

# *Establishing the Baseline Race Strategy: Female Short Course 200-Yard Events*

Select Competitions from 2010 - 2013

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July 2013

# 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

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Section I

# Executive Summary

## The Subject

- An analysis of the top five female 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:

- Female

## Session

- A-Final

## Distance

- 200 Yards

## Place:

- 1<sup>st</sup> – 5<sup>th</sup>

## 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

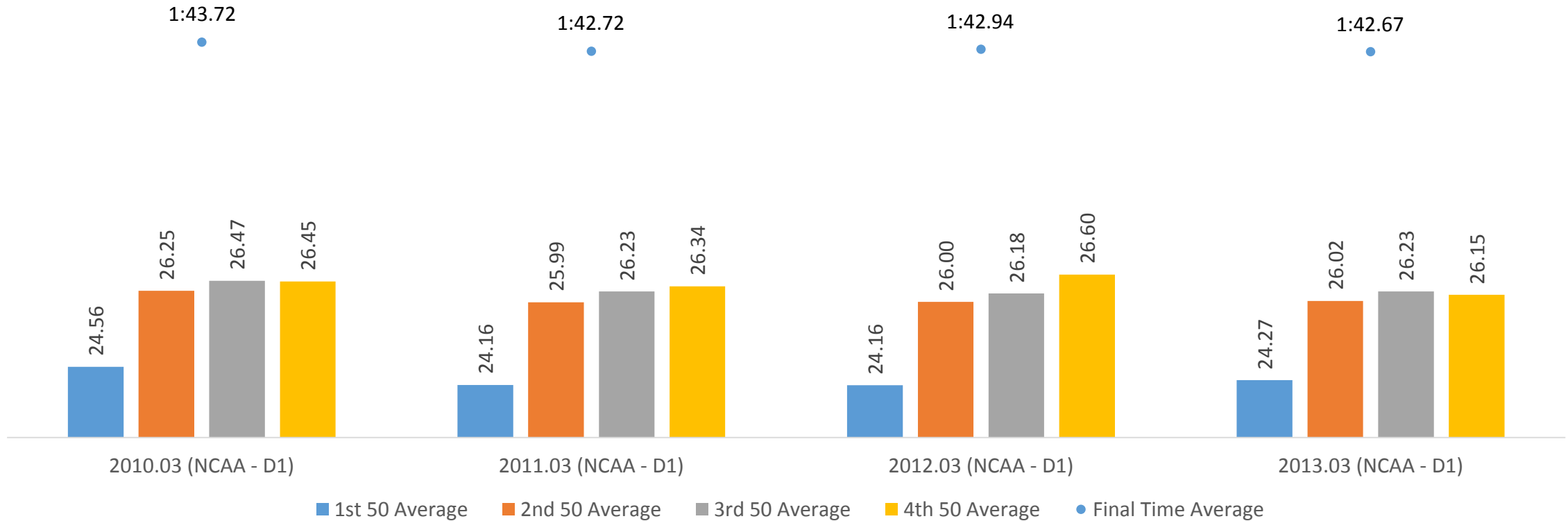
# Analysis of the 200Y Freestyle

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## Section II

# SCY Female 200 Freestyle: Race Averages

Average Time = 1:43.01

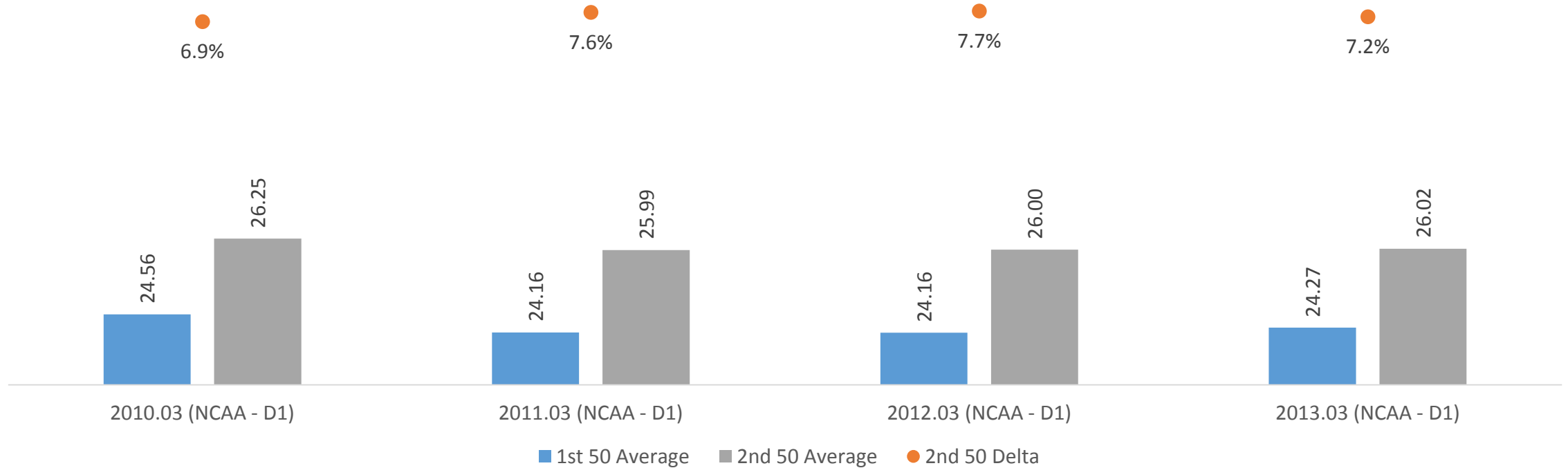


# SCY Female 200 Freestyle: 1<sup>st</sup> → 2<sup>nd</sup> 50

Average 1<sup>st</sup> 50 = 24.29

Average 2<sup>nd</sup> 50 = 26.06

Average Split Delta = 7.3%



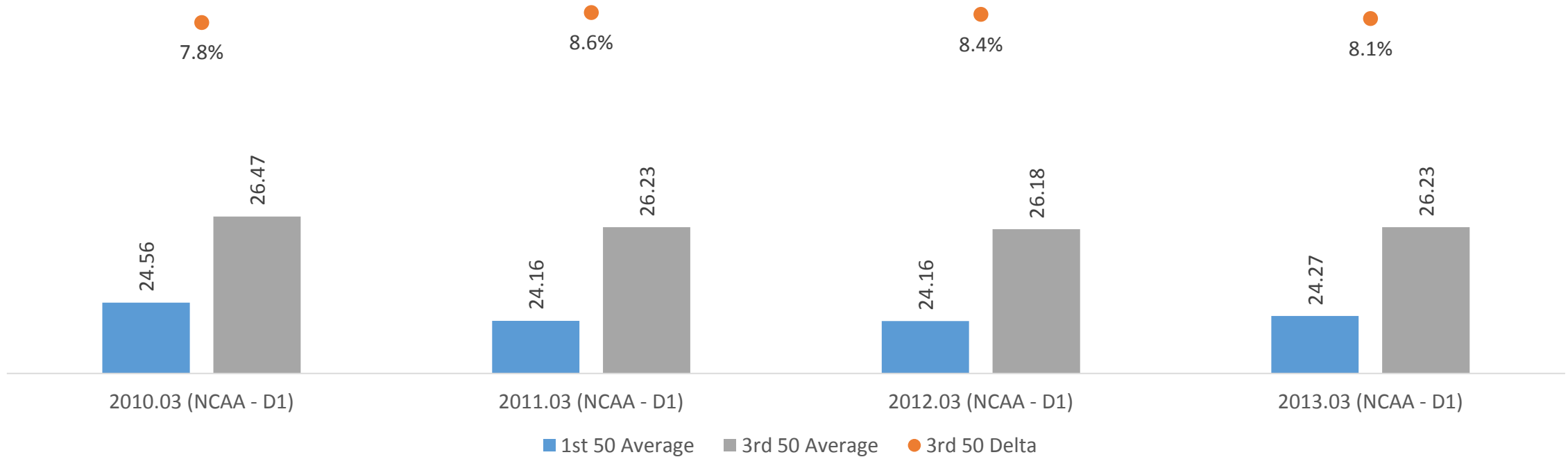


# SCY Female 200 Freestyle: 1<sup>st</sup> → 3<sup>rd</sup> 50

Average 1<sup>st</sup> 50 = 24.29

Average 3<sup>rd</sup> 50 = 26.28

Average Split Delta = 8.2%

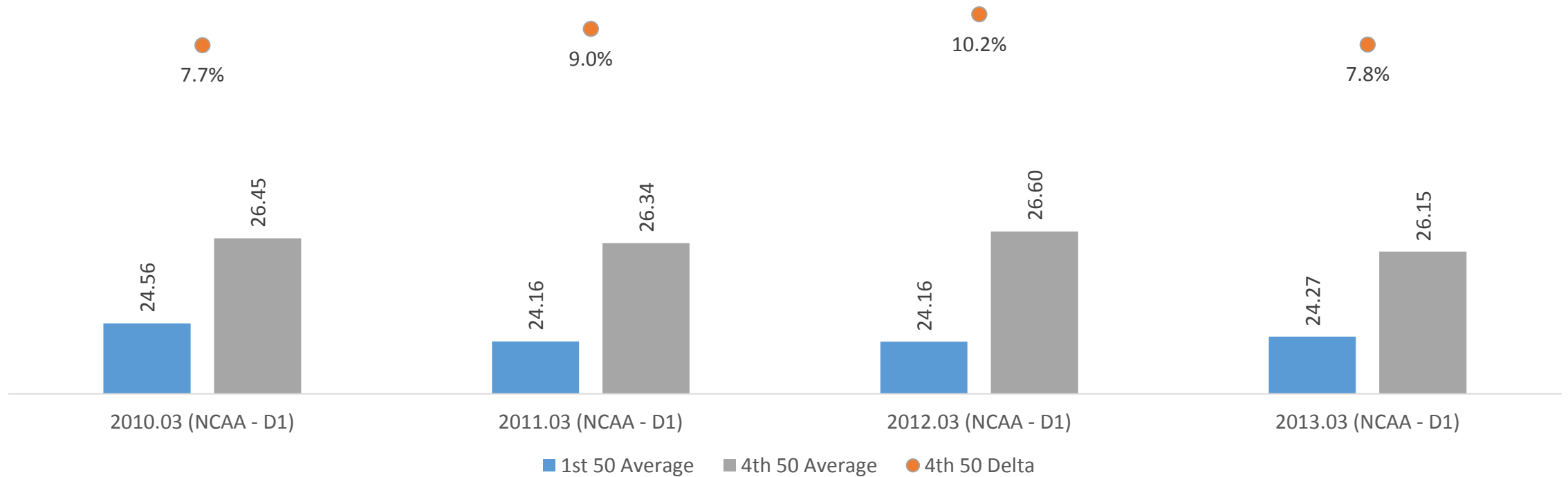


# SCY Female 200 Freestyle: 1<sup>st</sup> → 4<sup>th</sup> 50

Average 1<sup>st</sup> 50 = 24.29

Average 4<sup>th</sup> 50 = 26.39

Average Split Delta = 8.7%



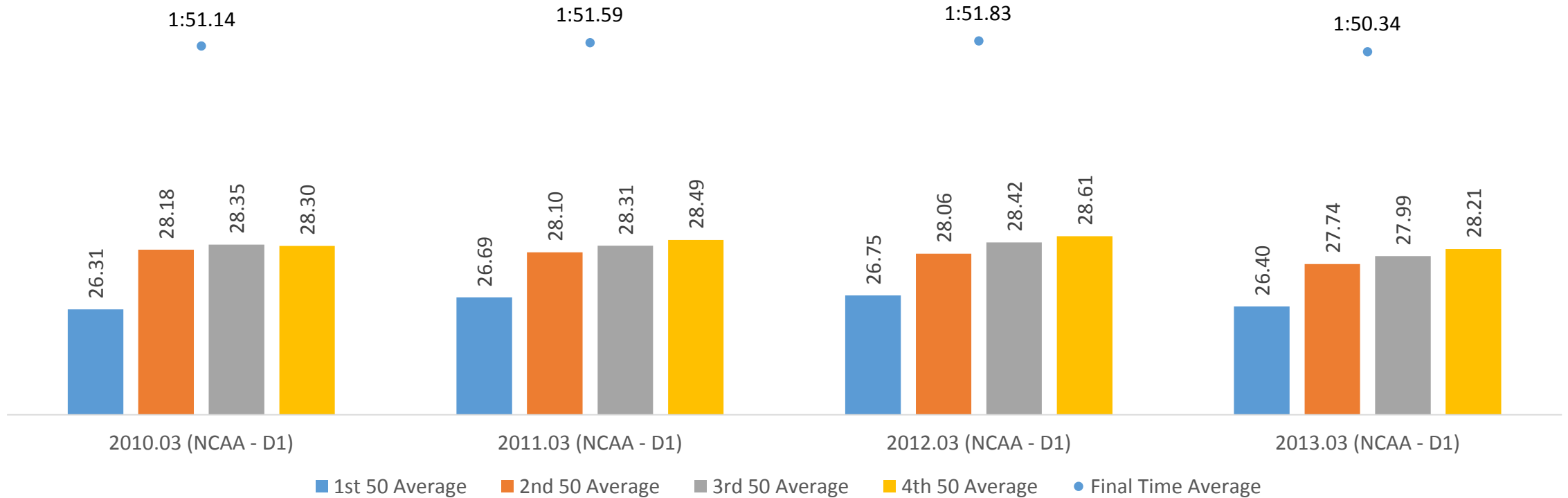
# Analysis of the 200Y Backstroke

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## Section III

# SCY Female 200 Backstroke: Race Averages

Average Time = 1:51.23

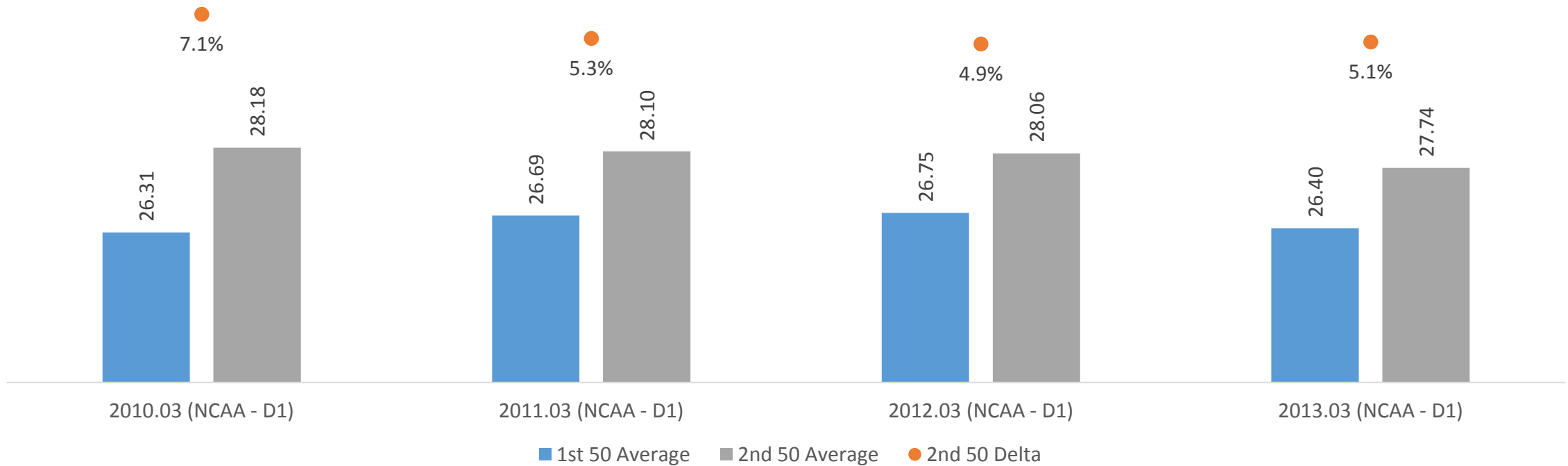


# SCY Female 200 Backstroke: 1<sup>st</sup> → 2<sup>nd</sup> 50

Average 1<sup>st</sup> 50 = 26.54

Average 2<sup>nd</sup> 50 = 28.02

Average Split Delta = 5.6%

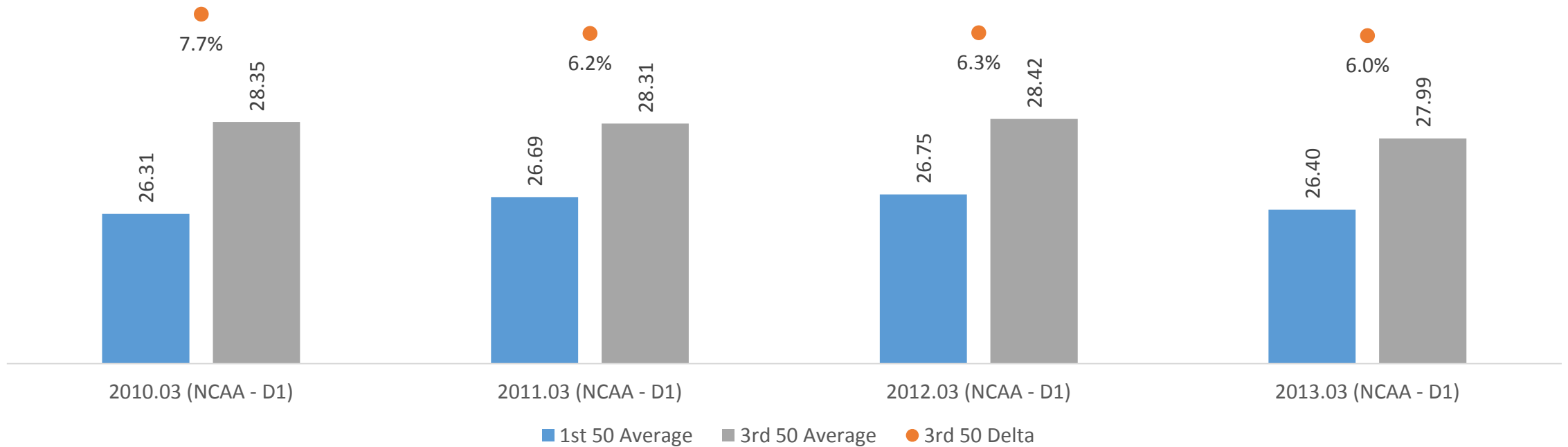


# SCY Female 200 Backstroke: 1<sup>st</sup> → 3<sup>rd</sup> 50

Average 1<sup>st</sup> 50 = 26.54

Average 3<sup>rd</sup> 50 = 28.27

Average Split Delta = 6.6%

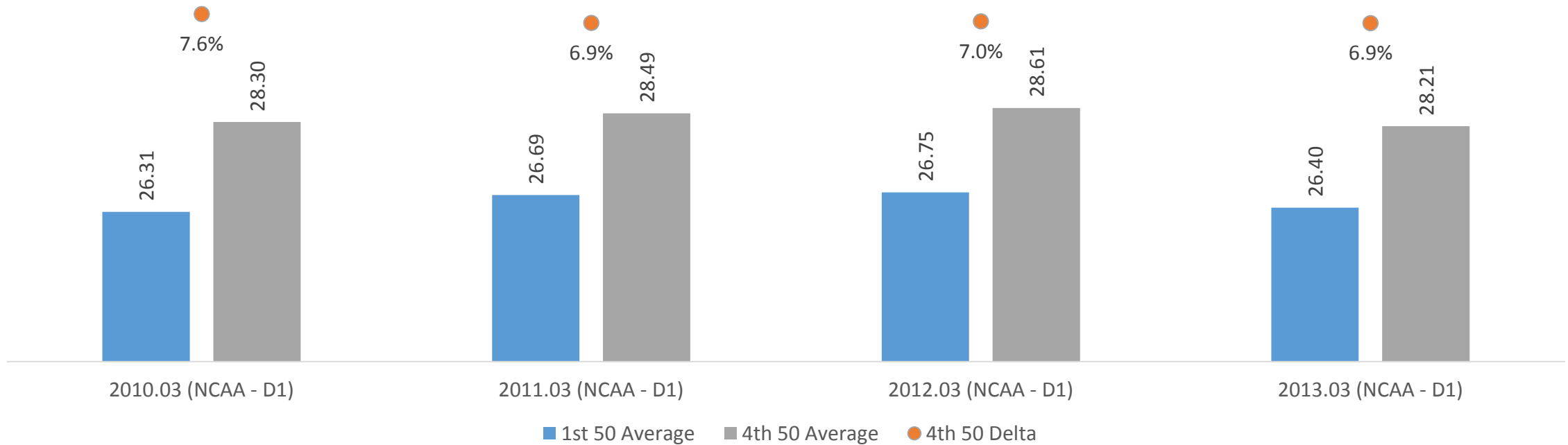


# SCY Female 200 Backstroke: 1<sup>st</sup> → 4<sup>th</sup> 50

Average 1<sup>st</sup> 50 = 26.54

Average 4<sup>th</sup> 50 = 28.40

Average Split Delta = 7.1%



# Analysis of the 200Y Breaststroke

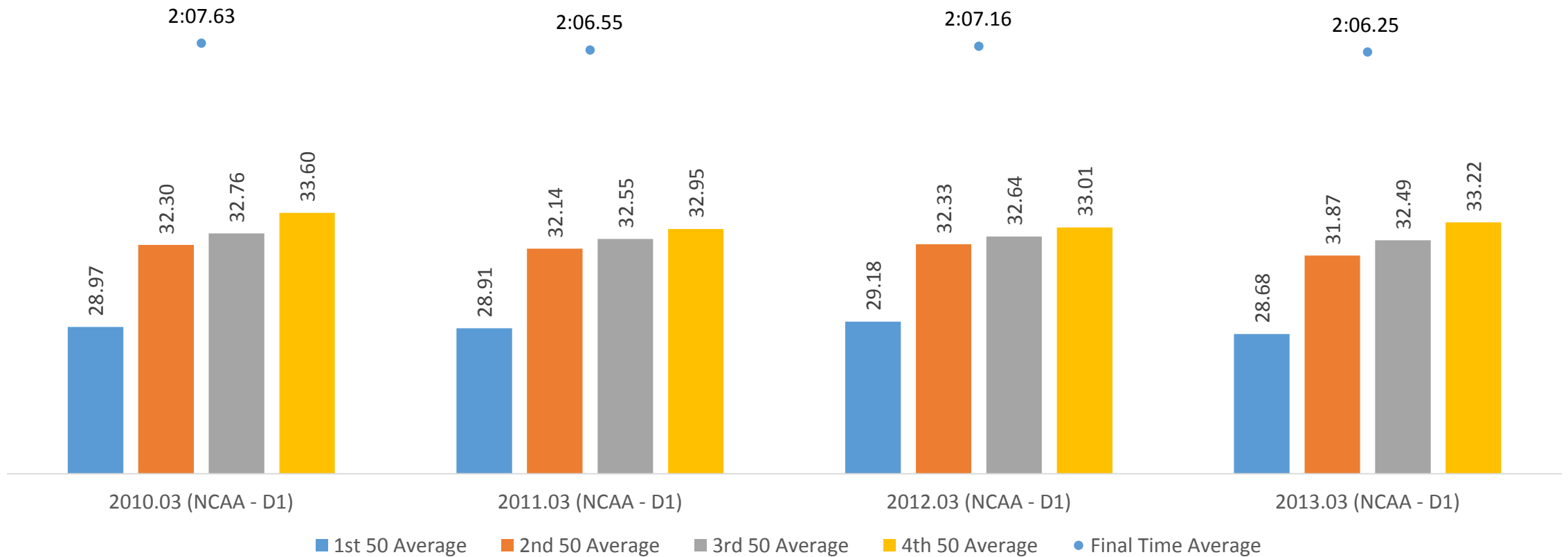
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## Section IV



# SCY Female 200 Breaststroke: Race Averages

Average Time = 2:06.90

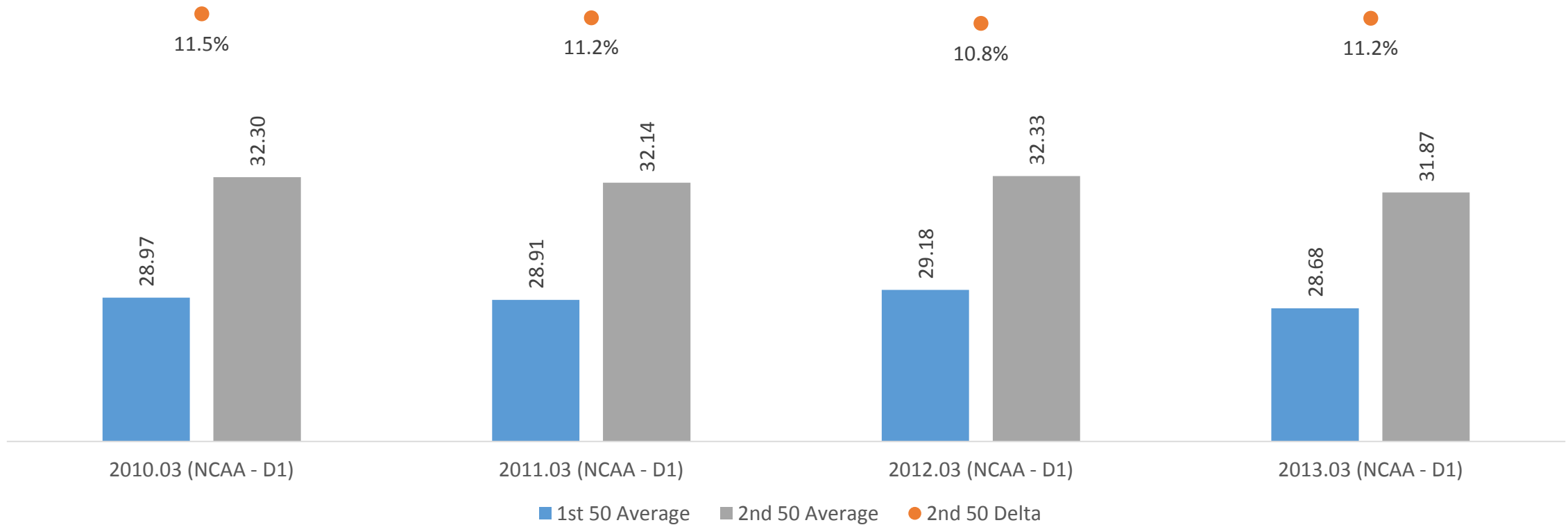


# SCY Female 200 Breaststroke: 1<sup>st</sup> → 2<sup>nd</sup> 50

Average 1<sup>st</sup> 50 = 28.93

Average 2<sup>nd</sup> 50 = 32.16

Average Split Delta = 11.2%

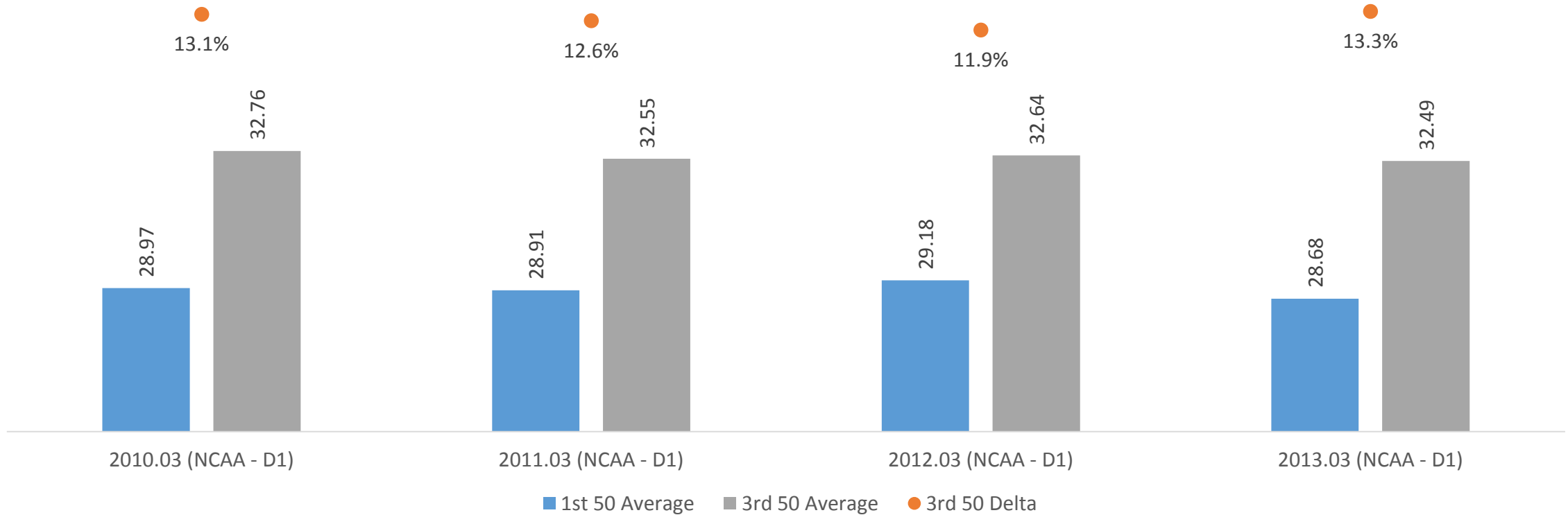


# SCY Female 200 Breaststroke: 1<sup>st</sup> → 3<sup>rd</sup> 50

Average 1<sup>st</sup> 50 = 28.93

Average 3<sup>rd</sup> 50 = 32.61

Average Split Delta = 12.7%

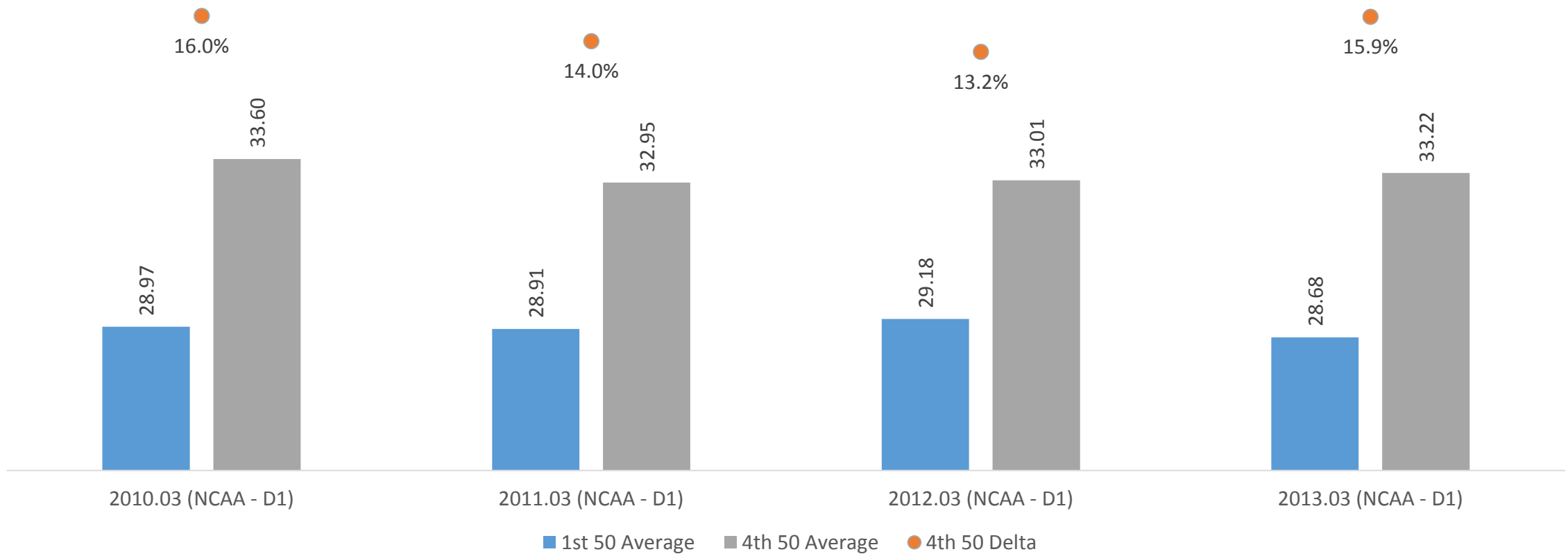


# SCY Female 200 Breaststroke: 1<sup>st</sup> → 4<sup>th</sup> 50

Average 1<sup>st</sup> 50 = 28.93

Average 4<sup>th</sup> 50 = 33.20

Average Split Delta = 14.8%



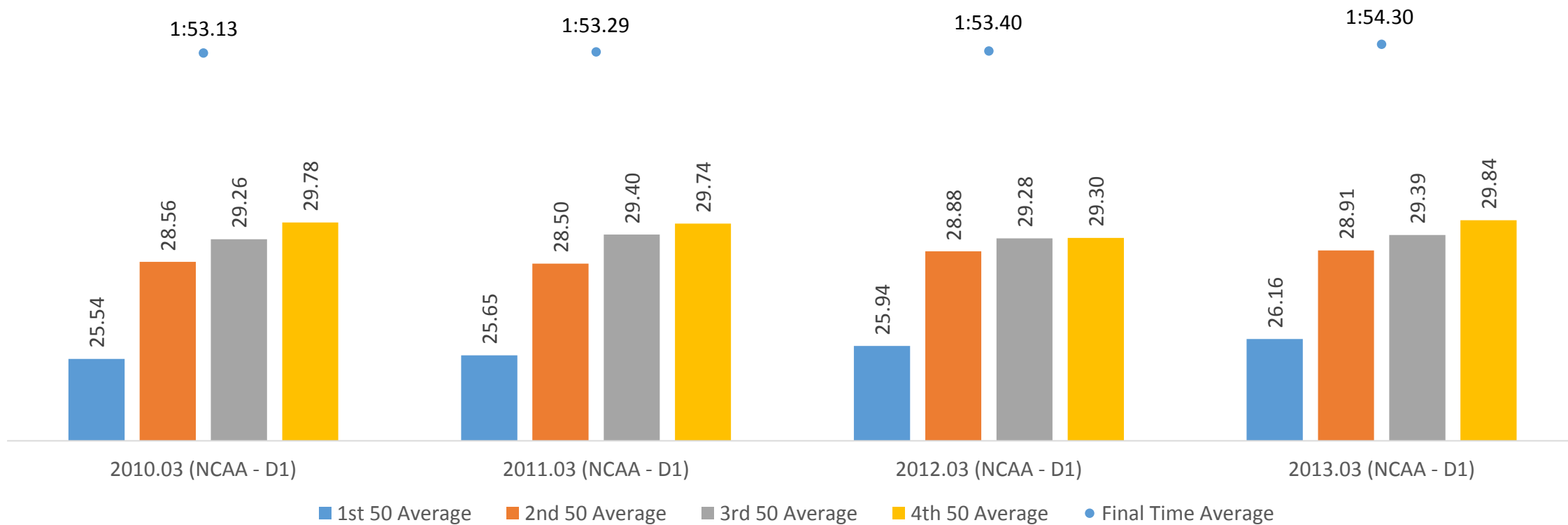
# Analysis of the 200Y Butterfly

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Section V

# SCY Female 200 Butterfly: Race Averages

Average Time = 1:53.53

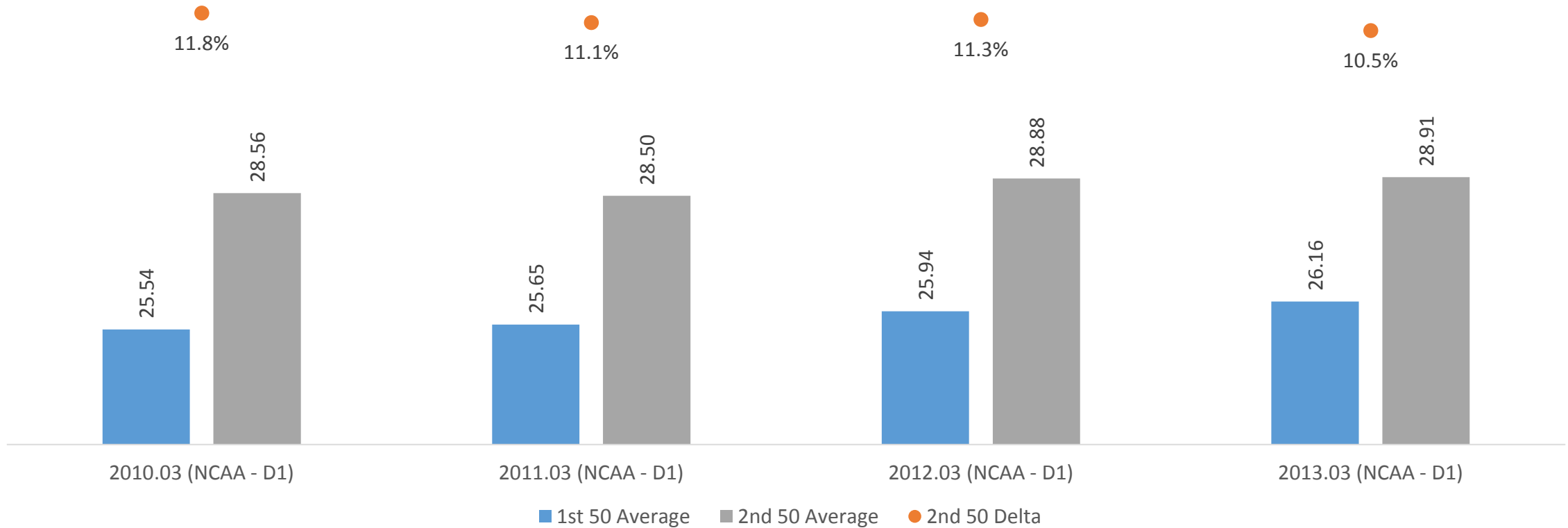


# SCY Female 200 Butterfly: 1<sup>st</sup> → 2<sup>nd</sup> 50

Average 1<sup>st</sup> 50 = 25.82

Average 2<sup>nd</sup> 50 = 28.71

Average Split Delta = 11.2%

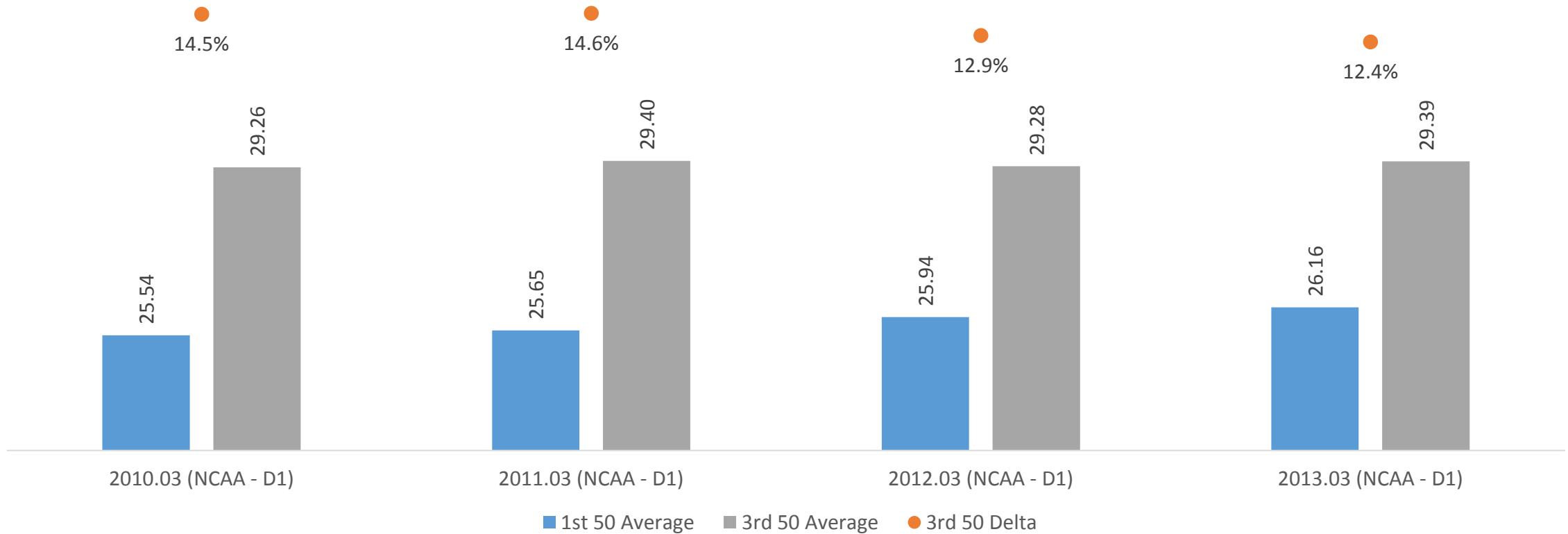


# SCY Female 200 Butterfly: 1<sup>st</sup> → 3<sup>rd</sup> 50

Average 1<sup>st</sup> 50 = 25.82

Average 3<sup>rd</sup> 50 = 29.33

Average Split Delta = 13.6%



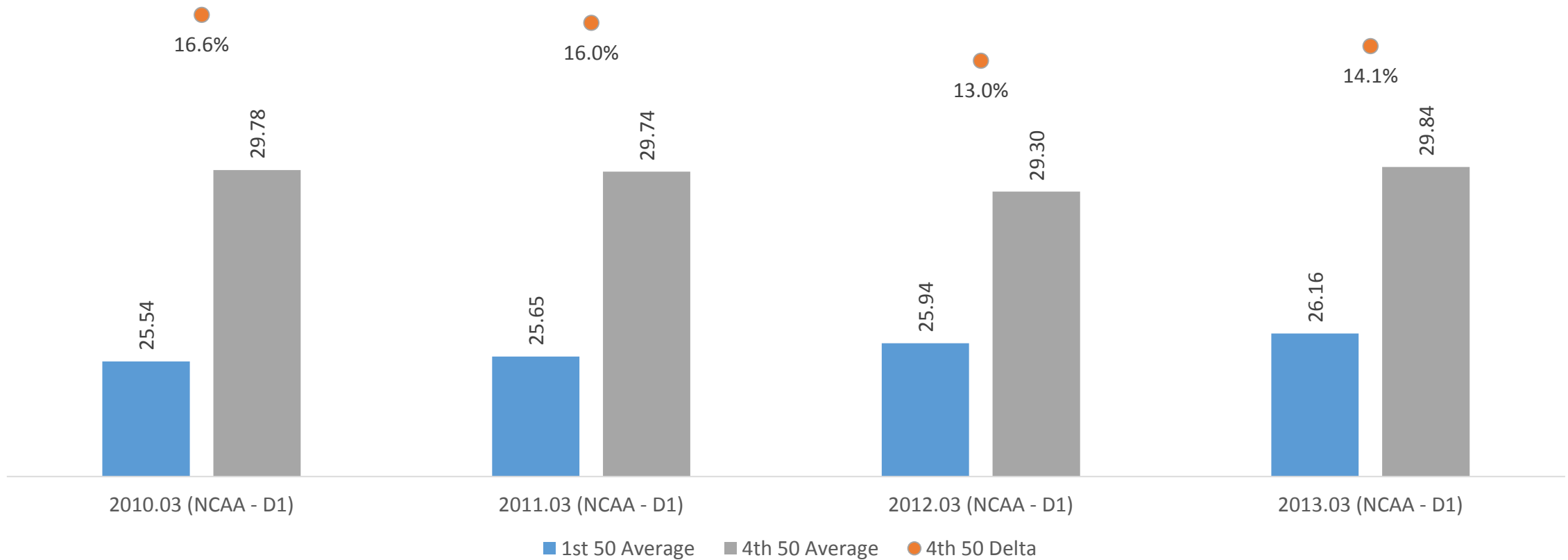


# SCY Female 200 Butterfly: 1<sup>st</sup> → 4<sup>th</sup> 50

Average 1<sup>st</sup> 50 = 25.82

Average 4<sup>th</sup> 50 = 29.66

Average Split Delta = 14.9%



# Establishing the Baseline

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Section VI

# SCY Female 200 Freestyle: Baseline

- Using the average first 50 (24.29) 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
  - 1<sup>st</sup> → 2<sup>nd</sup> 50 = 7.3%
  - 1<sup>st</sup> → 3<sup>rd</sup> 50 = 8.2%
  - 1<sup>st</sup> → 4<sup>th</sup> 50 = 8.7%

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>								
1:29.09	21.00	22.54	22.73	22.82	1.54	0.19	0.10	43.54
1:31.21	21.50	23.08	23.27	23.37	1.58	0.19	0.10	44.58
1:33.33	22.00	23.61	23.81	23.91	1.61	0.20	0.10	45.61
1:35.45	22.50	24.15	24.35	24.45	1.65	0.20	0.10	46.65
1:37.58	23.00	24.69	24.89	25.00	1.69	0.20	0.11	47.69
1:39.70	23.50	25.22	25.43	25.54	1.72	0.21	0.11	48.72
1:41.82	24.00	25.76	25.97	26.08	1.76	0.21	0.11	49.76
1:43.04	24.29	26.07	26.28	26.40	1.78	0.22	0.11	50.36
1:43.94	24.50	26.30	26.51	26.63	1.80	0.22	0.11	50.80
1:46.06	25.00	26.83	27.06	27.17	1.83	0.22	0.12	51.83
1:48.18	25.50	27.37	27.60	27.72	1.87	0.23	0.12	52.87
1:50.30	26.00	27.91	28.14	28.26	1.91	0.23	0.12	53.91
1:52.42	26.50	28.44	28.68	28.80	1.94	0.24	0.12	54.94
1:54.55	27.00	28.98	29.22	29.35	1.98	0.24	0.13	55.98
1:56.67	27.50	29.52	29.76	29.89	2.02	0.24	0.13	57.02

# SCY Female 200 Backstroke: Baseline

- Using the average first 50 (26.54) 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
  - 1<sup>st</sup> → 2<sup>nd</sup> 50 = 5.6%
  - 1<sup>st</sup> → 3<sup>rd</sup> 50 = 6.6%
  - 1<sup>st</sup> → 4<sup>th</sup> 50 = 7.1%

Final Time	Splits by 50				Split Delta			100 Split
	1st	2nd	3rd	4th	2nd	3rd	4th	
1:36.43	23.00	24.29	24.51	24.63	1.29	0.22	0.12	47.29
1:38.52	23.50	24.82	25.04	25.16	1.32	0.22	0.12	48.32
1:40.62	24.00	25.35	25.57	25.70	1.35	0.23	0.12	49.35
1:42.72	24.50	25.88	26.11	26.23	1.38	0.23	0.13	50.38
1:44.81	25.00	26.40	26.64	26.77	1.40	0.23	0.13	51.40
1:46.91	25.50	26.93	27.17	27.30	1.43	0.24	0.13	52.43
1:49.01	26.00	27.46	27.71	27.84	1.46	0.24	0.13	53.46
1:51.26	26.54	28.03	28.28	28.41	1.49	0.25	0.14	54.57
1:53.20	27.00	28.52	28.77	28.91	1.52	0.25	0.14	55.52
1:55.29	27.50	29.05	29.30	29.45	1.55	0.26	0.14	56.55
1:57.39	28.00	29.57	29.84	29.98	1.57	0.26	0.14	57.57
1:59.49	28.50	30.10	30.37	30.52	1.60	0.27	0.15	58.60
2:01.58	29.00	30.63	30.90	31.05	1.63	0.27	0.15	59.63
2:03.68	29.50	31.16	31.43	31.59	1.66	0.28	0.15	60.66
2:05.78	30.00	31.69	31.97	32.12	1.69	0.28	0.15	61.69

# SCY Female 200 Breaststroke: Baseline

- Using the average first 50 (28.93) 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
  - 1<sup>st</sup> → 2<sup>nd</sup> 50 = 11.2%
  - 1<sup>st</sup> → 3<sup>rd</sup> 50 = 12.7%
  - 1<sup>st</sup> → 4<sup>th</sup> 50 = 14.8%

Final Time	Splits by 50				Split Delta			100 Split
	1st	2nd	3rd	4th	2nd	3rd	4th	
1:51.86	25.50	28.35	28.75	29.27	2.85	0.40	0.52	53.85
1:54.06	26.00	28.91	29.31	29.84	2.91	0.40	0.53	54.91
1:56.25	26.50	29.46	29.87	30.42	2.96	0.41	0.54	55.96
1:58.44	27.00	30.02	30.44	30.99	3.02	0.42	0.55	57.02
2:00.64	27.50	30.57	31.00	31.56	3.07	0.43	0.56	58.07
2:02.83	28.00	31.13	31.56	32.14	3.13	0.44	0.57	59.13
2:05.02	28.50	31.68	32.13	32.71	3.18	0.44	0.58	60.18
2:06.93	28.93	32.17	32.62	33.21	3.23	0.45	0.59	61.10
2:09.41	29.50	32.80	33.25	33.86	3.30	0.46	0.61	62.30
2:11.60	30.00	33.35	33.82	34.43	3.35	0.47	0.62	63.35
2:13.80	30.50	33.91	34.38	35.01	3.41	0.47	0.63	64.41
2:15.99	31.00	34.46	34.95	35.58	3.46	0.48	0.64	65.46
2:18.18	31.50	35.02	35.51	36.16	3.52	0.49	0.65	66.52
2:20.38	32.00	35.58	36.07	36.73	3.58	0.50	0.66	67.58
2:22.57	32.50	36.13	36.64	37.30	3.63	0.50	0.67	68.63

# SCY Female 200 Butterfly: Baseline

- Using the average first 50 (25.82) 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
  - 1<sup>st</sup> → 2<sup>nd</sup> 50 = 11.2%
  - 1<sup>st</sup> → 3<sup>rd</sup> 50 = 13.6%
  - 1<sup>st</sup> → 4<sup>th</sup> 50 = 14.9%

Final Time	Splits by 50				Split Delta			100 Split
	1st	2nd	3rd	4th	2nd	3rd	4th	
1:38.93	22.50	25.02	25.56	25.85	2.52	0.54	0.29	47.52
1:41.13	23.00	25.57	26.13	26.43	2.57	0.55	0.30	48.57
1:43.33	23.50	26.13	26.69	27.00	2.63	0.57	0.31	49.63
1:45.53	24.00	26.69	27.26	27.58	2.69	0.58	0.31	50.69
1:47.72	24.50	27.24	27.83	28.15	2.74	0.59	0.32	51.74
1:49.92	25.00	27.80	28.40	28.73	2.80	0.60	0.33	52.80
1:52.12	25.50	28.35	28.97	29.30	2.85	0.61	0.33	53.85
1:53.55	25.82	28.71	29.33	29.67	2.89	0.62	0.34	54.54
1:54.32	26.00	28.91	29.53	29.88	2.91	0.63	0.34	54.91
1:56.52	26.50	29.47	30.10	30.45	2.97	0.64	0.35	55.97
1:58.72	27.00	30.02	30.67	31.02	3.02	0.65	0.35	57.02
2:00.91	27.50	30.58	31.24	31.60	3.08	0.66	0.36	58.08
2:03.11	28.00	31.13	31.81	32.17	3.13	0.67	0.37	59.13
2:05.31	28.50	31.69	32.37	32.75	3.19	0.69	0.37	60.19
2:07.51	29.00	32.25	32.94	33.32	3.25	0.70	0.38	61.25

# Race Analysis Comparison

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