

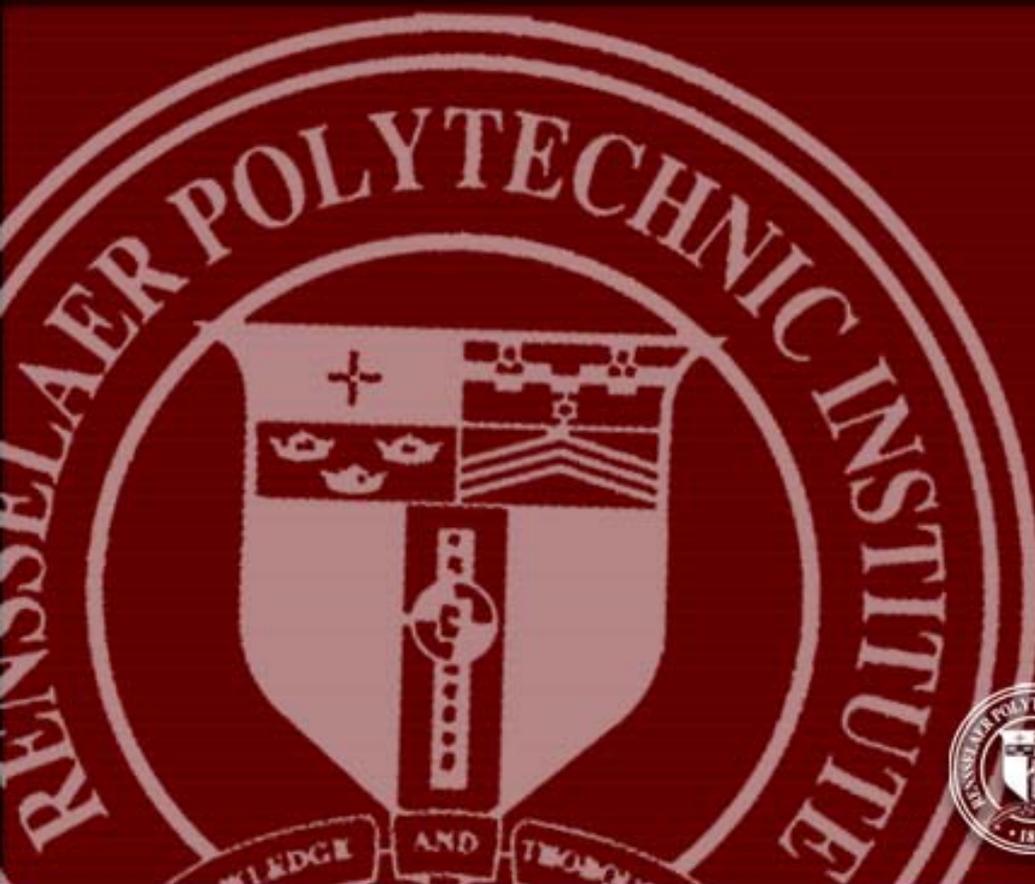
# The Role of Transportation in Responding to a Catastrophe at a Planned Special Event

DHS University Summit

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Washington, DC

March 31, 2011



Rensselaer

# Case Study: *New York State Fair, Syracuse, NY*

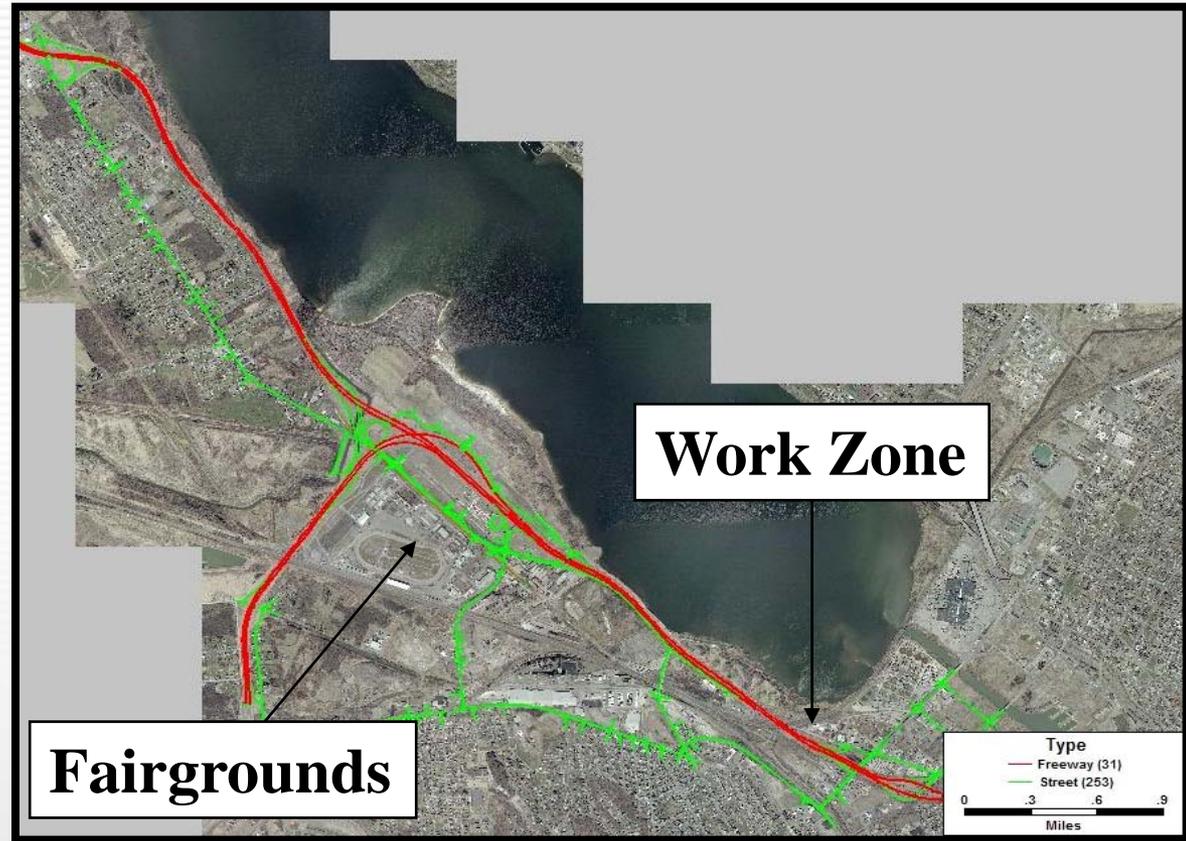
- **Location:**
  - Syracuse, NY along I-690
- **Annual 12 day event**
- **Daily attendance:**
  - 85,000 – 100,000+
- **Vehicles parked per day:**
  - 20,000 – 25,000



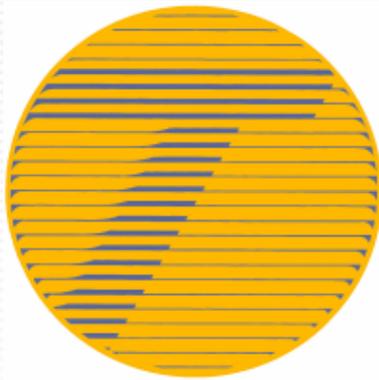
# Case Study: *New York State Fair, Rensselaer Syracuse, NY*



- Evaluate traffic & parking operations ('07 & '08)
- Create traffic simulation of both the fair & work zone
- Provide recommendations ('08 & '09)



Worked Closely With...



# Field Data Collection: *Real-Time Travel Time Data*



- 6 Prototype wireless, solar powered E-ZPass tag readers (*funded by NYSDOT*)
- Collect & monitor travel times between locations at arterials, work zones and special events
- Real-time monitoring

STATION ETM_3	
1/22/2008 11:30 AM	
	100
	34171
6 seconds	
2.1 mi.	
3.95 MPH	
35 MPH	
7594	

STATION ETM_5	
1/18/2008 2:56 AM	
	100
	6808
46 seconds	
2.2 mi.	
3.52 MPH	
35 MPH	
1938	

# General Concept

Tag 12345  
passes at  
**Computed Travel Time**  
**= 4 minutes**  
10:00 AM

Tag 12345  
passes at  
10:04 AM



Reader #1



Reader #2



Upload encrypted tag data

Upload encrypted tag data



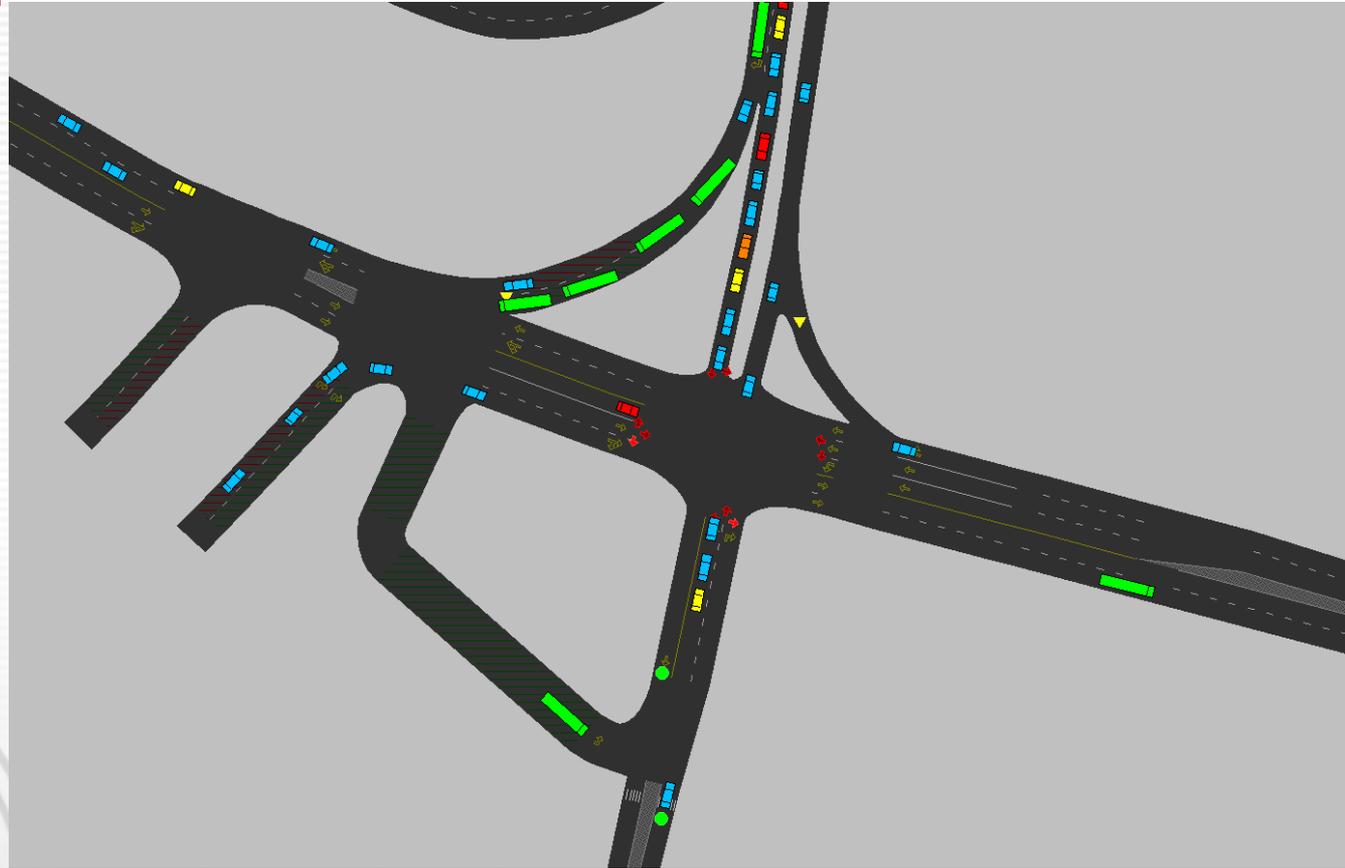
# Field Data Collection: *iCone*

- Intelligent traffic cone
  - Collects spot speed, count and location data
  - Wireless communications → real-time monitoring
  - Highly portable (one worker, no special tools)
  - 'Drop and go' type deployment (one switch operation, self configuring)
  - Great for: work zones, planned special events, incidents and evacuations
  - Low cost



# Traffic Micro-Simulation

- Accurate representation of real traffic conditions
- Powerful visualization tool
- Custom programming
  - 'Police control'
  - Crosswalks
  - Buses & Trains
  - Other atypical traffic management strategies
- Incident management tools:
  - Traffic signal modifications
  - Stalled vehicles
  - Road closures
  - Route diversion
  - Contra-flow
- TransModeler software

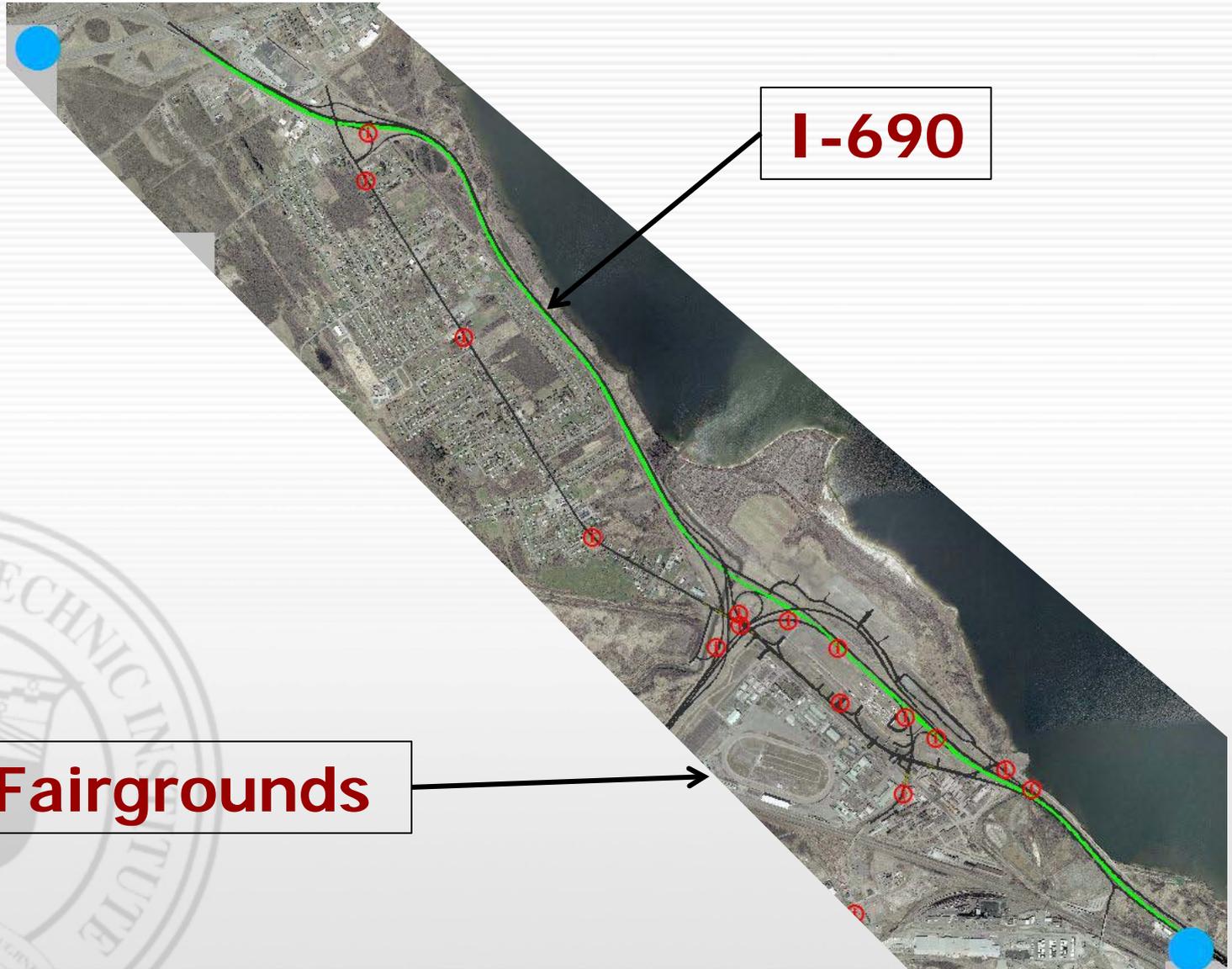


# Opening Day of the 2008 New York State Fair





# Eastbound Traffic: *Normal Conditions*

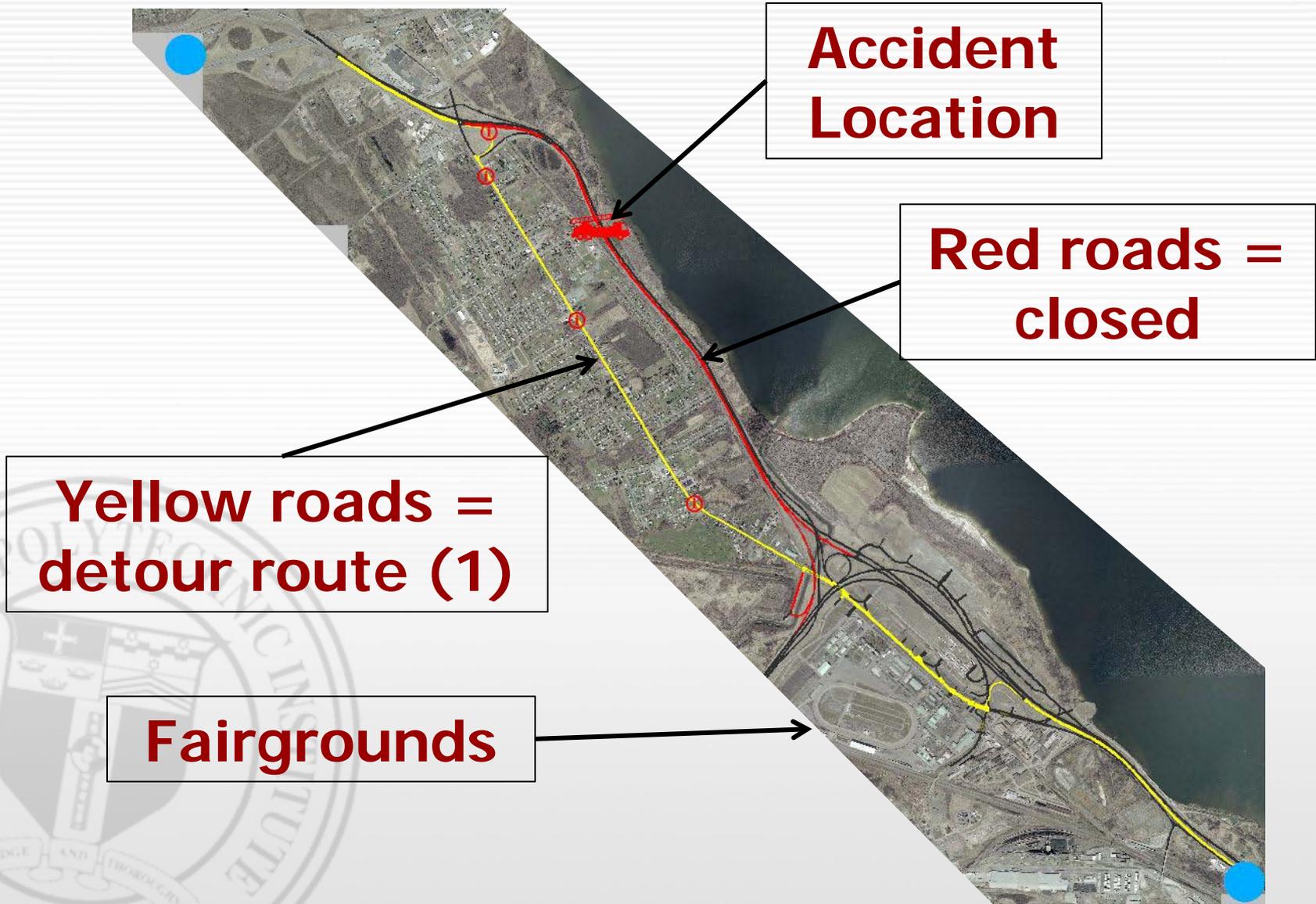


**I-690**

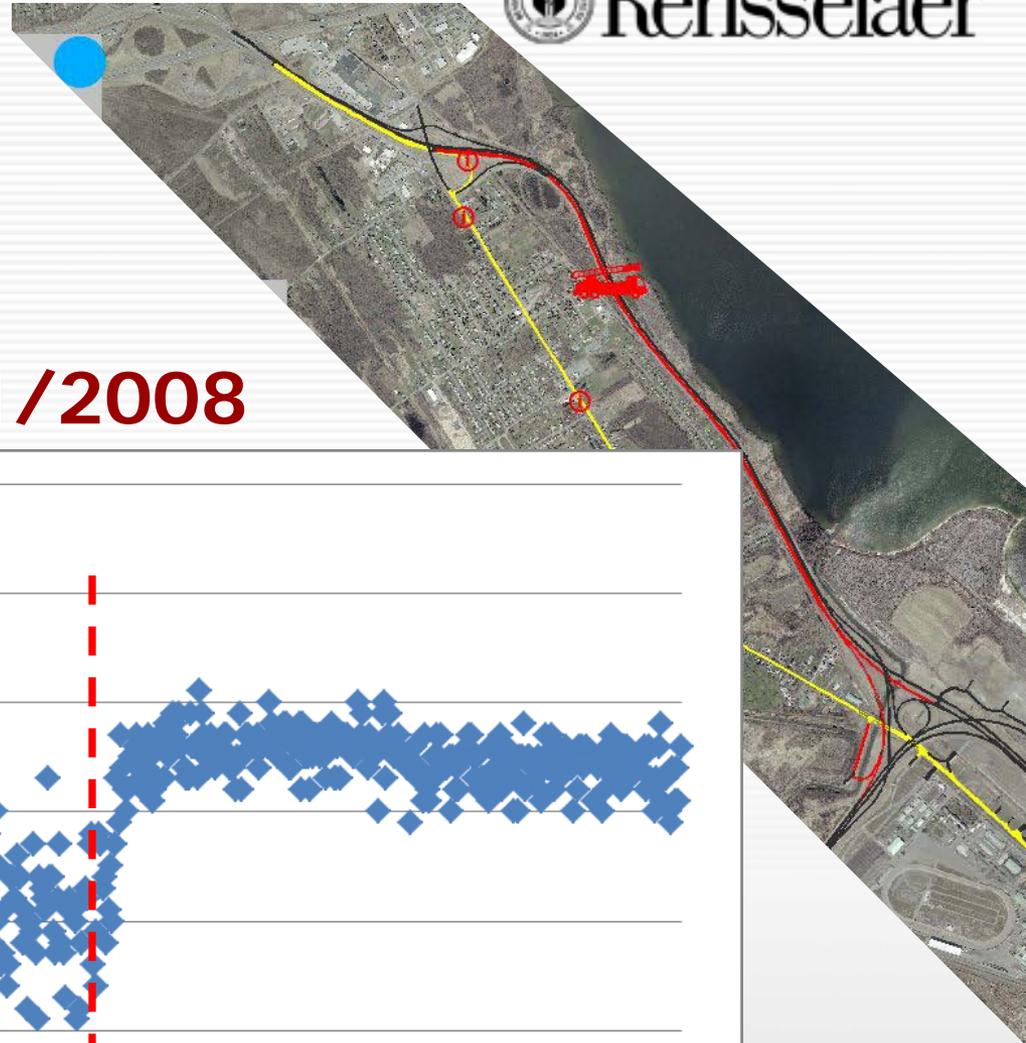
**Fairgrounds**



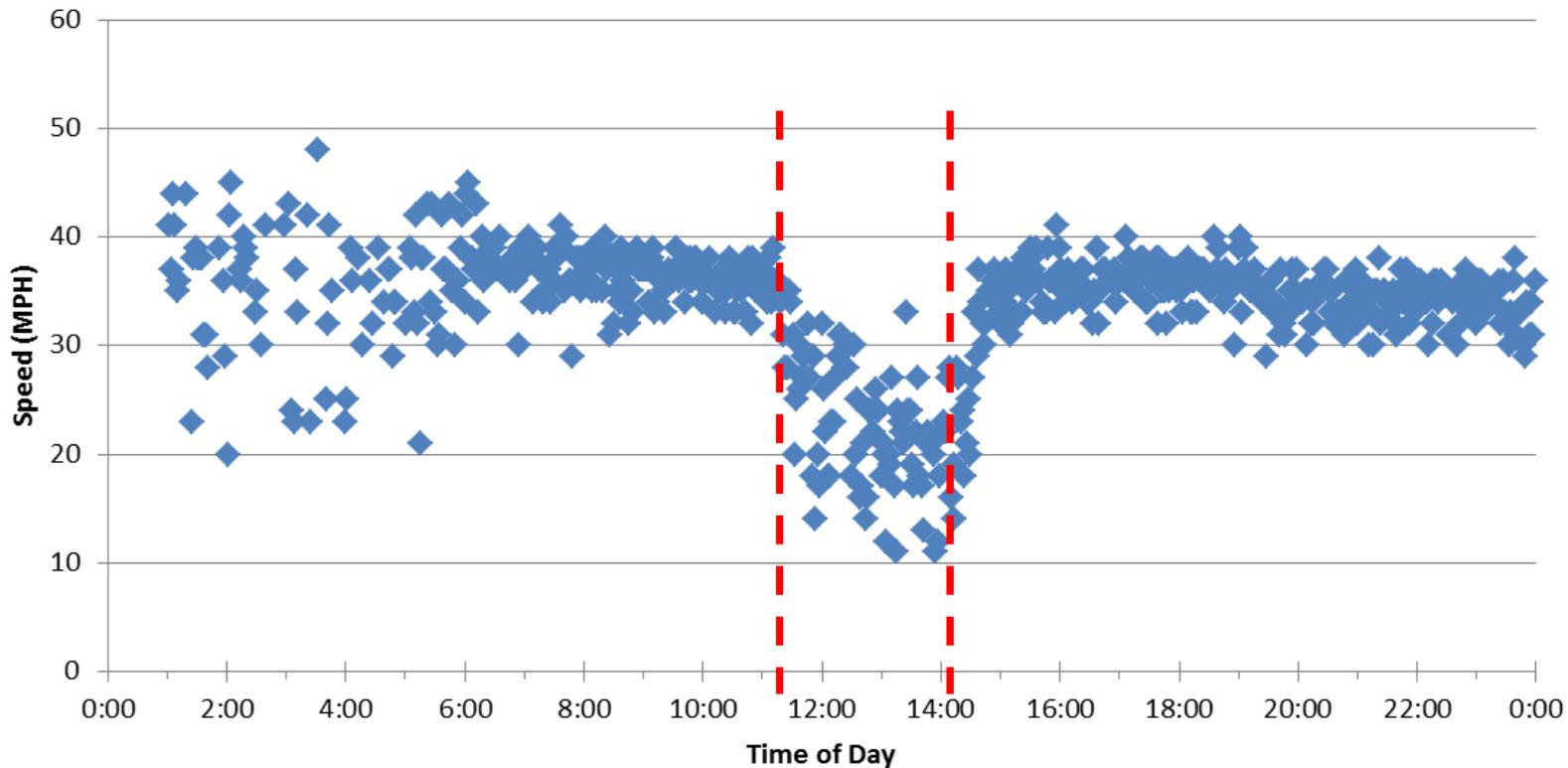
# Eastbound Traffic: *After Accident*



# Eastbound Traffic: *Sample iCone Data*

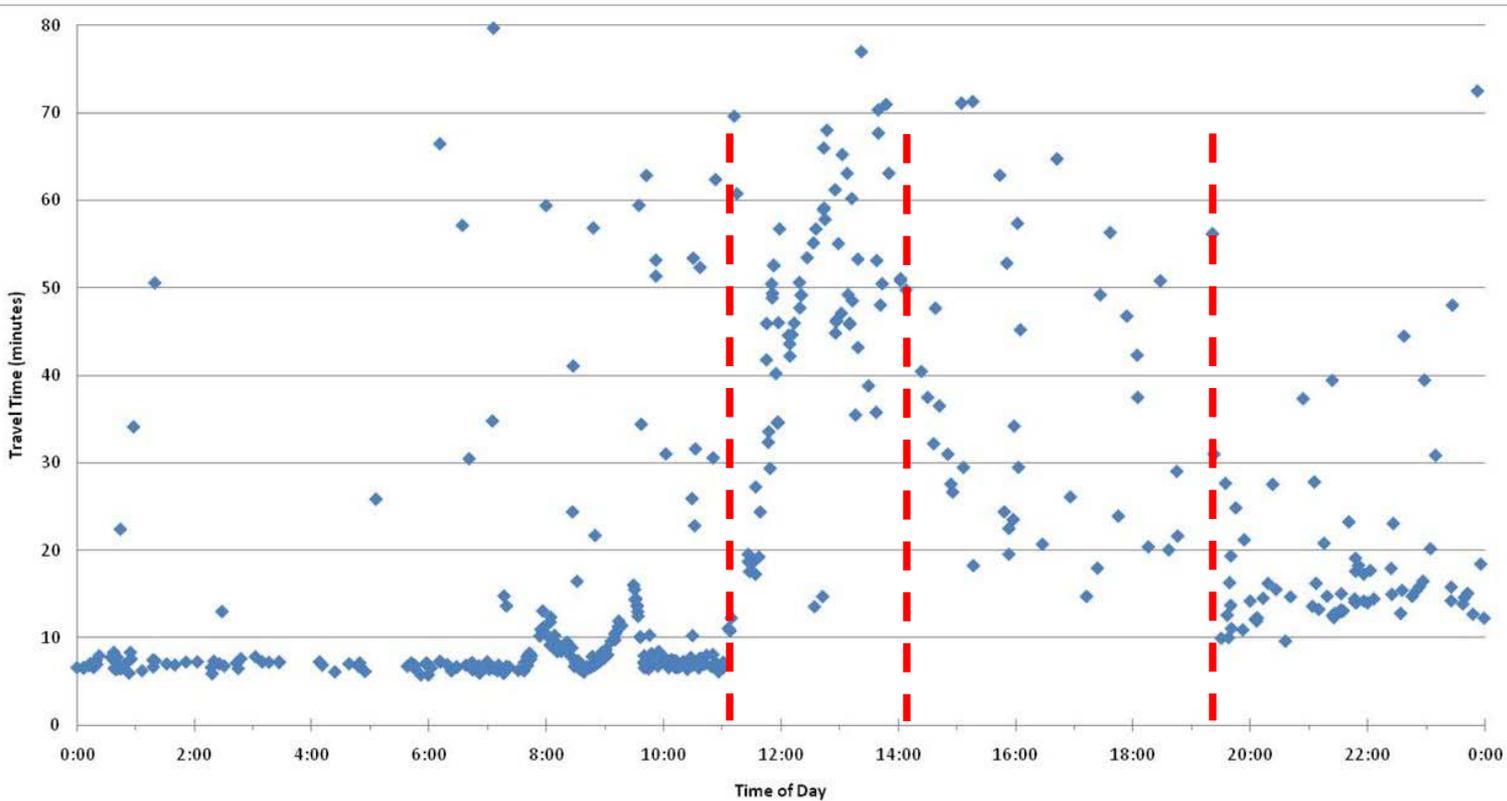
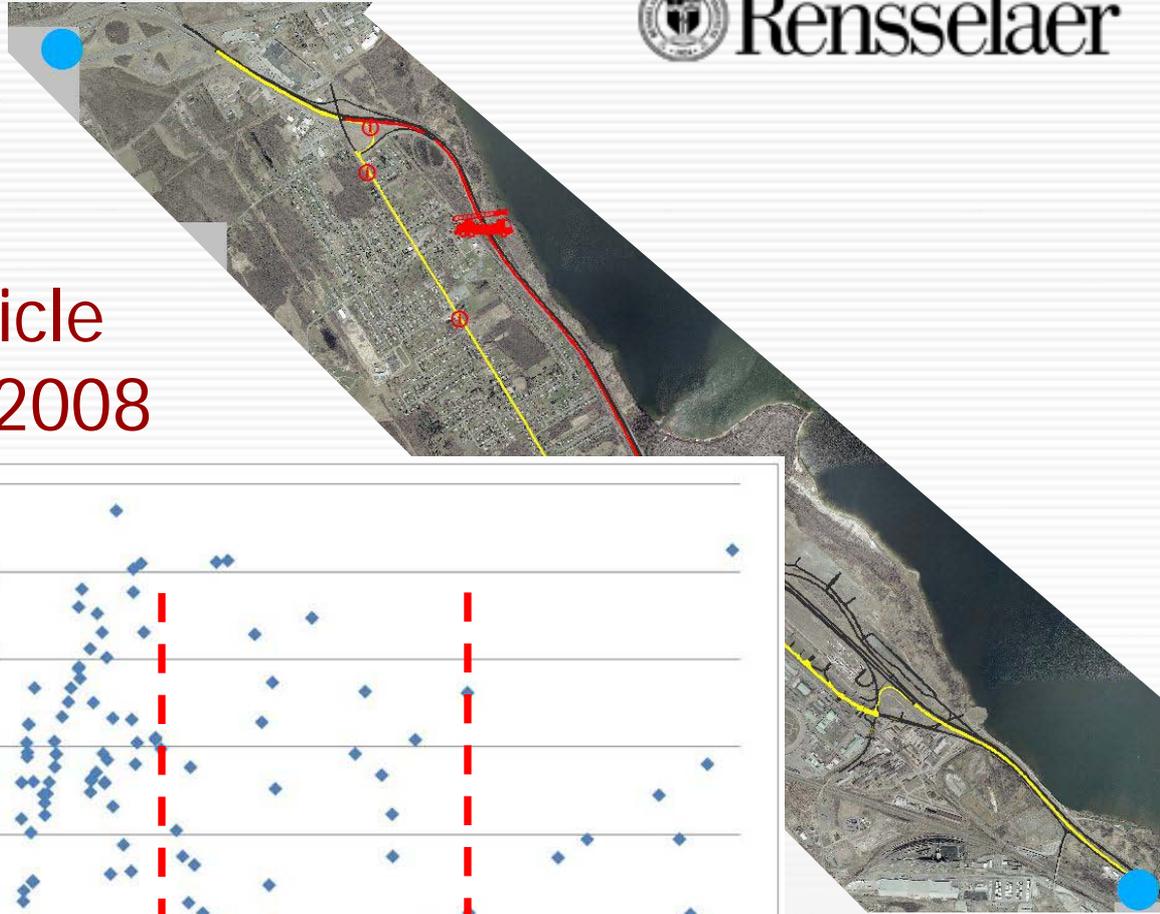


## Spot Speeds on 8/21/2008



# Eastbound Traffic: *Sample Tag Data*

## E-ZPass Equipped Vehicle Travel Times on 8/21/2008

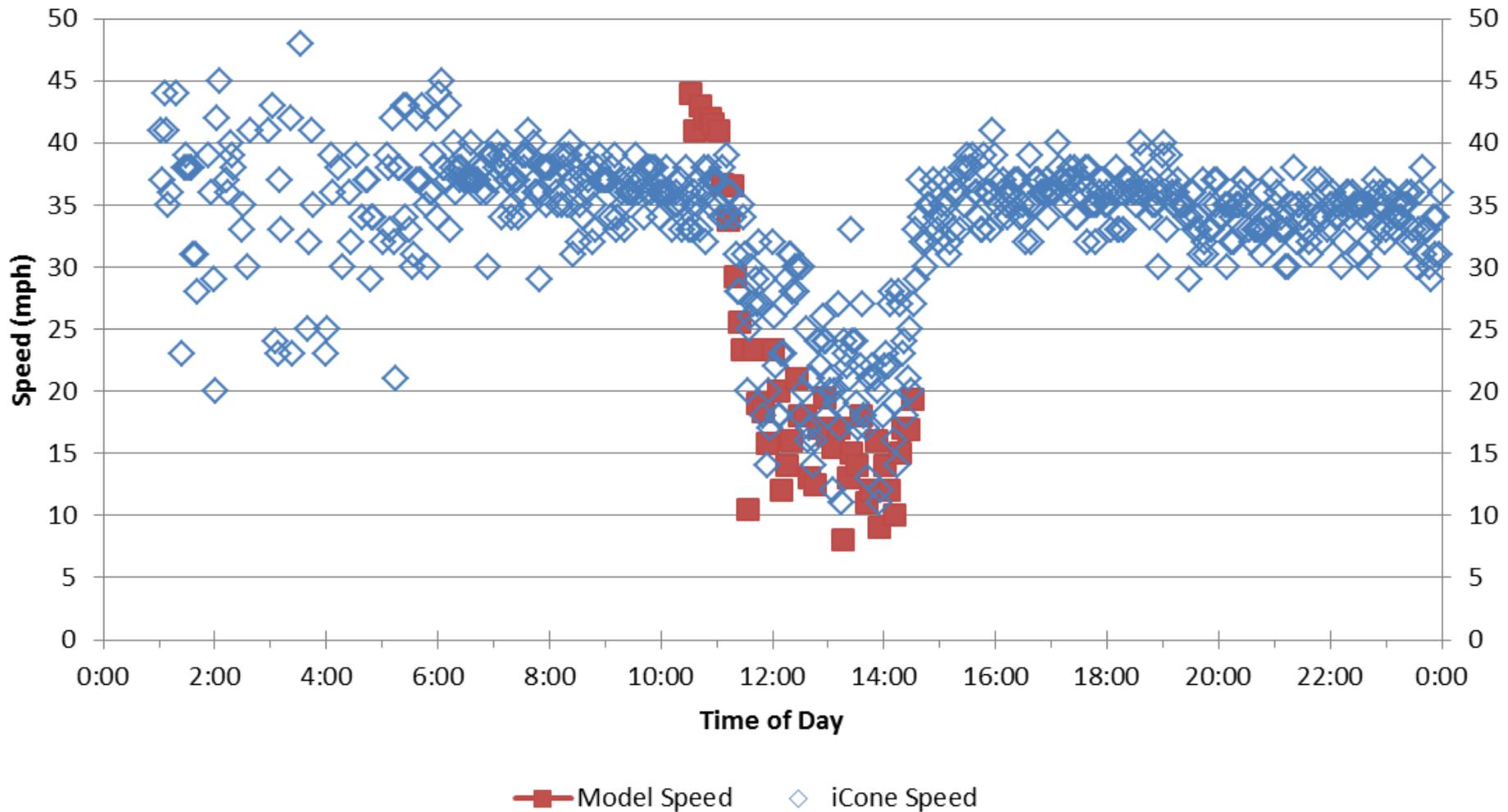


# Simulation Model Results



[Play](#)

# Comparison of Spot Speeds



# Traffic Management for Planned Special Events Using Traffic Micro-Simulation and Real-Time Data Collection

- *Micro simulation* is a powerful tool for analyzing:
  - 'What-if" scenarios
  - Incident management solutions
- Reliable data collection is essential
- Access to real-time data during a PSE is invaluable
- Need for comprehensive traffic management at PSE's
  - Quicker & safer egress equals a more satisfied spectator

# Acknowledgments

## Special Thanks:



New York State  
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Transportation



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