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Wireless Sensor Network Solutions

Arterial Travel Time

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The technology

Arterial Travel Time uses a patented technology called magnetic re-identification to provide arterial performance measures and travel times along signalized corridors – all done anonymously with no privacy invasion or tracking of specific vehicles.

The output of the Arterial Travel Time System provides:

Complete distribution of travel times

Median Travel Time (sec)

80th percentile Travel Time (sec)

90th percentile Travel Time (sec)

Vehicles in segment (number)

Counts & Speed

Level of Service

Anonymous Vehicle Re-Identification

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Sensys Networks ATT—eliminates privacy concerns

- **Infrastructure based solution**
- **Re-identifies vehicles to provide accurate travel times**
- **System provides vehicle counts, vehicle speeds and arterial occupancy**
- **Approximately 65% match rate for typical application (1.5 to 2 miles)**

Inc. 500 — America's Fastest-Growing Private Companies

Key components

Wireless Sensor

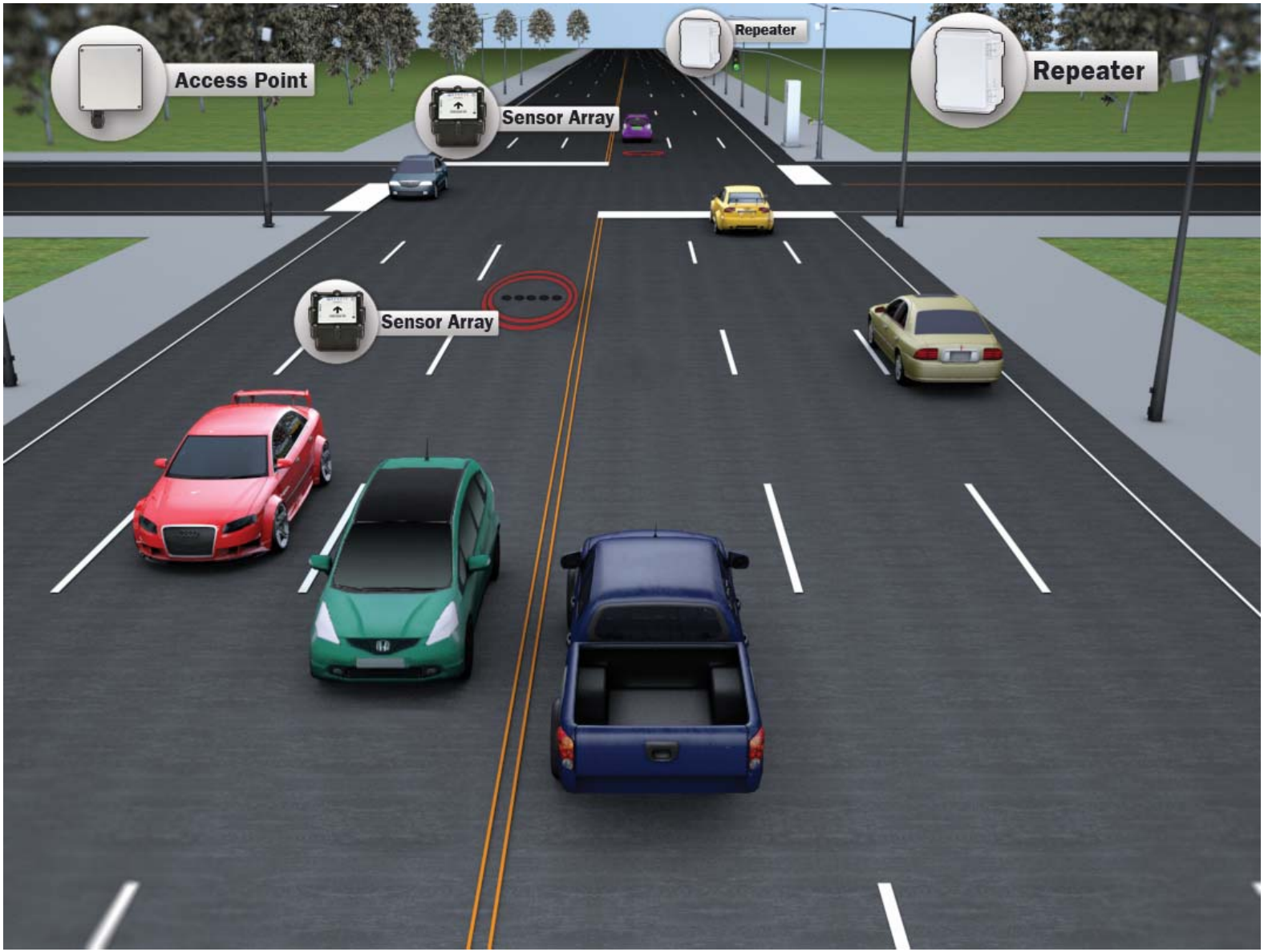
Access Point

Repeater

SNAPS Server

Re-identification Server

How it fits together



Arterial Travel Time

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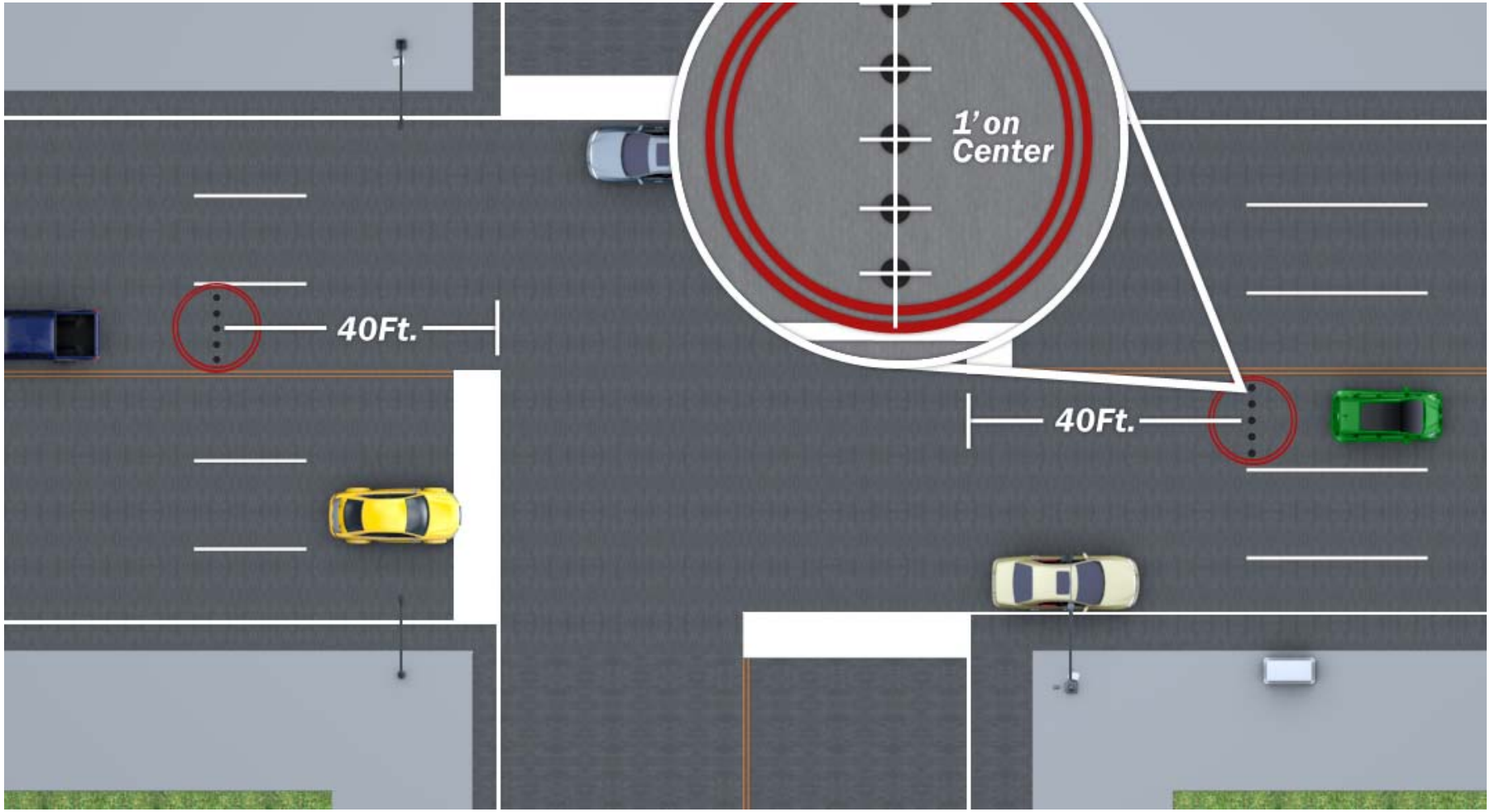
One set of technology for all performance measures



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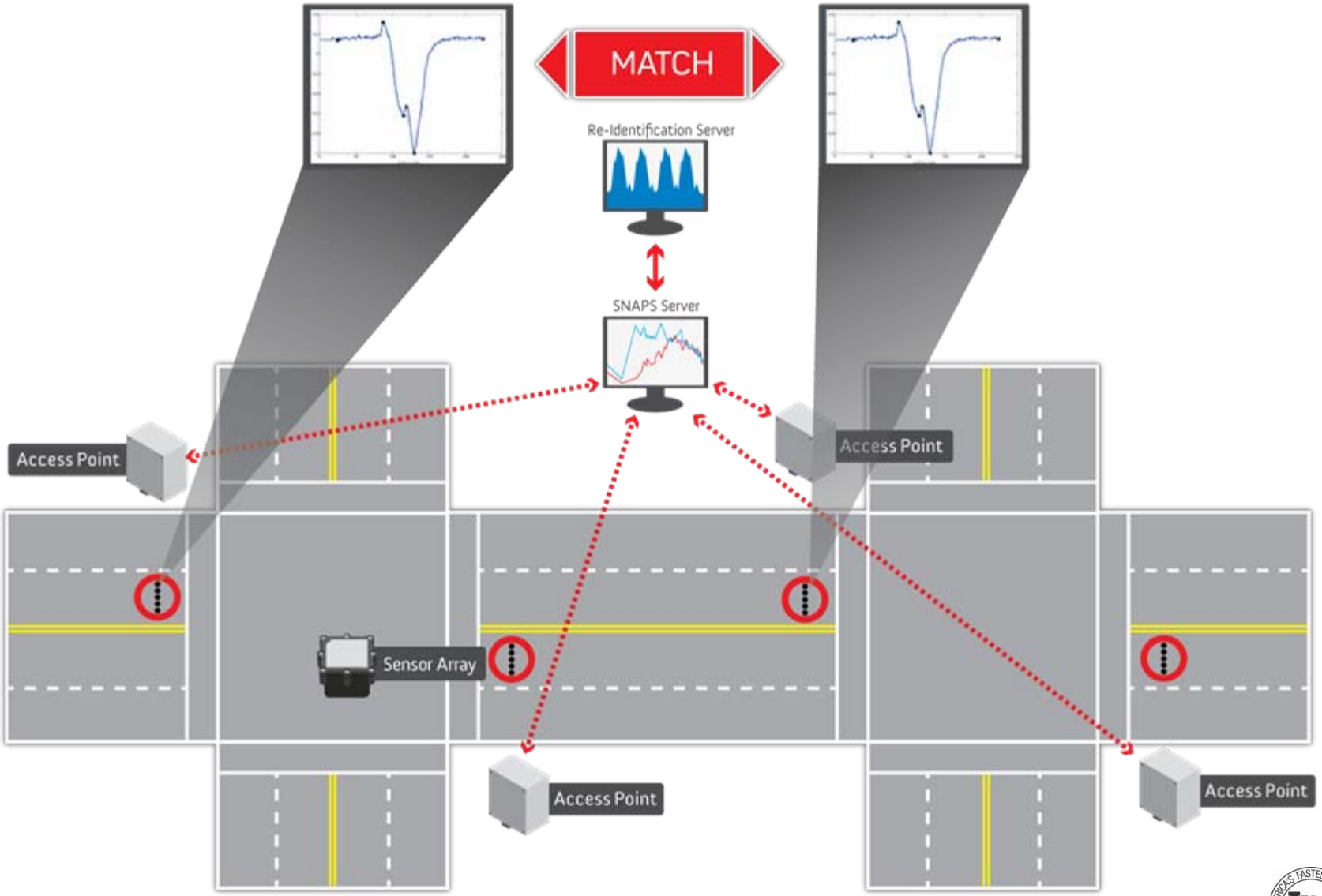
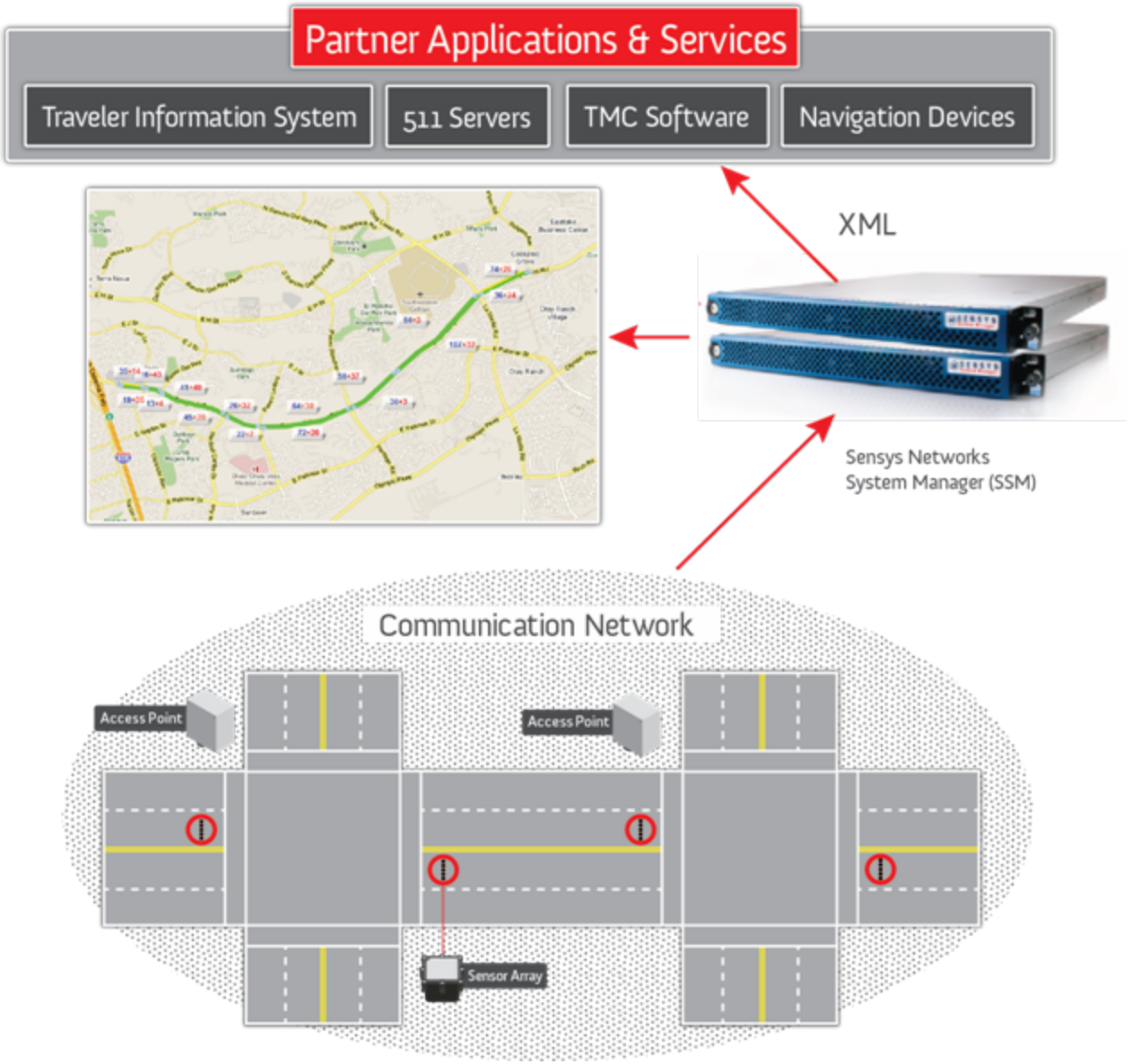


Sensys Networks Travel Time Architecture & Interfaces



How long can you wait for accurate data?

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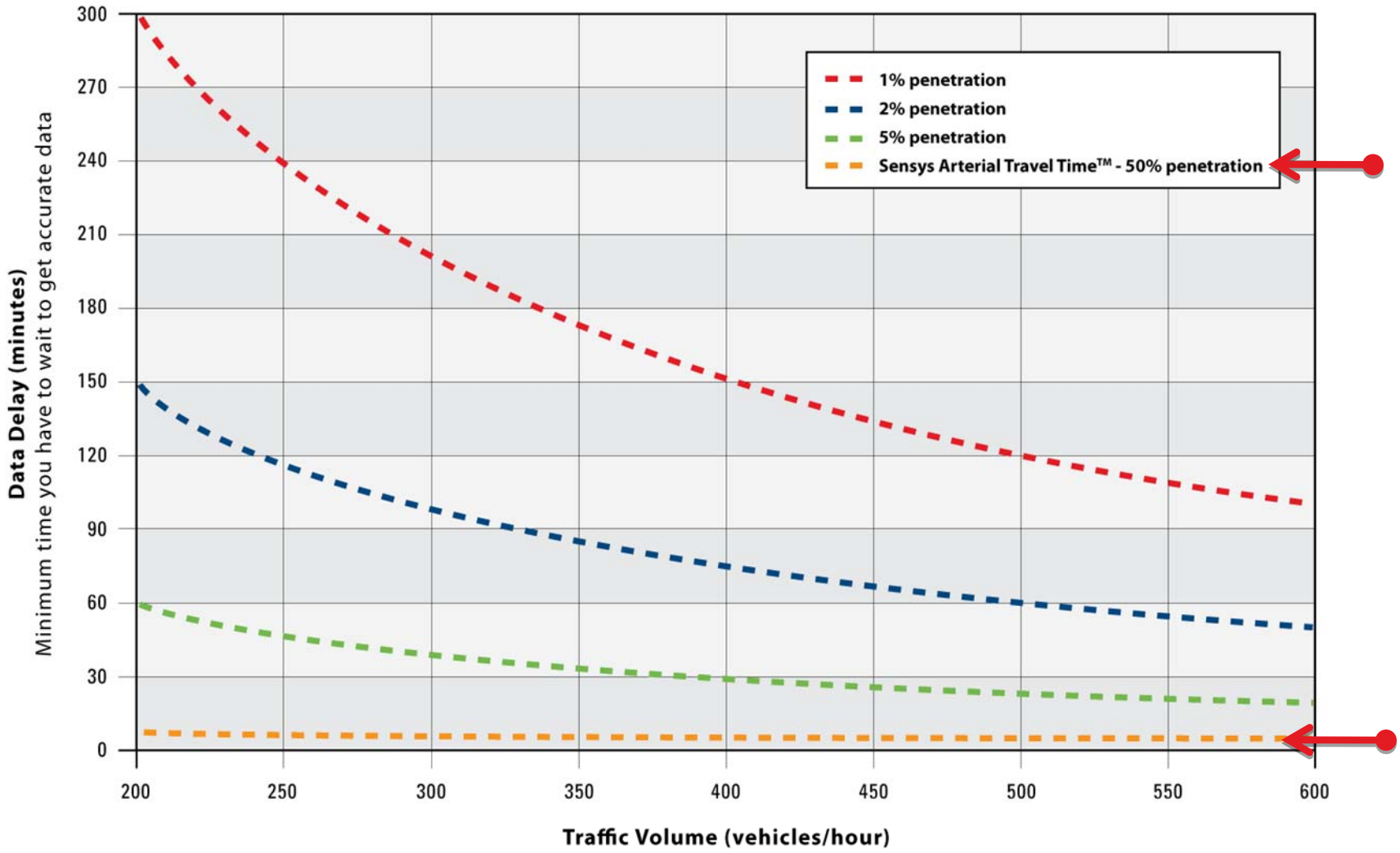
Three hours, or three minutes?



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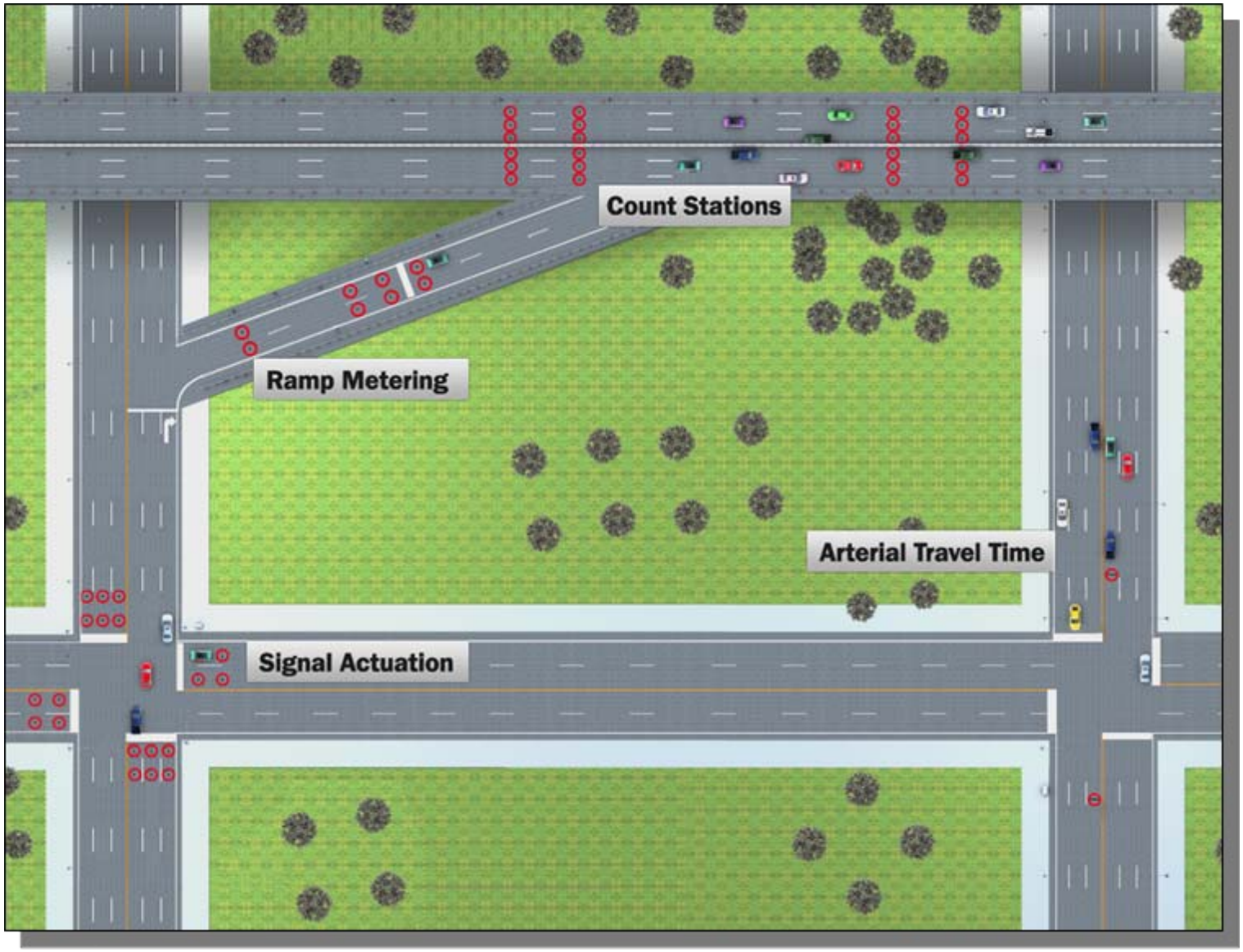
One Set of Tools — Multiple Solutions



From One Intersection—To an Entire Region

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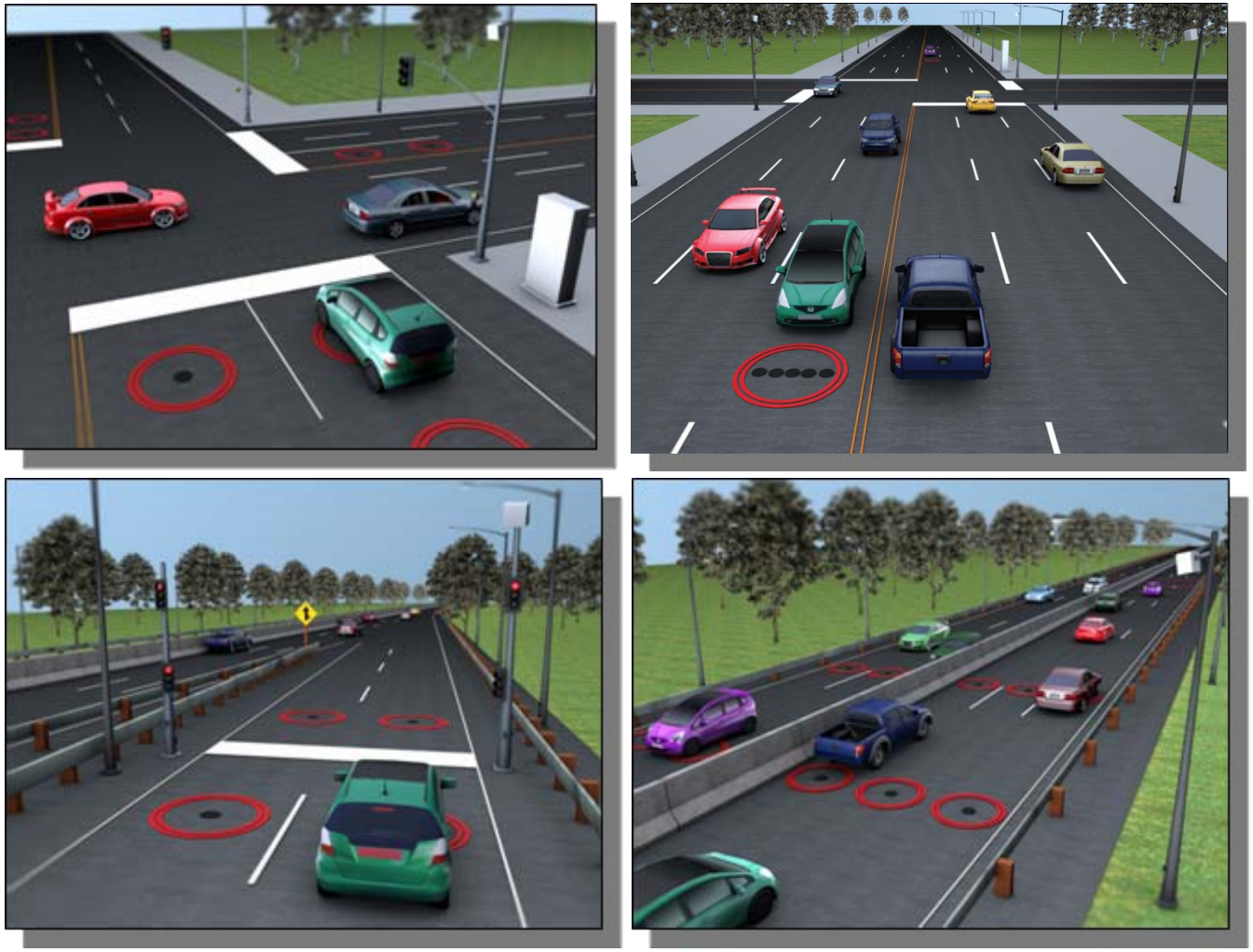
Flexible, dependable, low-cost universal platform for all detection applications



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Problem solving

Traffic management information

- Are my signals optimized? Is congestion at peak times minimized?
- Does my adaptive control system reduce travel times?
- Before / after studies from your desktop

Maintenance and construction management

- Real time, active traffic re-routing
- Parallel arterials – balancing the load during construction
- Giving travelers a choice with VMS

Traveler information and information service provider

- Agencies share data with other agencies – you own the data
- Open system - XML feed – don't buy another software package
- Integrate into the software package (ATMS) you've already purchased.

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Success Stories

Transforming Transportation

with Wireless Sensor Networks

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I-15 Corridor, San Diego, California

San Diego Region ICM/TLSP

Accurate, real-time data for regional roadway optimization

Problem:

Primary artery between Los Angeles and San Diego (with reversible HOT lanes), carries near constant heavy traffic.

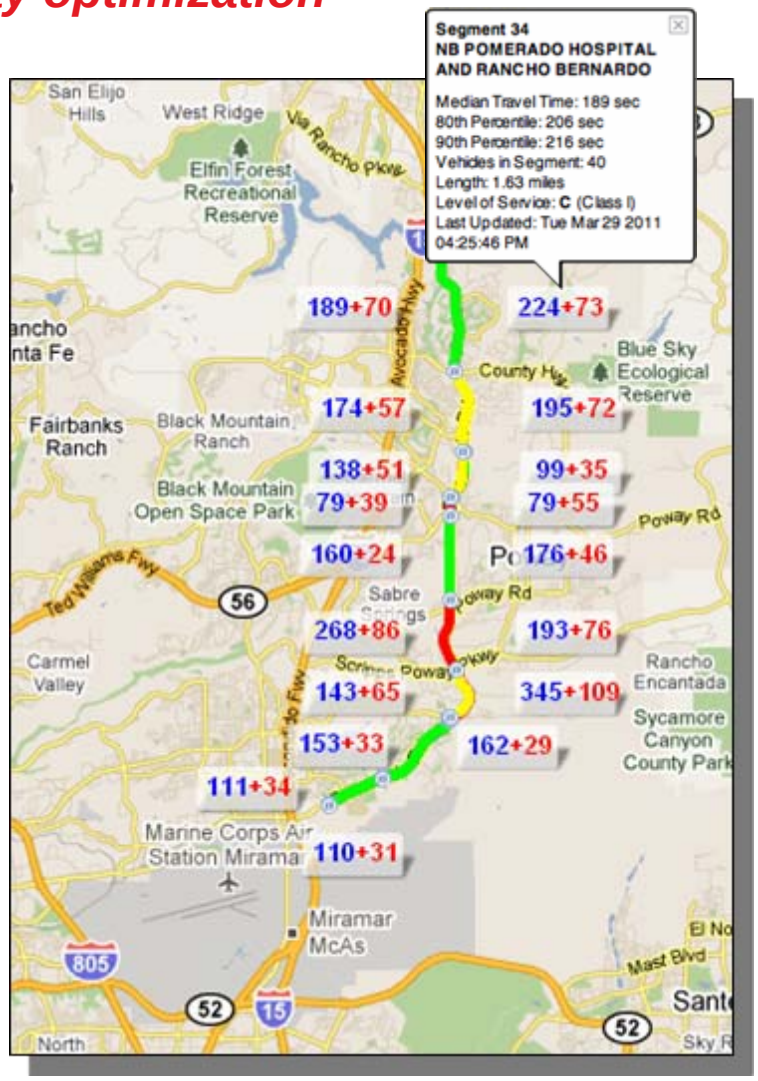
Solution:

Sensys Networks' integrated solution provided accurate performance measures including:

- **Volume**
- **Occupancy**
- **Real-time travel times for VMS, 511**
- **Travel time distribution**
- **Level of Service**
- **Vehicles in segment (queue detection)**

Benefit:

Enhanced corridor management across the shared network provided accurate data for traveler information and decision support systems for optimized regional mobility.

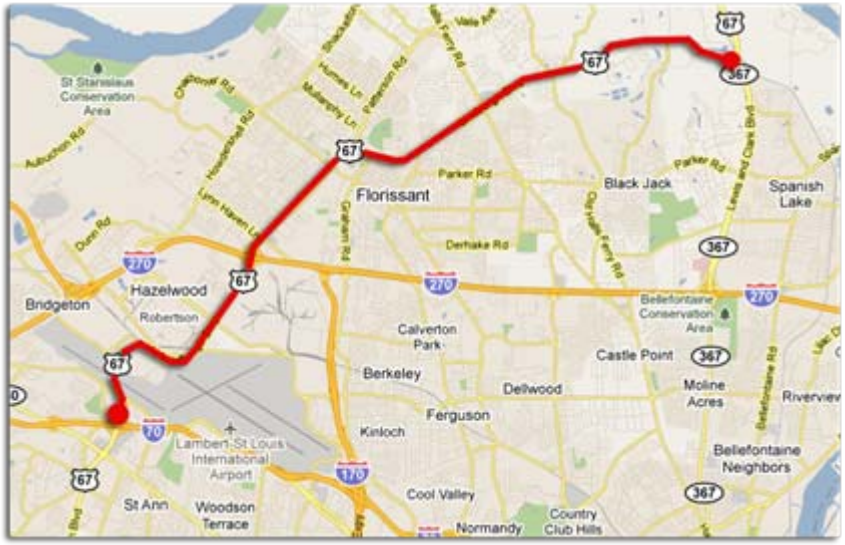


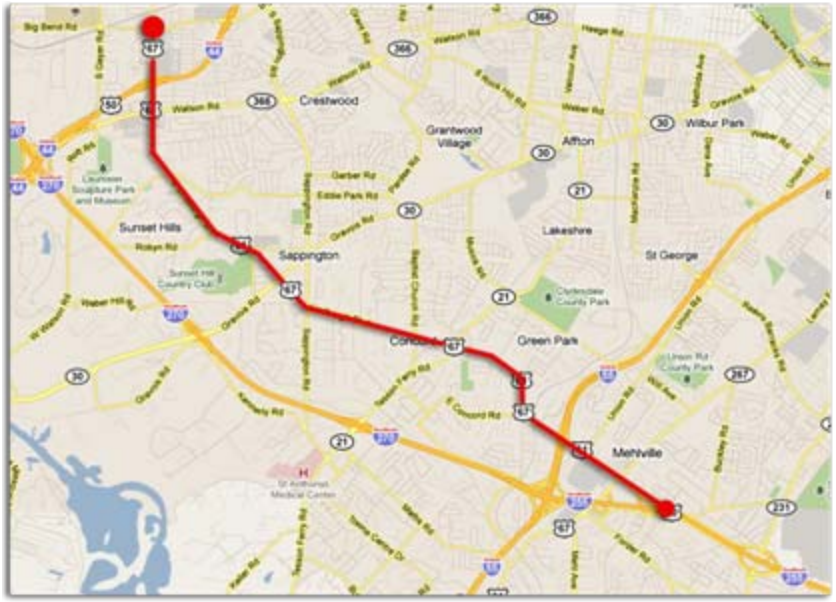
MoDOT Arterial Performance Measures

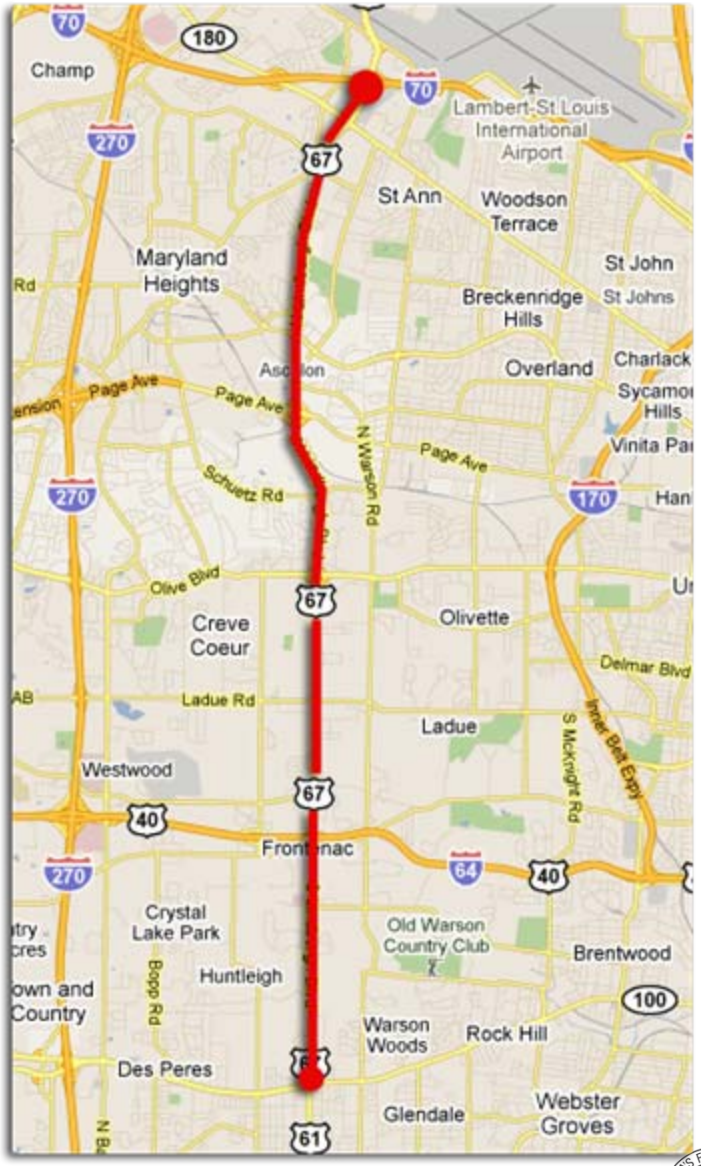
- **Phase 1 installed and running: April 2011**
- **5 main arterials**
  - Route 67 North from I-70 to Route 367 ~12 miles
  - Route 67 Central from I-70 to Manchester Rd ~ 10 miles
  - Route 67 South from Big Bend Rd to I-255 ~ 8 miles
  - Route 141 from I-64 to I-55 ~ 20 miles
  - Old Route 94 from I-70 to I-64 ~ 11 miles

- **Total coverage with initial installation > 60 miles of key arterials**
- **Equipment used for Travel Time**
  - 67 Access Points
  - 901 Wireless Sensors

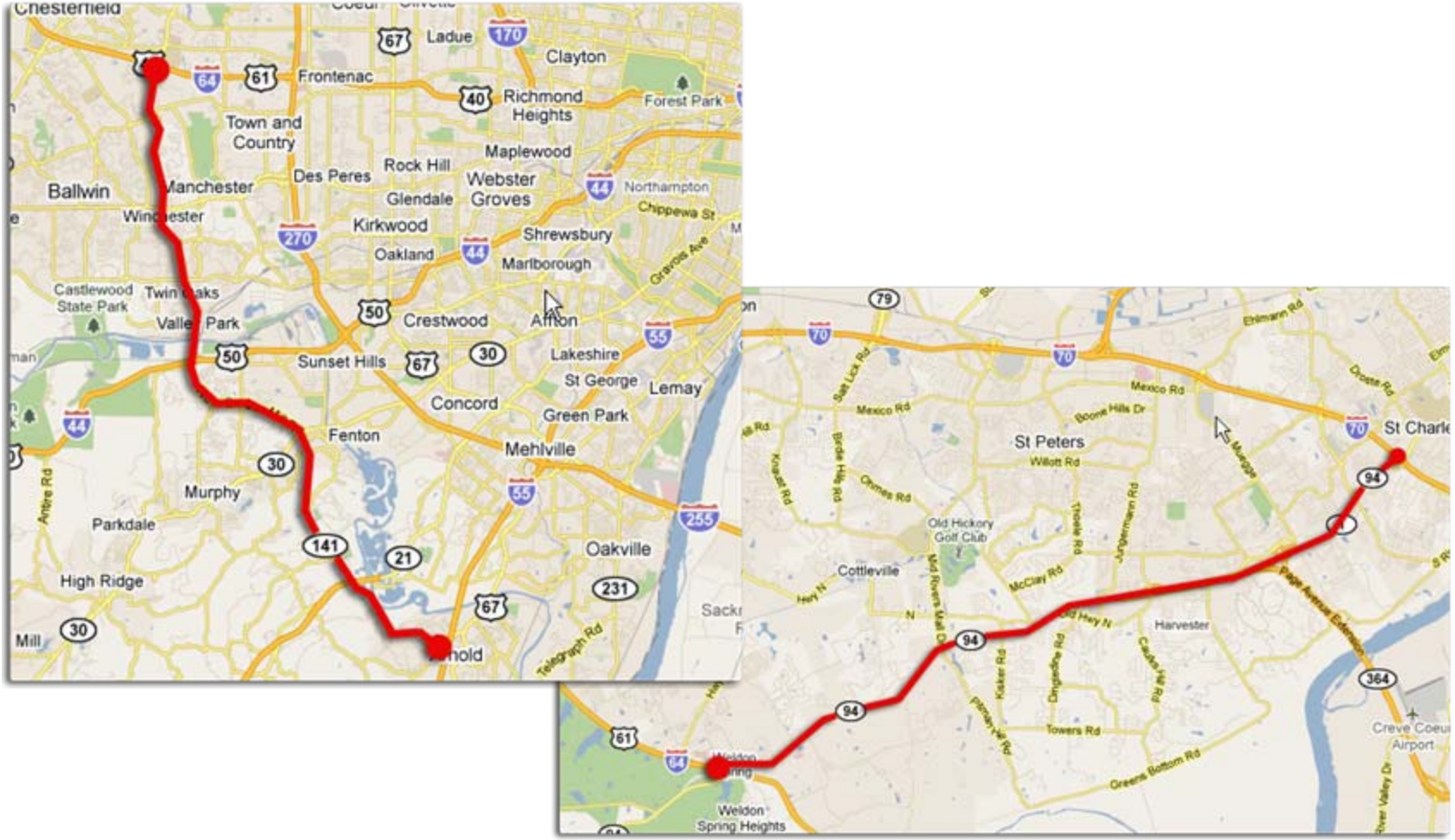
Route 67: North, South, & Central







Route 94 and Route 141



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Arterial Travel Time

Accurate, real time performance measures for prudent decision making

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