

# Swim Meet Simulation Report

Based on 1000 Monte Carlo simulations across 60 teams.

## Methodology

The simulator uses seed times from the state performance list, event assignments (up to 2 individual events per swimmer, plus relays), and a Markov-style performance state (Good/Average/Bad) with team momentum. Each simulation samples swim times and ranks finishers to compute team points; win and podium probabilities are estimated from the fraction of simulations in which each team placed 1st or top 3.

## Team Summary (Mean, Std, Min, Max, Win %)

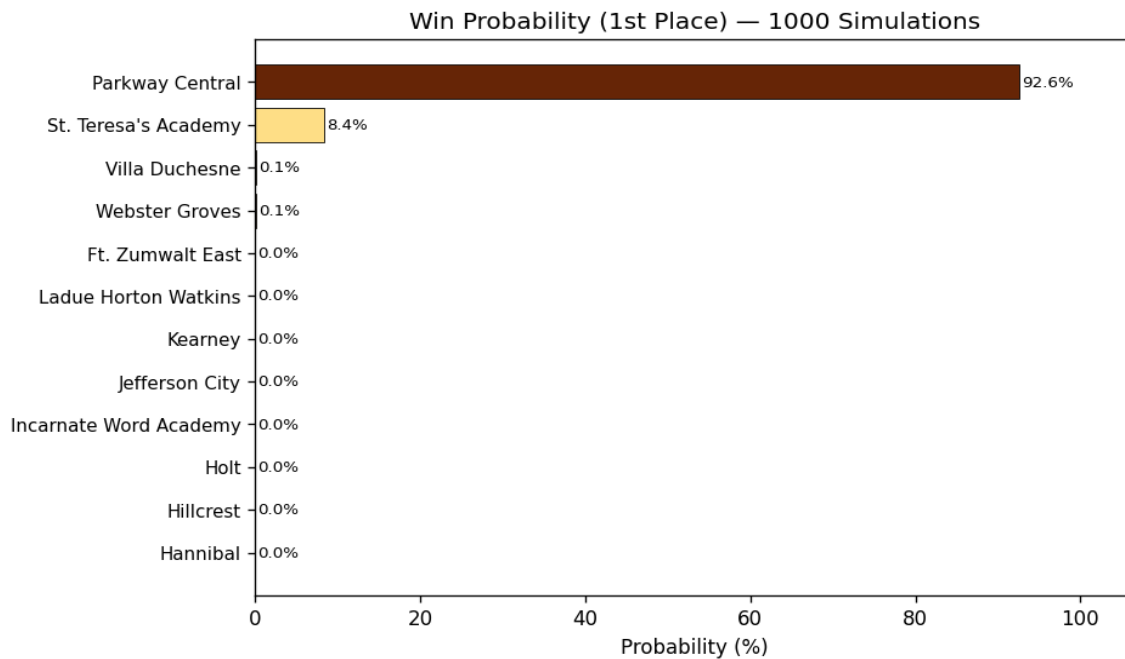
team	mean	std	min	max	win_probability_%
Parkway Central	177.1	8.6	122	201	92.6
St. Teresa's Academy	160.0	8.4	123	185	7.2
Villa Duchesne	137.3	10.0	96	174	0.1
Webster Groves	133.4	10.1	87	165	0.1
Visitation Academy	121.2	7.5	94	157	0.0
Father Tolton	111.9	9.7	71	148	0.0
John Burroughs	103.4	10.9	56	135	0.0
Notre Dame de Sion	83.3	11.6	40	131	0.0
Grain Valley	74.3	11.4	30	114	0.0
Rockwood Summit	74.2	12.3	34	114	0.0
Louisiana	72.5	9.4	35	102	0.0
Parkway West	62.0	10.1	29	95	0.0
Clayton	60.6	9.1	39	102	0.0
Nerinx Hall	54.3	9.5	27	92	0.0
Ursuline Academy	38.7	9.1	13	72	0.0

## Podium Probability (Top 3 Finish)

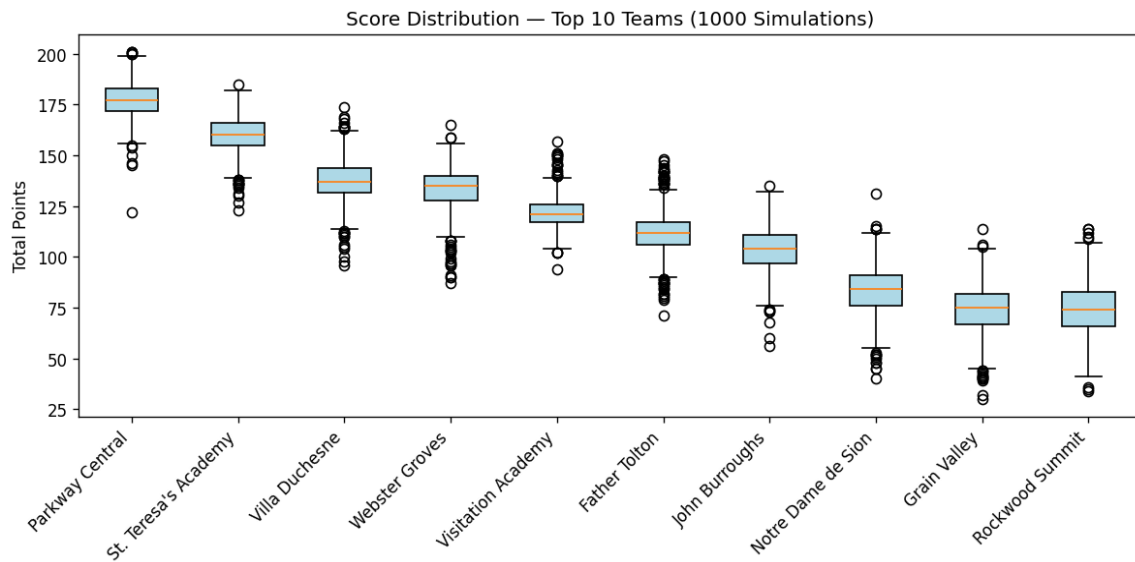
team	podium_probability	avg_rank
Parkway Central	0.999	1.08
St. Teresa's Academy	0.99	1.994

team	podium_probability	avg_rank
Villa Duchesne	0.591	3.463
Webster Groves	0.396	3.807
Visitation Academy	0.036	5.012
Father Tolton	0.017	5.991
John Burroughs	0.003	6.784
STEAM Academy	0.0	43.708
Rockwood Summit	0.0	10.091
Principia	0.0	31.814
Poplar Bluff	0.0	41.103
Belton	0.0	43.708

## Win Probability (1st Place)



## Score Distribution (Top 10 Teams)



## Analysis & Commentary

Based on 1000 simulated meets, **Parkway Central** is the clear favorite, winning approximately **92.6%** of simulations with an average total score of **177.1 points**. The model reflects seed times, event assignments, and a Markov-style performance state with team momentum.

The primary challenger is **St. Teresa's Academy**, with a **7.2%** chance of winning. The gap between the top two teams indicates that the state title is likely a two-school race unless seed data or day-of-meet variance shifts significantly.

The most likely podium (top 3) consists of **Parkway Central, St. Teresa's Academy, Villa Duchesne**, with each of these teams having a high probability of finishing in the top three. Coaches and athletes can use these probabilities to set realistic goals (e.g., contending for a podium spot vs. winning the meet).

This report is generated from a stochastic simulator and should be interpreted as a probabilistic outlook, not a prediction of a single outcome. Actual results depend on many factors not in the model (injuries, taper, relay order, etc.).