

Which Traffic Simulation
Software is Best?

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TRAFFIC STUDY MANUAL

The Insider's Guide to Studying the Traffic
Impacts of a Proposed Development



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Version 1.0 – October 2013

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Calibrate to What???

Results = Reality?

COUNTCAM

08/06/13
16:00:09

Wooddale

North

Lake



COUNT CAM

13/08/06
16:00:07

Valley View Rd

North

W 70th St



COUNT CAM

13/08/06
16:00:06

W 70th St

North



France Ave

COUNTCAM

13/08/06
16:00:05

Galleria Lot

North

W 70th St



CH: 04

08/06/13
16:00:04



North

York Ave

W 70th St

Data Reduction = 76 Hours



Rodel
Interactive Roundabout Design



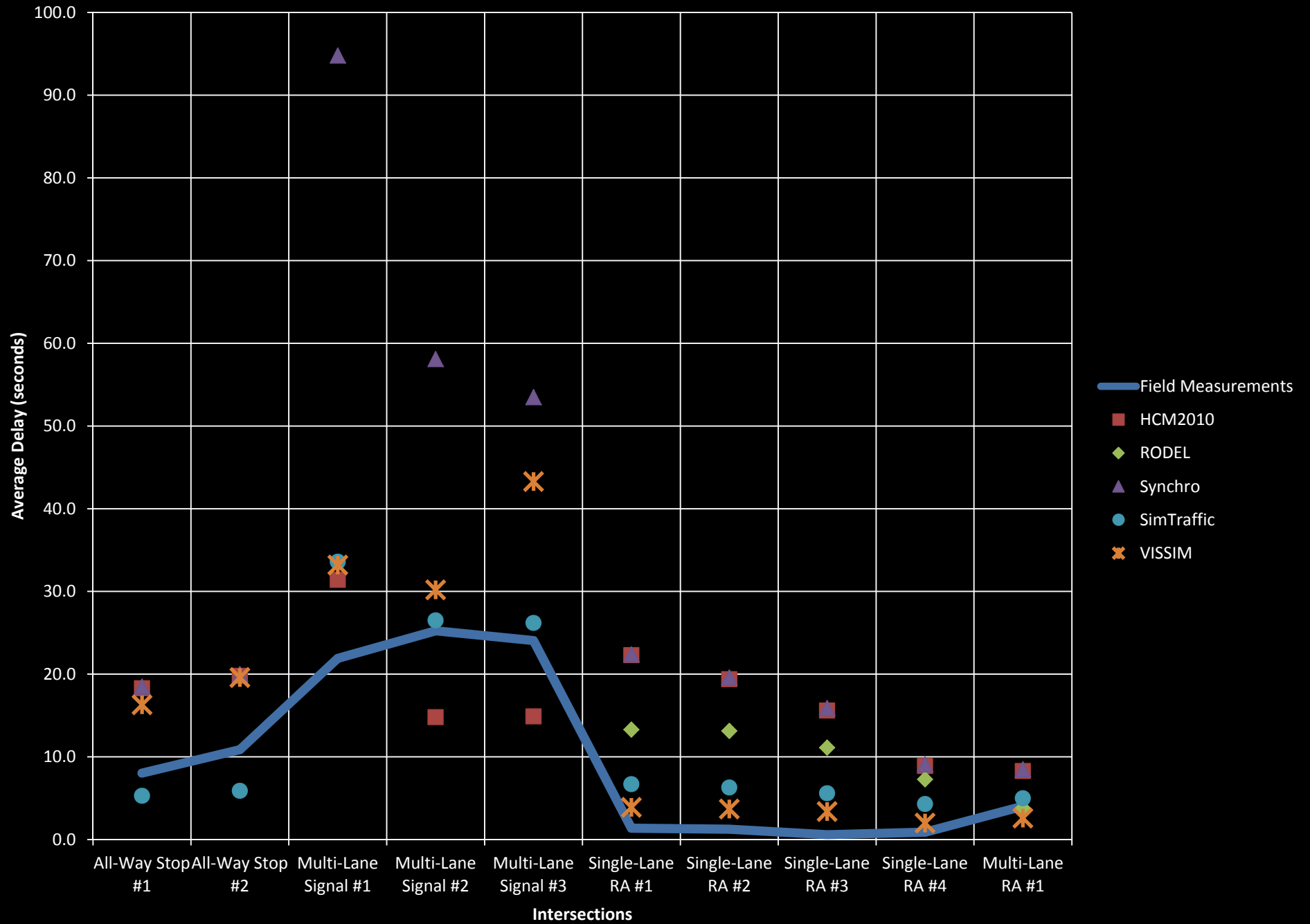
Synchro



SimTraffic



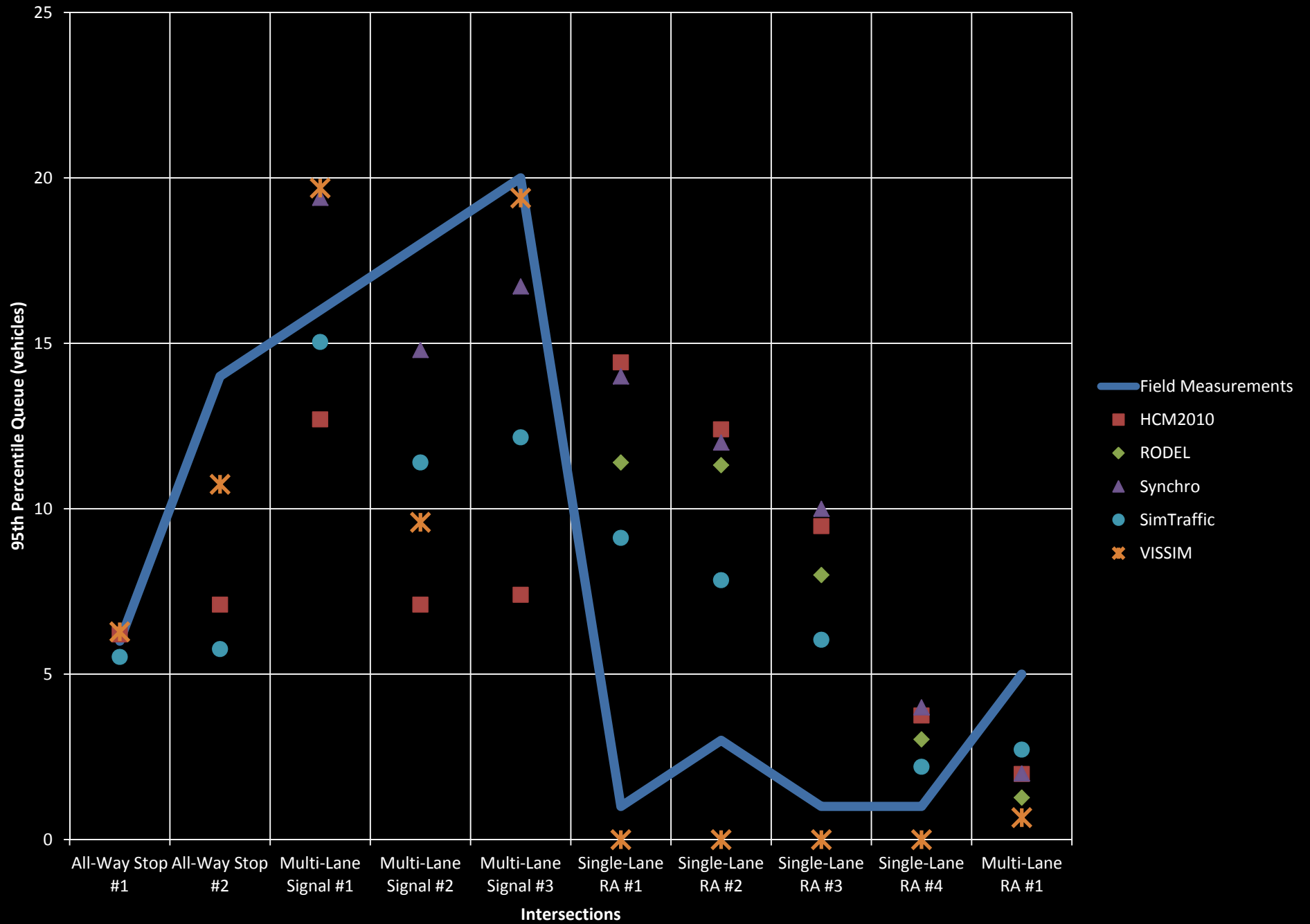
Results (overall average delay) – Field vs Software



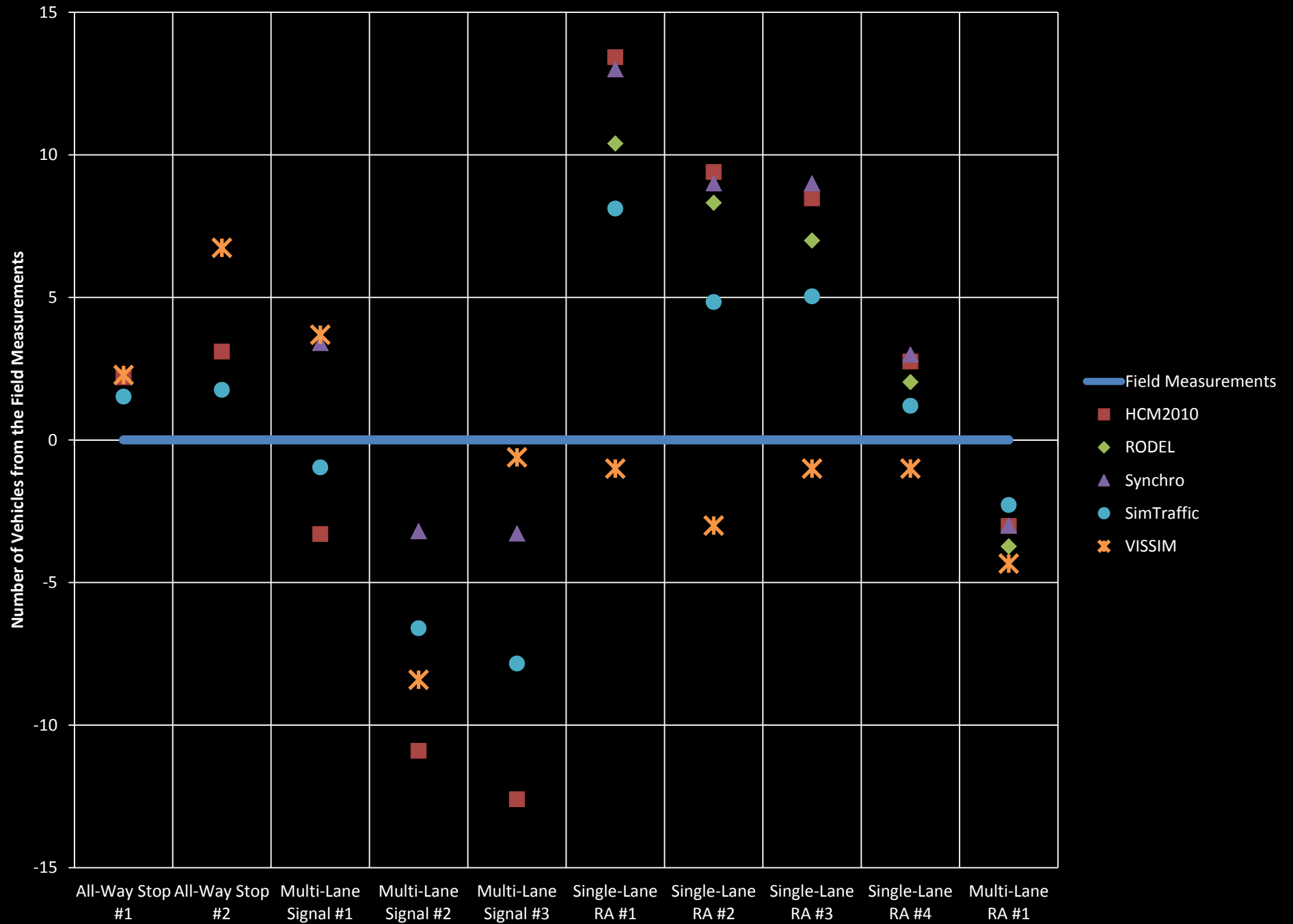
Results (Intersection LOS) – Field vs Software

	LOS F	LOS E	LOS D	LOS C	LOS B	LOS A
All-Way Stop #1				HCM2010 Synchro VISSIM		SimTraffic
All-Way Stop #2				HCM2010 Synchro VISSIM	★	SimTraffic
Multi-Lane Signal #1	Synchro			HCM2010 SimTraffic VISSIM ★		
Multi-Lane Signal #2		Synchro		SimTraffic VISSIM ★	HCM2010	
Multi-Lane Signal #3			Synchro VISSIM	SimTraffic ★	HCM2010	
Single-Lane RA #1			HCM2010 Synchro		RODEL	SimTraffic VISSIM ★
Single-Lane RA #2			HCM2010 Synchro		RODEL	SimTraffic VISSIM ★
Single-Lane RA #3			HCM2010 Synchro		RODEL	SimTraffic VISSIM ★
Single-Lane RA #4						ALL ★
Multi-Lane RA #1						ALL ★

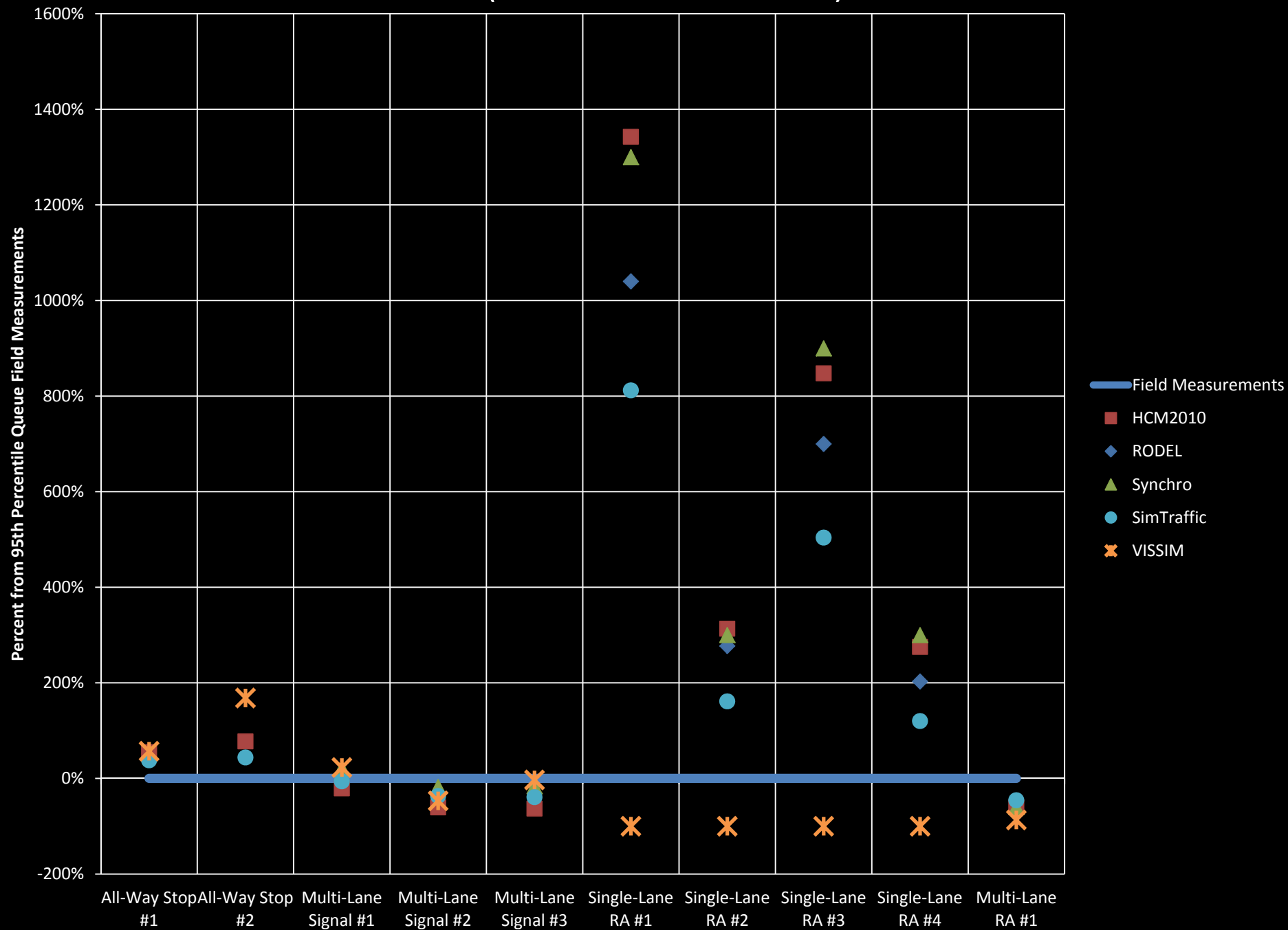
95th Percentile Queues (vehicles) – Field vs Software



95th Percentile Queue (vehicles from measurements) – Field vs Software



95th Percentile Queue (% from measurements) – Field vs Software





Conclusions:

- No Software Nails it
- Models are Better at Predicting Delay than Queues
- Initial Use of HCM2010 may be Sufficient
- Round Your Results (No Tenth of a Second Delays)
- Experience Matters (Regional Calibration)
- Accurate Results for Long-Term Improvements are Questionable at Best



Next Steps –

More Questions to be Answered:

- What factors have the most influence on achieving better results?
- How many factors should be adjusted before it's sufficient?
- Should more than one software be used on a project?
- Would a pass/fail system be better than A to F?



Alamy