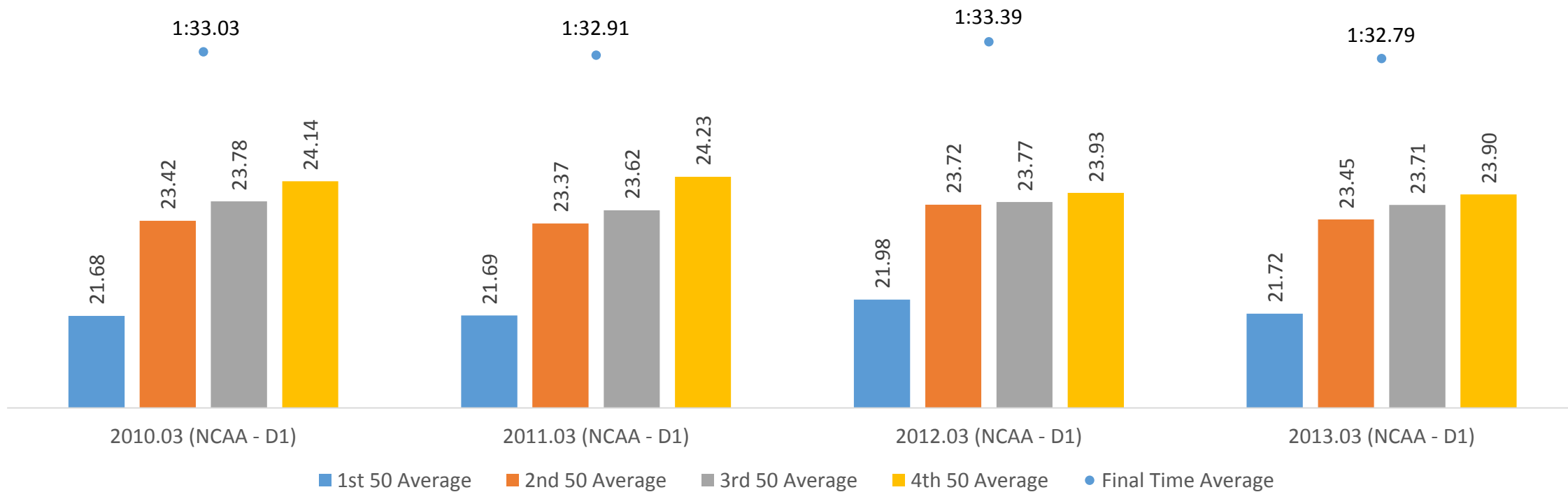
Source: CollegeSwimming, NCAA

Analysis of the 200Y Freestyle

Section II

SCY Male 200 Freestyle: Race Averages

Average Time = 1:33.03

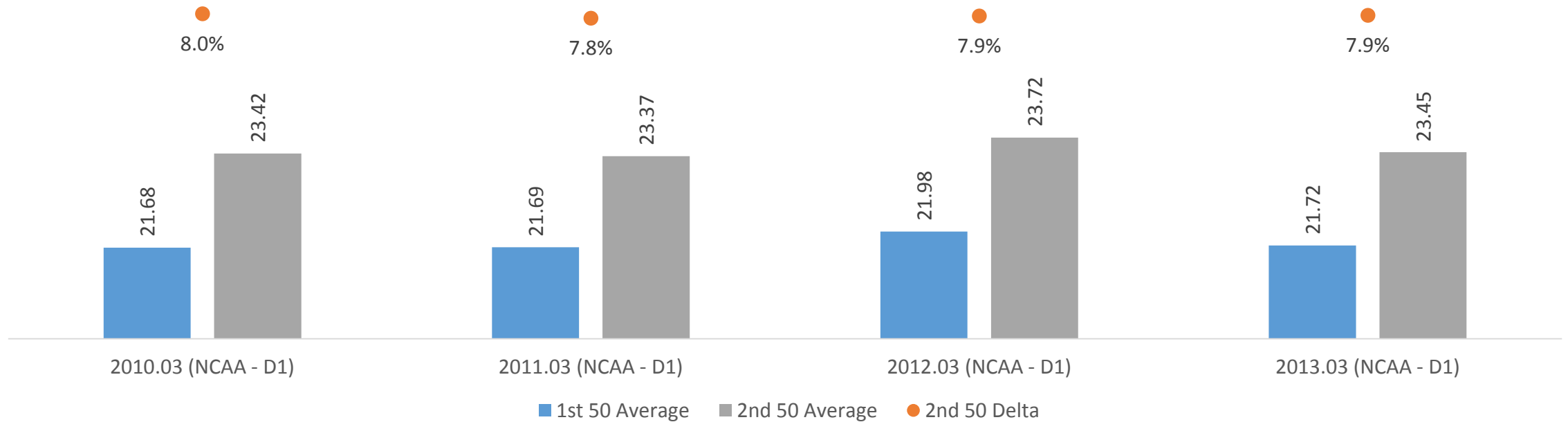


SCY Male 200 Freestyle: 1st → 2nd 50

Average 1st 50 = 21.77

Average 2nd 50 = 23.49

Average Split Delta = 7.9%

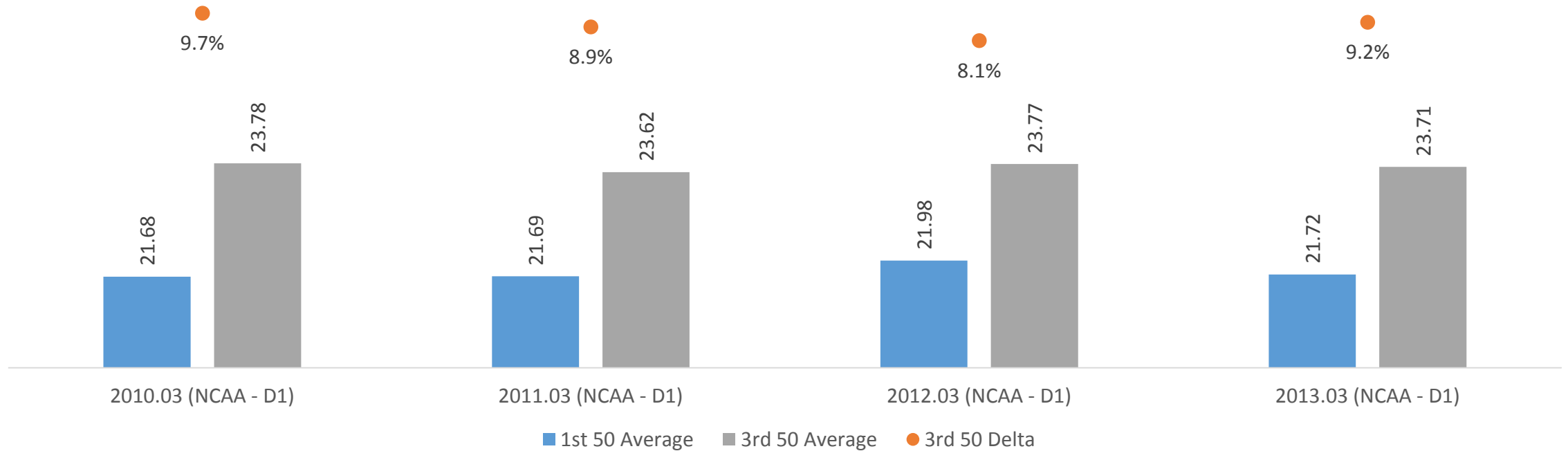


SCY Male 200 Freestyle: 1st → 3rd 50

Average 1st 50 = 21.77

Average 3rd 50 = 23.72

Average Split Delta = 9.0%

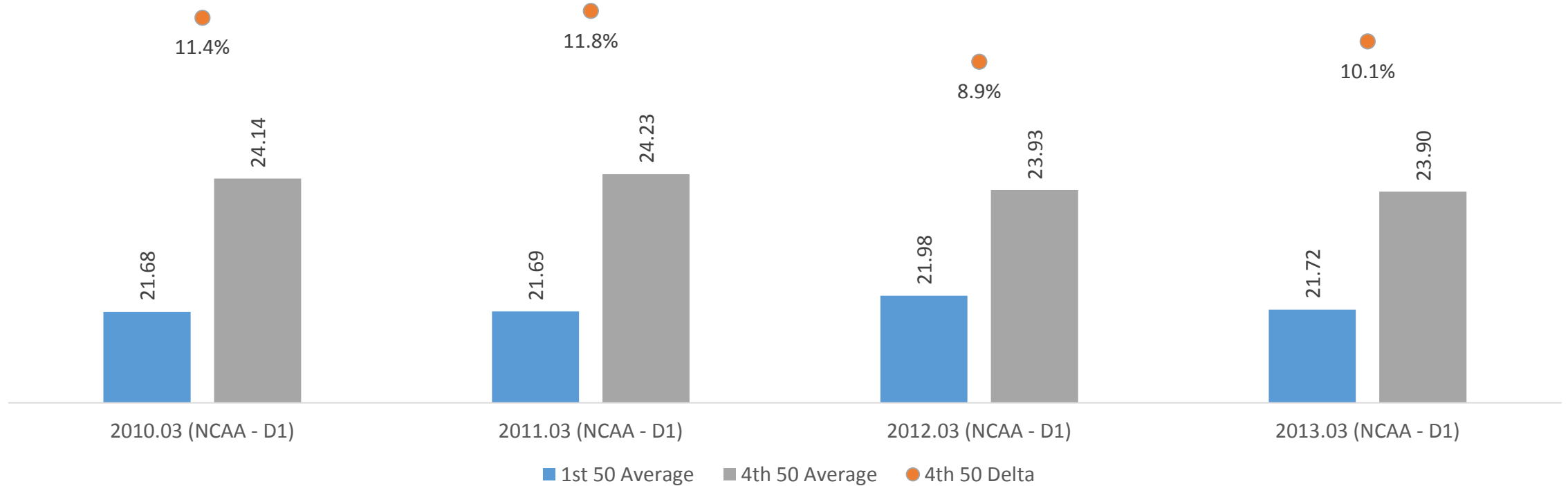


SCY Male 200 Freestyle: 1st → 4th 50

Average 1st 50 = 21.77

Average 4th 50 = 24.05

Average Split Delta = 10.5%

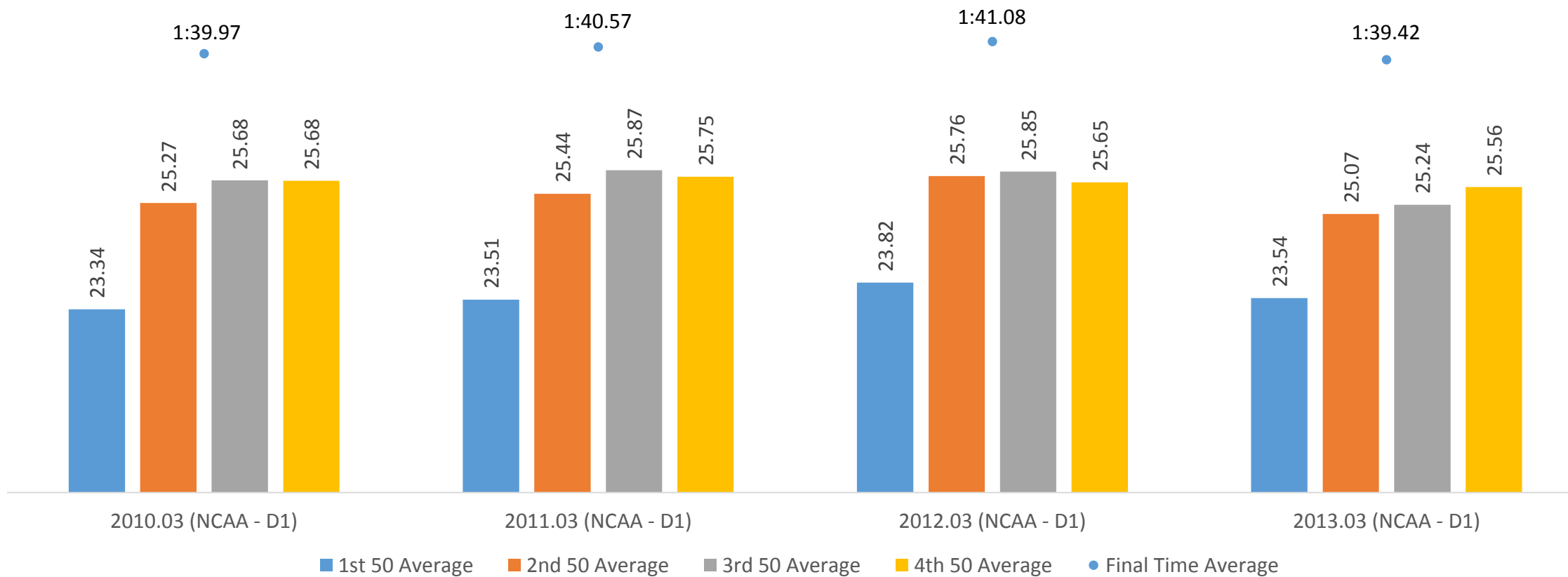


Analysis of the 200Y Backstroke

Section III

SCY Male 200 Backstroke: Race Averages

Average Time = 1:40.26

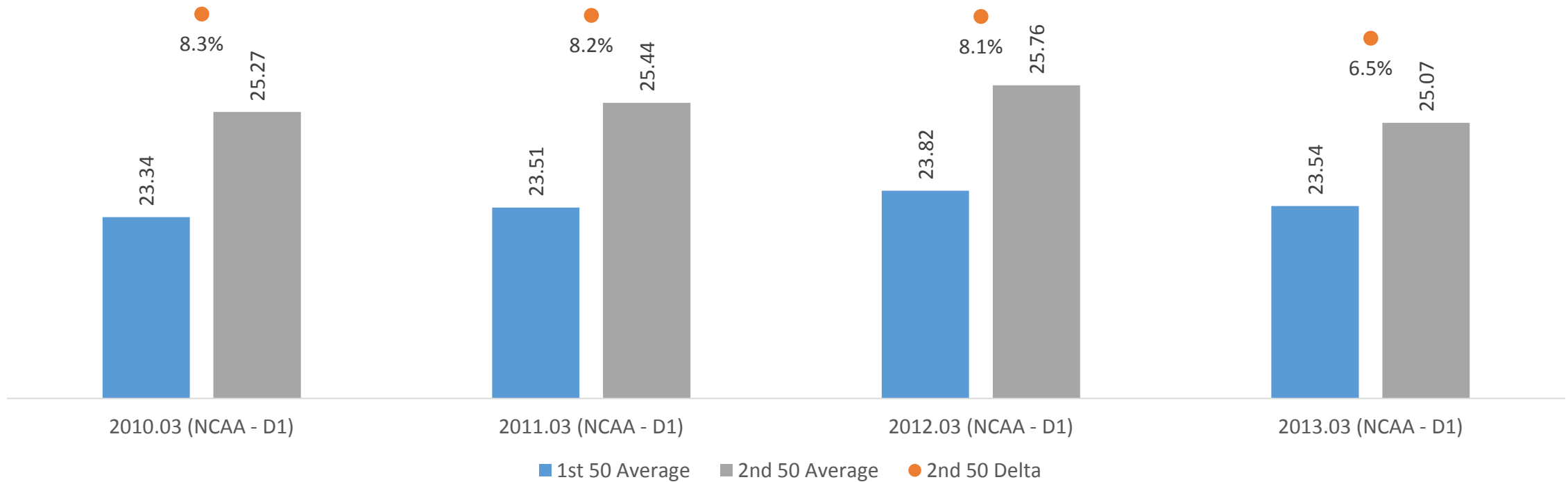


SCY Male 200 Backstroke: 1st → 2nd 50

Average 1st 50 = 23.55

Average 2nd 50 = 25.39

Average Split Delta = 7.8%

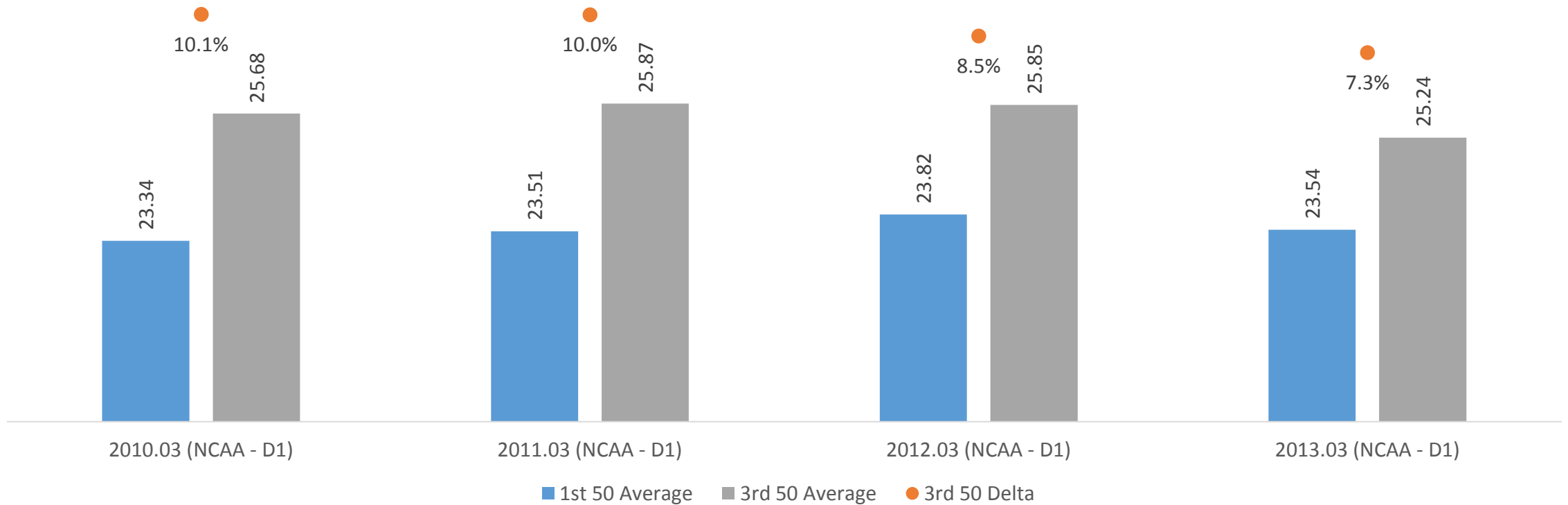


SCY Male 200 Backstroke: 1st → 3rd 50

Average 1st 50 = 23.55

Average 3rd 50 = 25.66

Average Split Delta = 9.0%

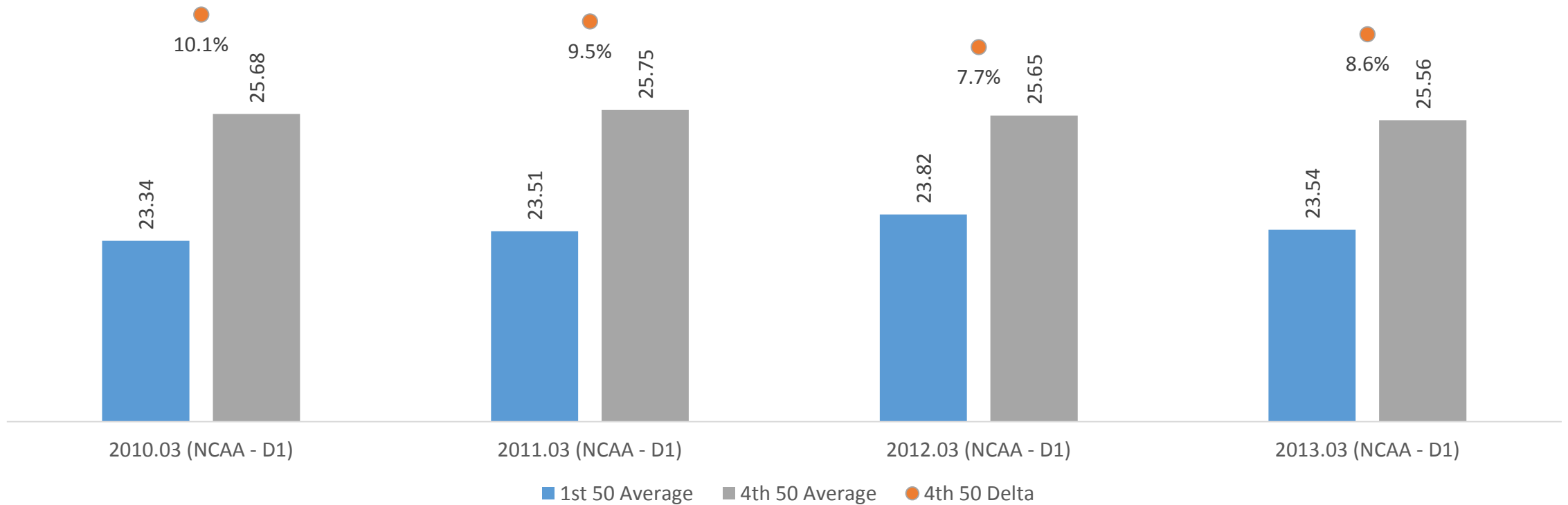


SCY Male 200 Backstroke: 1st → 4th 50

Average 1st 50 = 23.55

Average 4th 50 = 25.66

Average Split Delta = 9.0%

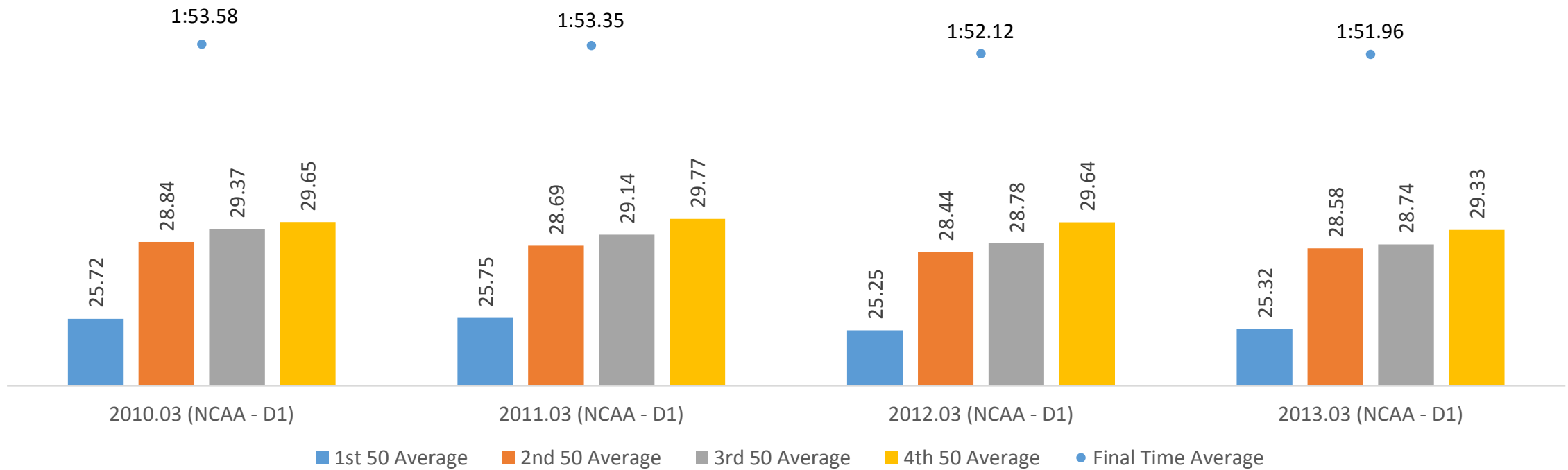


Analysis of the 200Y Breaststroke

Section IV

SCY Male 200 Breaststroke: Race Averages

Average Time = 1:52.75

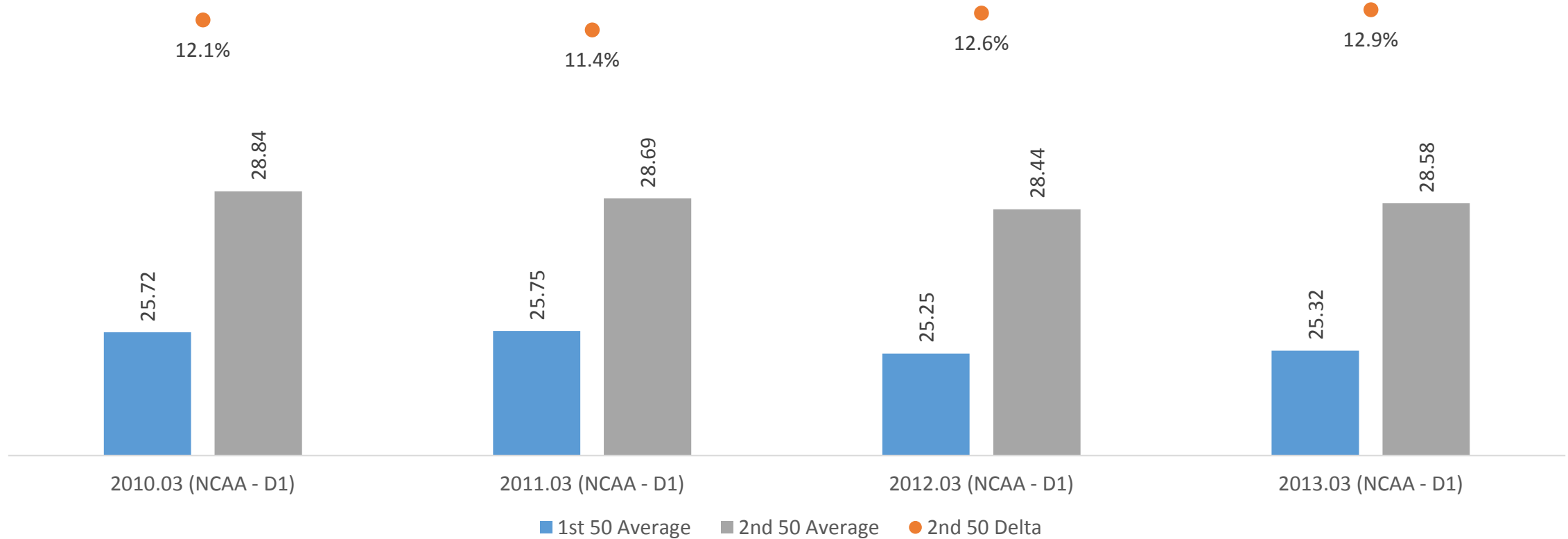


SCY Male 200 Breaststroke: 1st → 2nd 50

Average 1st 50 = 25.51

Average 2nd 50 = 28.64

Average Split Delta = 12.3%

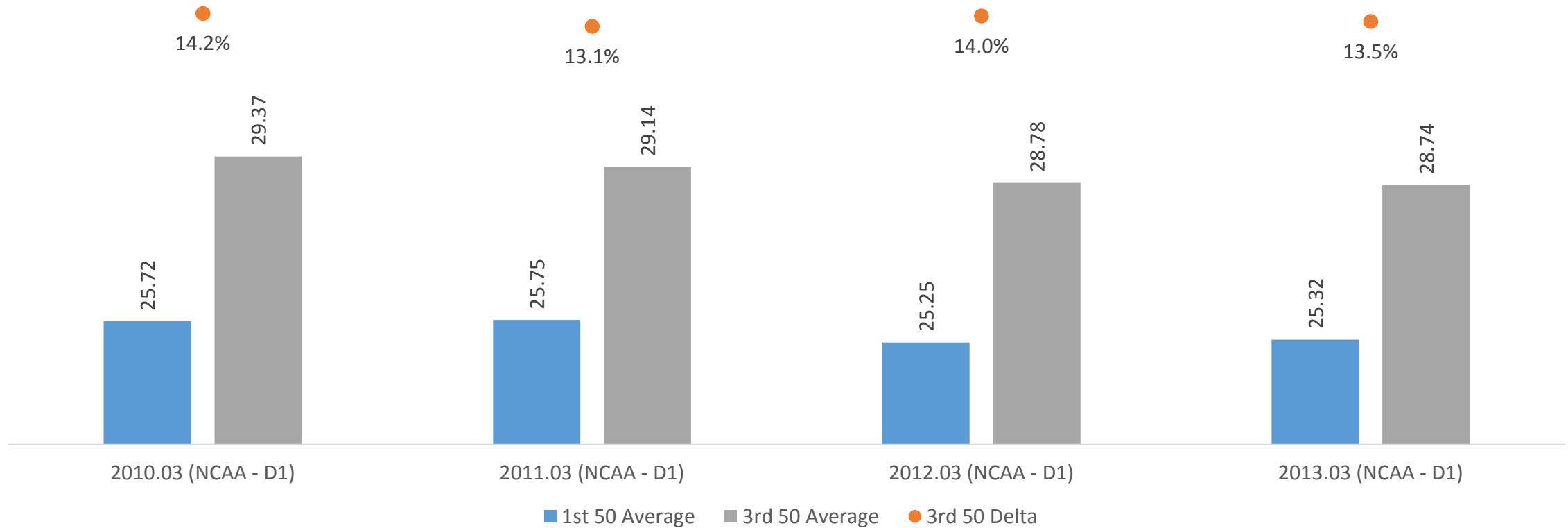


SCY Male 200 Breaststroke: 1st → 3rd 50

Average 1st 50 = 25.51

Average 3rd 50 = 29.01

Average Split Delta = 13.7%

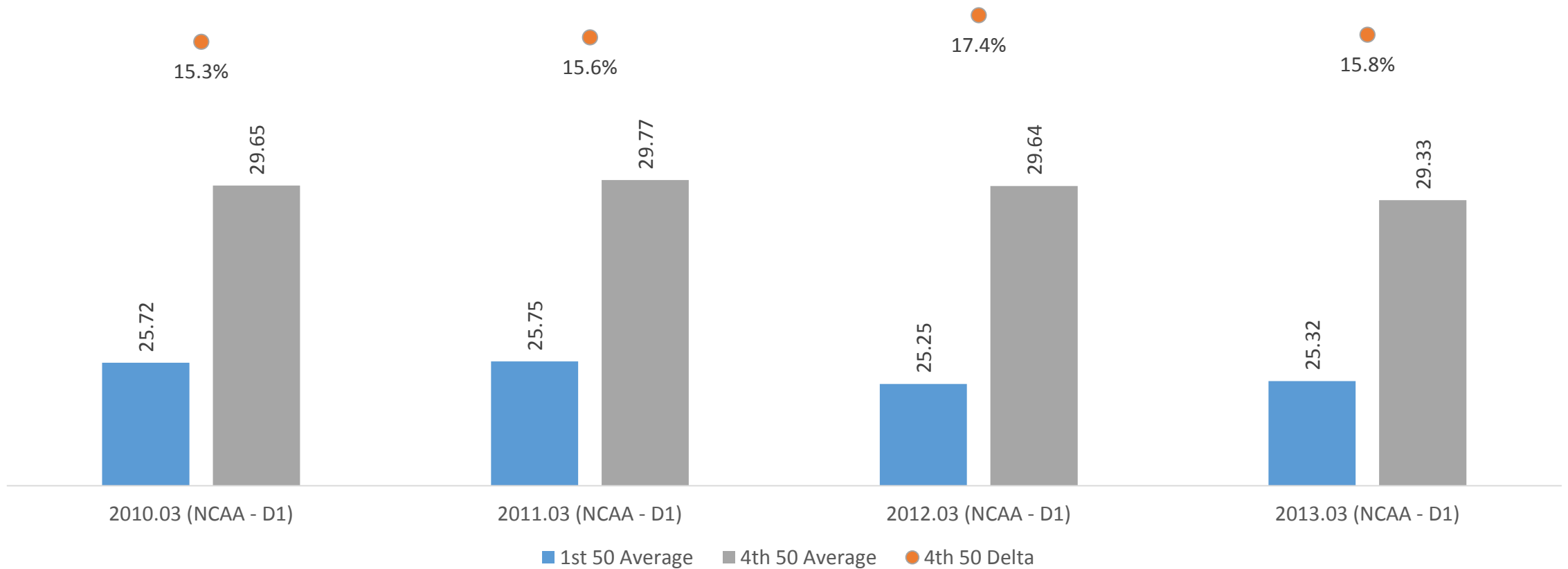


SCY Male 200 Breaststroke: 1st → 4th 50

Average 1st 50 = 25.51

Average 4th 50 = 29.60

Average Split Delta = 16.0%

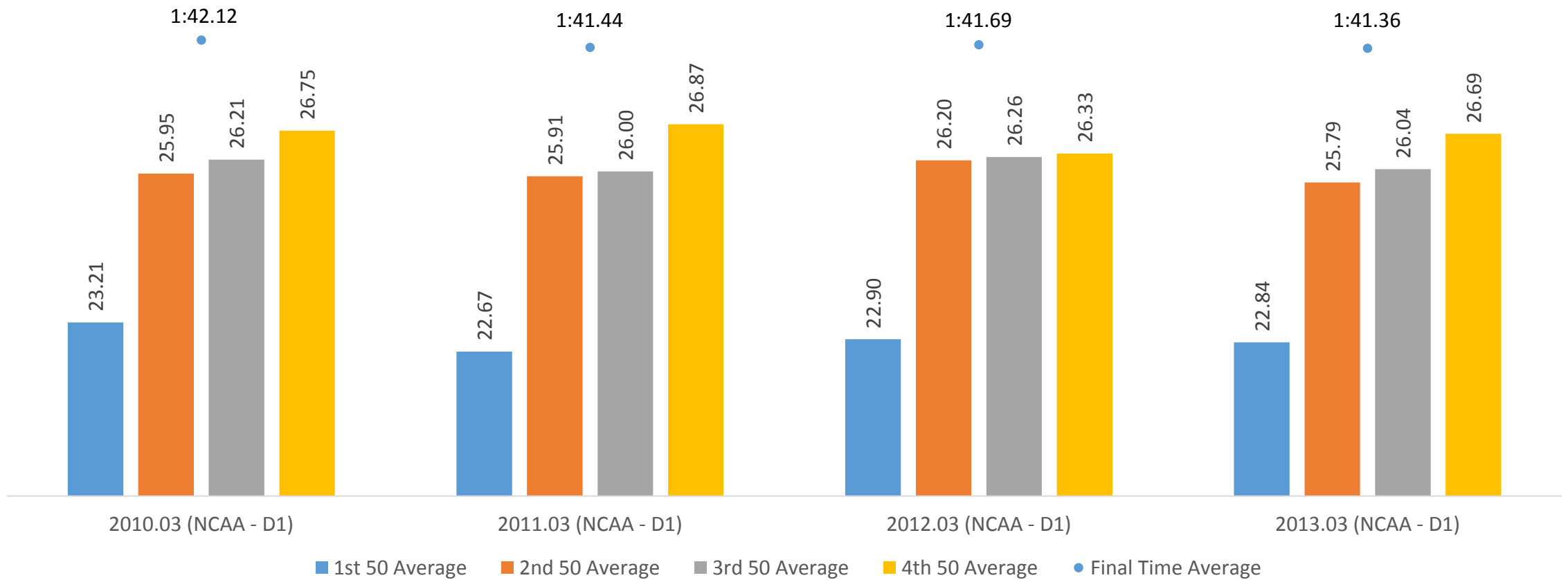


Analysis of the 200Y Butterfly

Section V

SCY Male 200 Butterfly: Race Averages

Average Time = 1:41.65

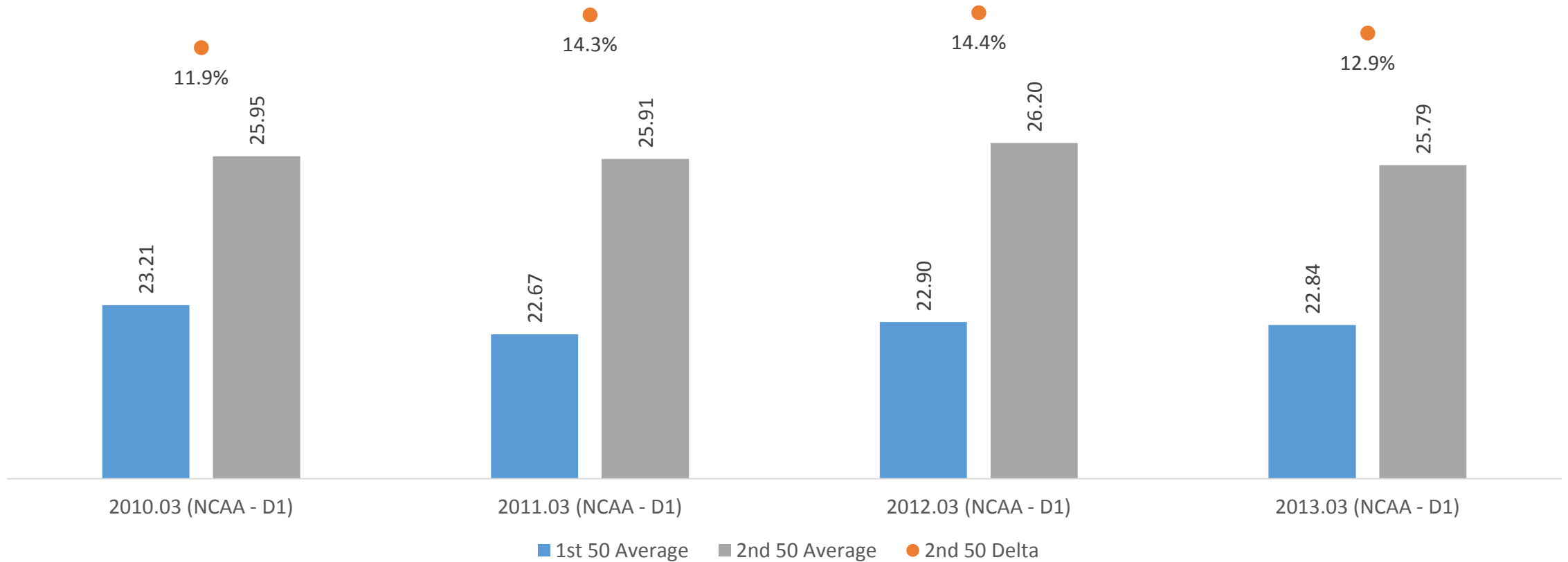


SCY Male 200 Butterfly: 1st → 2nd 50

Average 1st 50 = 22.90

Average 2nd 50 = 25.96

Average Split Delta = 13.4%

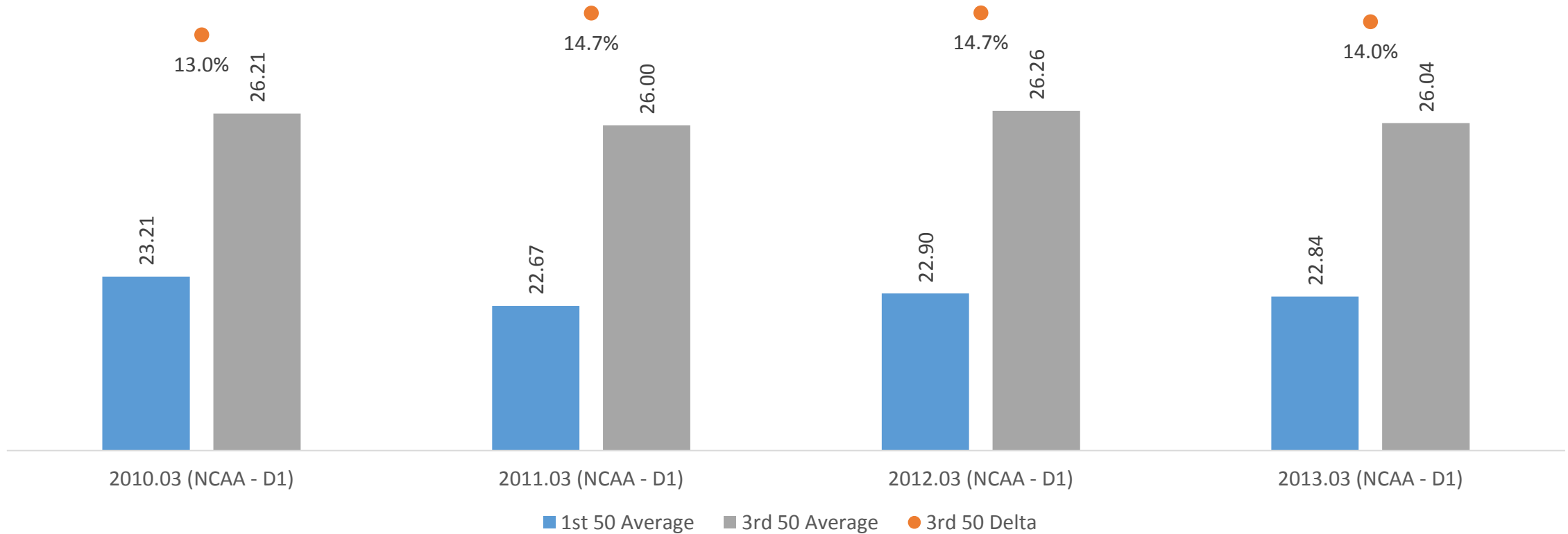


SCY Male 200 Butterfly: 1st → 3rd 50

Average 1st 50 = 22.90

Average 3rd 50 = 26.13

Average Split Delta = 14.1%

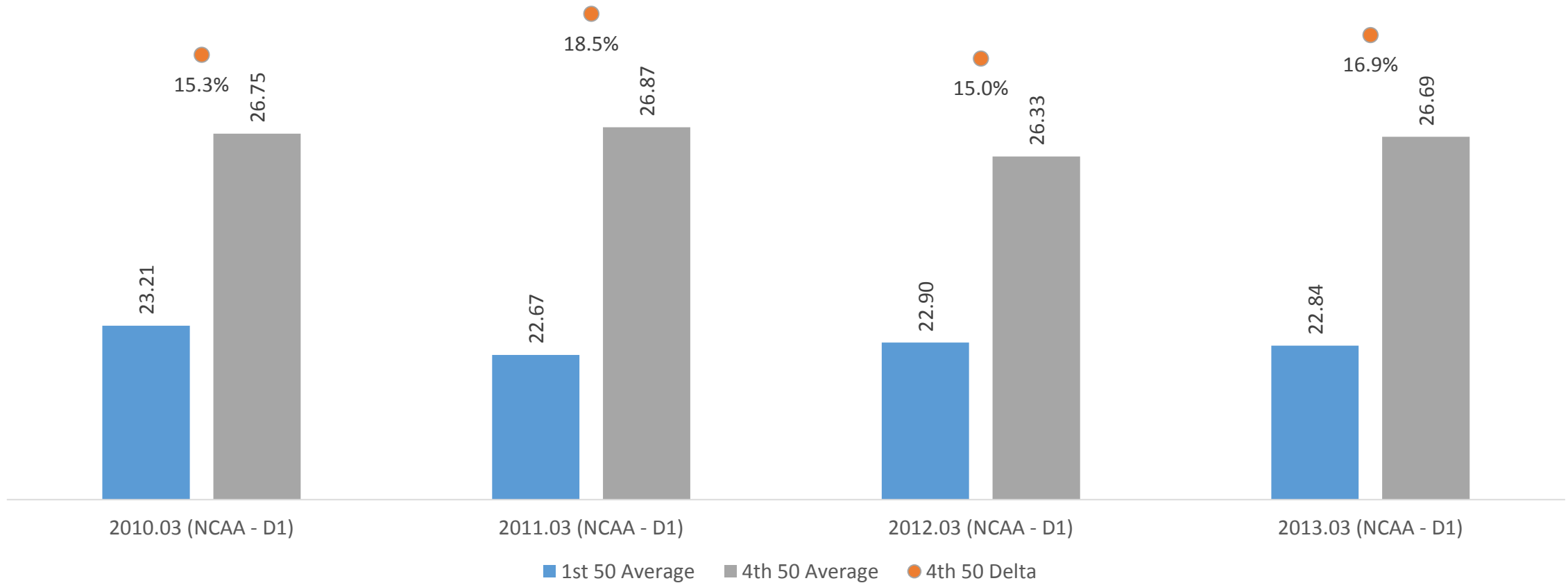


SCY Male 200 Butterfly: 1st → 4th 50

Average 1st 50 = 22.90

Average 4th 50 = 26.66

Average Split Delta = 16.4%



Establishing the Baseline

Section VI

SCY Male 200 Freestyle: Baseline

- Using the average first 50 (21.77) as a baseline to the average split delta's, results in the following list of race strategies for a selection of times
- Split Delta's
 - 1st → 2nd 50 = 7.9%
 - 1st → 3rd 50 = 9.0%
 - 1st → 4th 50 = 10.5%

Final Time	Splits by 50				Split Delta			100 Split
	1st	2nd	3rd	4th	2nd	3rd	4th	
1:19.07	18.50	19.96	20.16	20.45	1.46	0.20	0.29	38.46
1:21.21	19.00	20.50	20.70	21.00	1.50	0.20	0.30	39.50
1:23.34	19.50	21.04	21.25	21.55	1.54	0.21	0.30	40.54
1:25.48	20.00	21.58	21.79	22.11	1.58	0.21	0.31	41.58
1:27.62	20.50	22.12	22.34	22.66	1.62	0.22	0.32	42.62
1:29.76	21.00	22.66	22.88	23.21	1.66	0.22	0.33	43.66
1:31.89	21.50	23.20	23.43	23.76	1.70	0.23	0.34	44.70
1:33.04	21.77	23.49	23.72	24.06	1.72	0.23	0.34	45.26
1:34.03	22.00	23.74	23.97	24.32	1.74	0.23	0.34	45.74
1:36.17	22.50	24.28	24.52	24.87	1.78	0.24	0.35	46.78
1:38.30	23.00	24.82	25.06	25.42	1.82	0.24	0.36	47.82
1:40.44	23.50	25.36	25.61	25.97	1.86	0.25	0.37	48.86
1:42.58	24.00	25.90	26.15	26.53	1.90	0.25	0.37	49.90
1:44.72	24.50	26.44	26.70	27.08	1.94	0.26	0.38	50.94
1:46.85	25.00	26.98	27.24	27.63	1.98	0.26	0.39	51.98

SCY Male 200 Backstroke: Baseline

- Using the average first 50 (23.55) as a baseline to the average split delta's, results in the following list of race strategies for a selection of times
- Split Delta's
 - 1st → 2nd 50 = 7.8%
 - 1st → 3rd 50 = 9.0%
 - 1st → 4th 50 = 9.0%

Final Time	Splits by 50				Split Delta			100 Split
	1st	2nd	3rd	4th	2nd	3rd	4th	
1:25.15	20.00	21.56	21.79	21.79	1.56	0.23	0.00	41.56
1:27.28	20.50	22.10	22.34	22.34	1.60	0.24	0.00	42.60
1:29.40	21.00	22.64	22.88	22.88	1.64	0.24	0.00	43.64
1:31.53	21.50	23.18	23.43	23.43	1.68	0.25	0.00	44.68
1:33.66	22.00	23.72	23.97	23.97	1.72	0.26	0.00	45.72
1:35.79	22.50	24.26	24.52	24.52	1.76	0.26	0.00	46.76
1:37.92	23.00	24.79	25.06	25.06	1.79	0.27	0.00	47.79
1:40.27	23.55	25.39	25.66	25.67	1.84	0.27	0.00	48.94
1:42.18	24.00	25.87	26.15	26.15	1.87	0.28	0.00	49.87
1:44.30	24.50	26.41	26.70	26.70	1.91	0.28	0.00	50.91
1:46.43	25.00	26.95	27.24	27.24	1.95	0.29	0.00	51.95
1:48.56	25.50	27.49	27.79	27.79	1.99	0.30	0.00	52.99
1:50.69	26.00	28.03	28.33	28.33	2.03	0.30	0.00	54.03
1:52.82	26.50	28.57	28.88	28.88	2.07	0.31	0.00	55.07
1:54.95	27.00	29.11	29.42	29.42	2.11	0.31	0.00	56.11

SCY Male 200 Breaststroke: Baseline

- Using the average first 50 (25.51) as a baseline to the average split delta's, results in the following list of race strategies for a selection of times
- Split Delta's
 - 1st → 2nd 50 = 12.3%
 - 1st → 3rd 50 = 13.7%
 - 1st → 4th 50 = 16.0%

Final Time	Splits by 50				Split Delta			100 Split
	1st	2nd	3rd	4th	2nd	3rd	4th	
<i>Note: all times are formatted in mm:ss.hh</i>								
1:37.24	22.00	24.70	25.01	25.53	2.70	0.32	0.51	46.70
1:39.45	22.50	25.26	25.58	26.11	2.76	0.33	0.52	47.76
1:41.66	23.00	25.82	26.15	26.69	2.82	0.33	0.53	48.82
1:43.87	23.50	26.38	26.72	27.27	2.88	0.34	0.55	49.88
1:46.08	24.00	26.94	27.29	27.85	2.94	0.35	0.56	50.94
1:48.29	24.50	27.50	27.86	28.43	3.00	0.35	0.57	52.00
1:50.50	25.00	28.06	28.43	29.01	3.06	0.36	0.58	53.06
1:52.76	25.51	28.64	29.01	29.60	3.13	0.37	0.59	54.15
1:54.92	26.00	29.19	29.56	30.17	3.19	0.38	0.60	55.19
1:57.13	26.50	29.75	30.13	30.75	3.25	0.38	0.62	56.25
1:59.34	27.00	30.31	30.70	31.33	3.31	0.39	0.63	57.31
2:01.55	27.50	30.87	31.27	31.91	3.37	0.40	0.64	58.37
2:03.76	28.00	31.43	31.84	32.49	3.43	0.41	0.65	59.43
2:05.97	28.50	31.99	32.41	33.07	3.49	0.41	0.66	60.49
2:08.18	29.00	32.55	32.97	33.65	3.55	0.42	0.67	61.55

SCY Male 200 Butterfly: Baseline

- Using the average first 50 (22.90) as a baseline to the average split delta's, results in the following list of race strategies for a selection of times
- Split Delta's
 - 1st → 2nd 50 = 13.4%
 - 1st → 3rd 50 = 14.1%
 - 1st → 4th 50 = 16.4%

Final Time	Splits by 50				Split Delta			100 Split
	1st	2nd	3rd	4th	2nd	3rd	4th	
1:26.56	19.50	22.11	22.25	22.70	2.61	0.14	0.45	41.61
1:28.78	20.00	22.68	22.82	23.28	2.68	0.14	0.46	42.68
1:31.00	20.50	23.24	23.39	23.87	2.74	0.15	0.48	43.74
1:33.22	21.00	23.81	23.96	24.45	2.81	0.15	0.49	44.81
1:35.44	21.50	24.38	24.53	25.03	2.88	0.15	0.50	45.88
1:37.66	22.00	24.94	25.10	25.61	2.94	0.16	0.51	46.94
1:39.88	22.50	25.51	25.67	26.19	3.01	0.16	0.52	48.01
1:41.66	22.90	25.97	26.13	26.66	3.06	0.16	0.53	48.87
1:44.31	23.50	26.64	26.81	27.36	3.14	0.17	0.55	50.14
1:46.53	24.00	27.21	27.38	27.94	3.21	0.17	0.56	51.21
1:48.75	24.50	27.78	27.95	28.52	3.28	0.17	0.57	52.28
1:50.97	25.00	28.35	28.52	29.10	3.35	0.18	0.58	53.35
1:53.19	25.50	28.91	29.09	29.69	3.41	0.18	0.59	54.41
1:55.41	26.00	29.48	29.66	30.27	3.48	0.18	0.60	55.48
1:57.63	26.50	30.05	30.23	30.85	3.55	0.19	0.62	56.55

Race Analysis Comparison

		Long-Axis			Short-Axis		
		Freestyle	Backstroke	Average	Breaststroke	Butterfly	Average
Max Delta From 1 st 50	Female	8.7%	7.1%	7.9%	14.8%	14.9%	14.9%
	Male	10.5%	9.0%	9.8%	16.0%	16.4%	16.2%
Delta Range: 2 nd , 3 rd , 4 th 50's	Female	1.4%	1.5%	1.5%	3.6%	3.7%	3.7%
	Male	2.6%	1.2%	1.9%	3.7%	3.0%	3.4%