

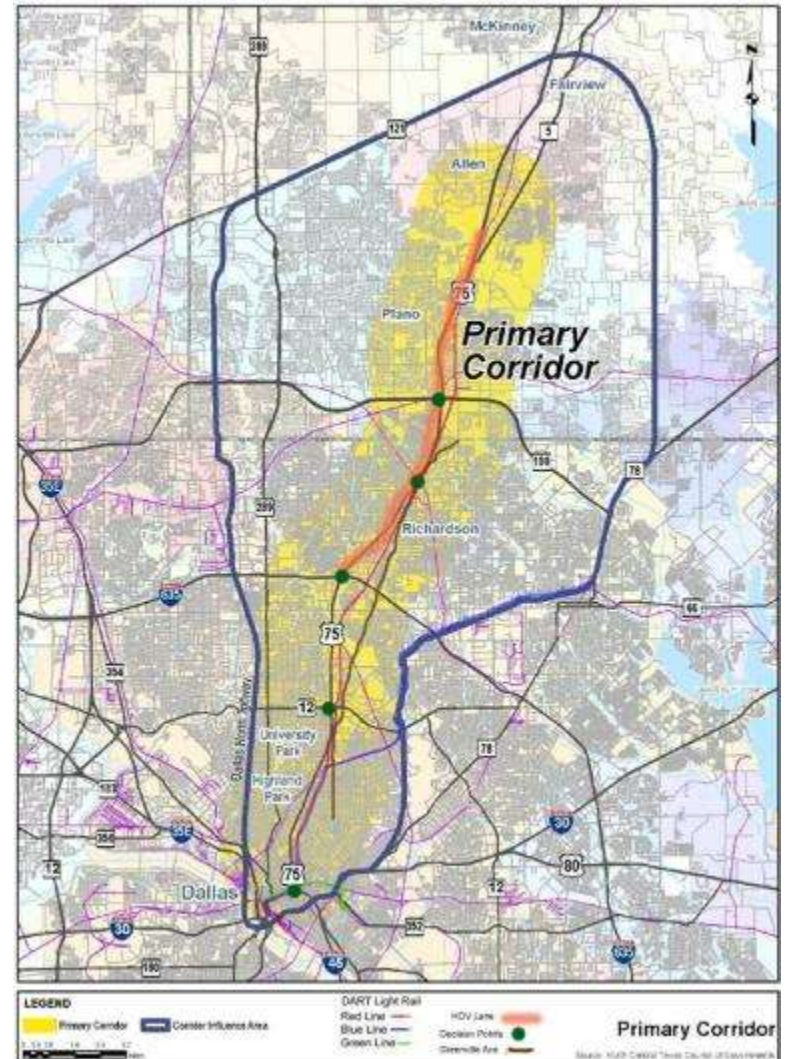
# Dallas Integrated Corridor Management System Lessons Learned

June 2, 2014



# US 75 Corridor Networks

- Freeway with continuous Frontage Roads
- Managed HOV lanes
- Dallas North Tollway
- 167 Miles of Arterials
- DART Bus Network
- DART Light Rail
- 900 Signals
- Multiple TMCs
- Regional ATIS



# ICM Concept



**Monitor US 75 Congestion**

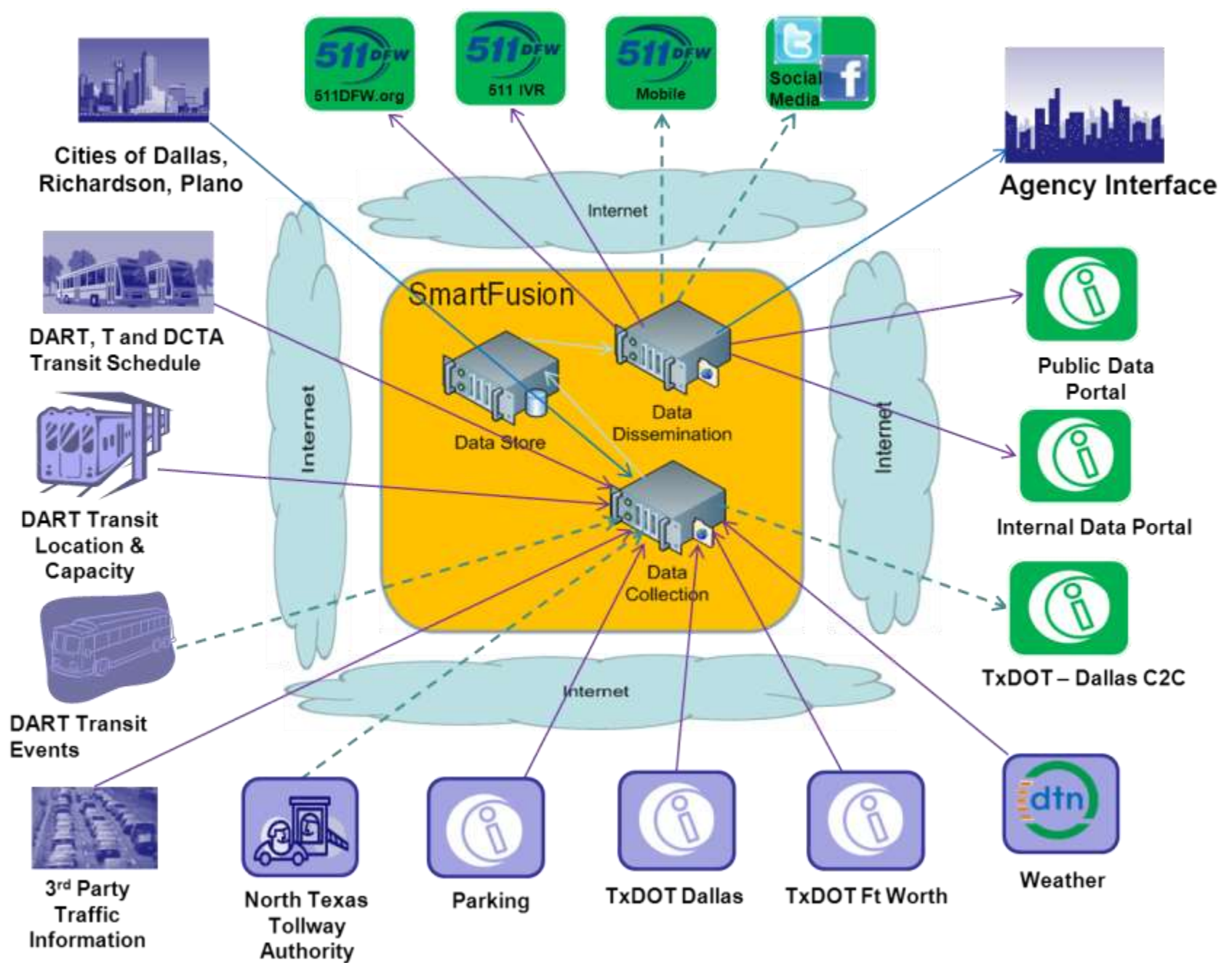
**Divert to Frontage Road**

**Divert to Frontage Road and Greenville Ave**

**Divert to Frontage Road, Greenville & the Red Line**

# Dallas ICM Pioneer Site



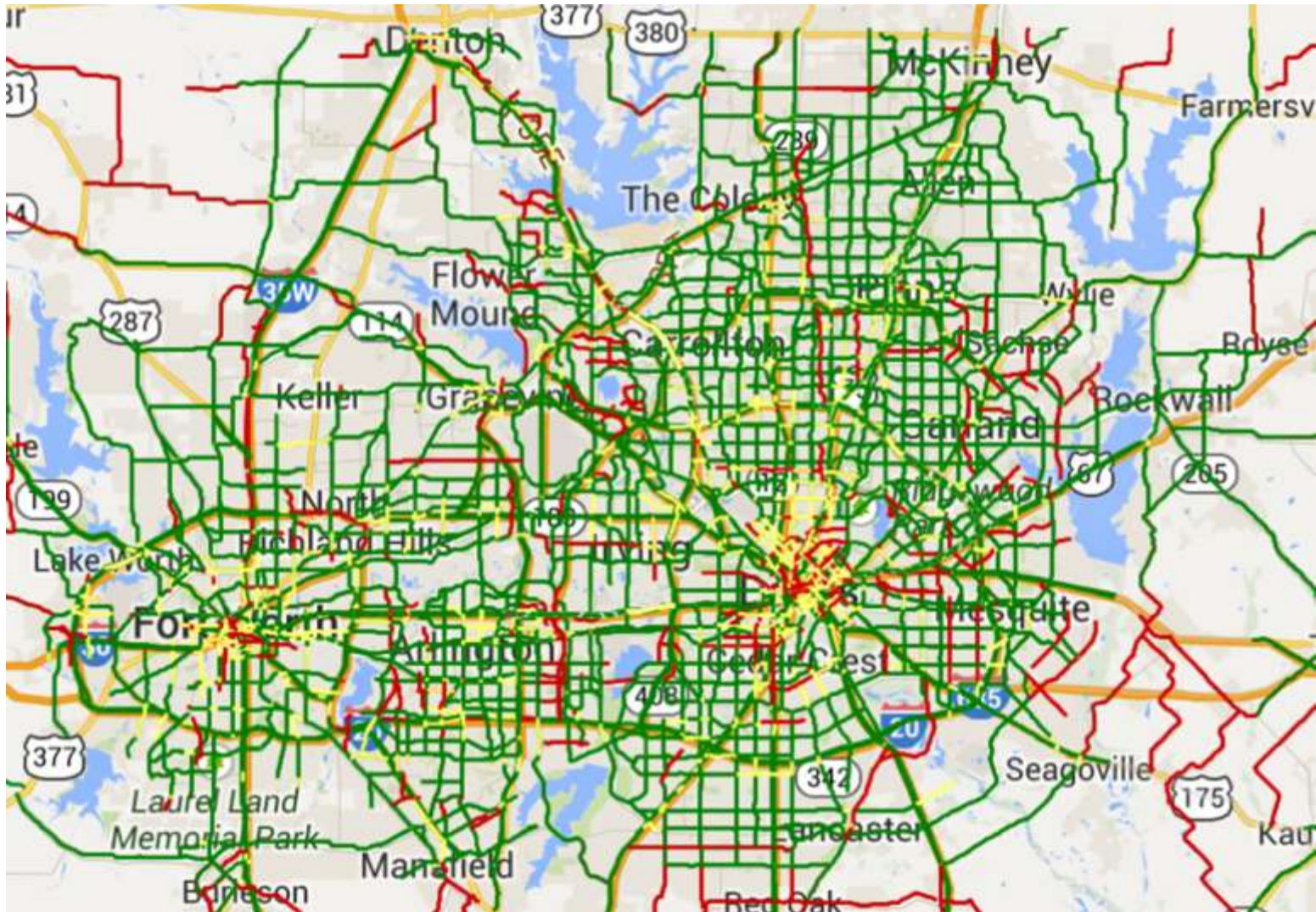


# ICM Applications

- **Agency, Bluetooth & Third Party Data**
- **Responsive Traffic Signal System**
- **Transit Parking Management**
- **Real-Time Transit Vehicle Information**
- **Weather System Reporting**
- **Highway Video Sharing**
- **SmartFusion and SmartNET**
- **Decision Support System**
- **511 DFW**

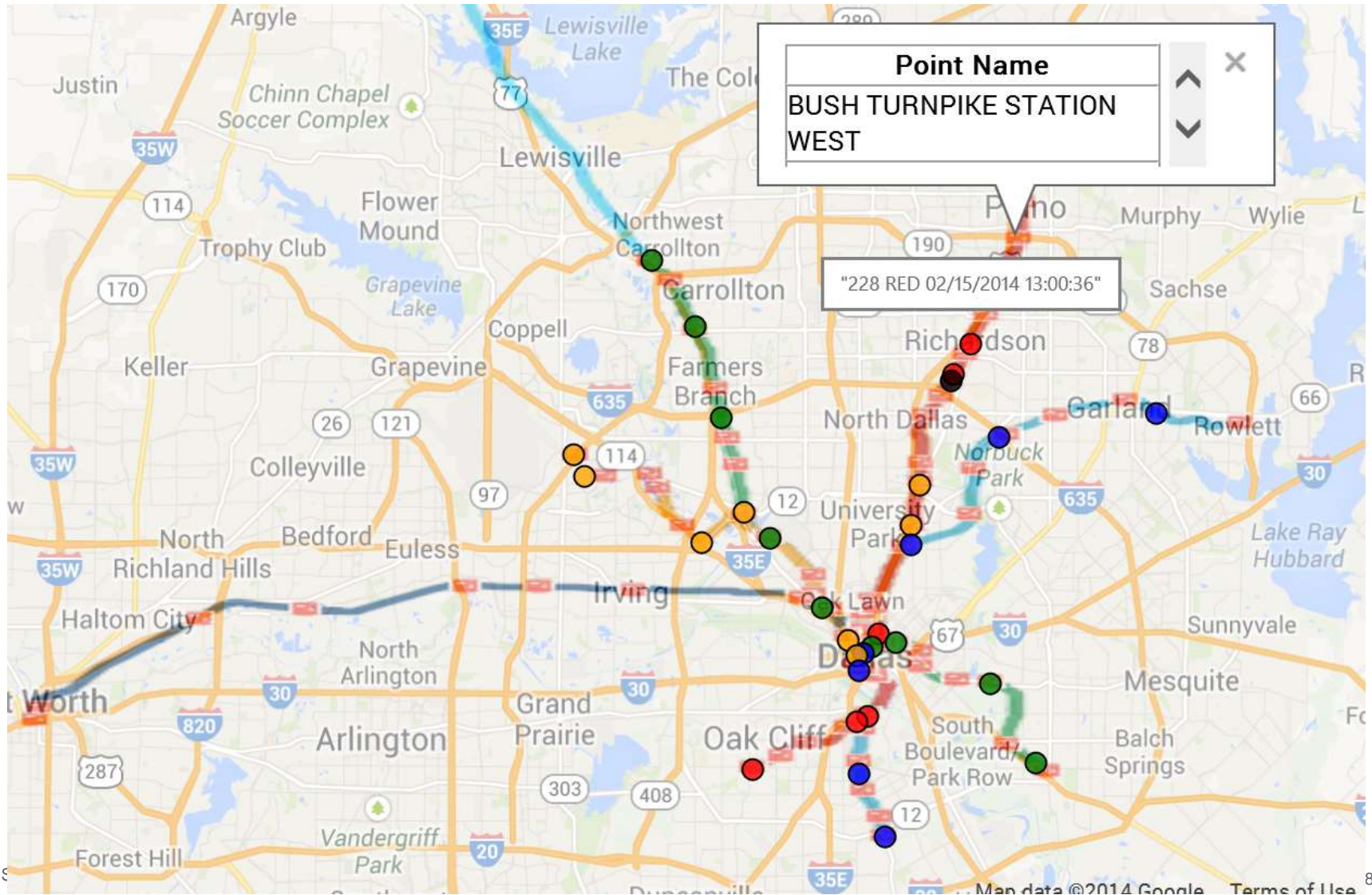


# Agency, Bluetooth & HERE Data





# Real Time Transit Information





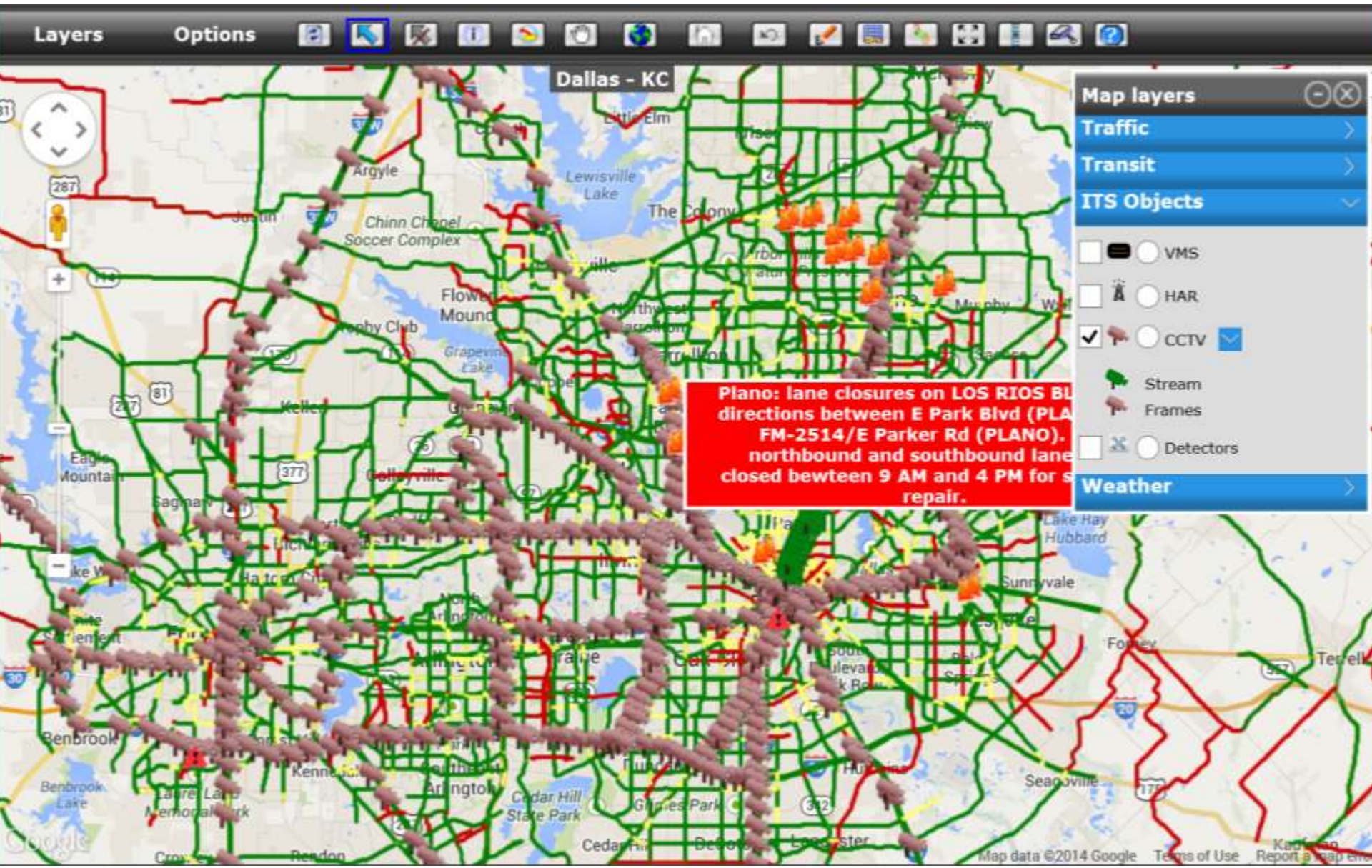
# Real Time Weather Information

- Current weather conditions
- 5-day forecast
- Weather alerts by roadway



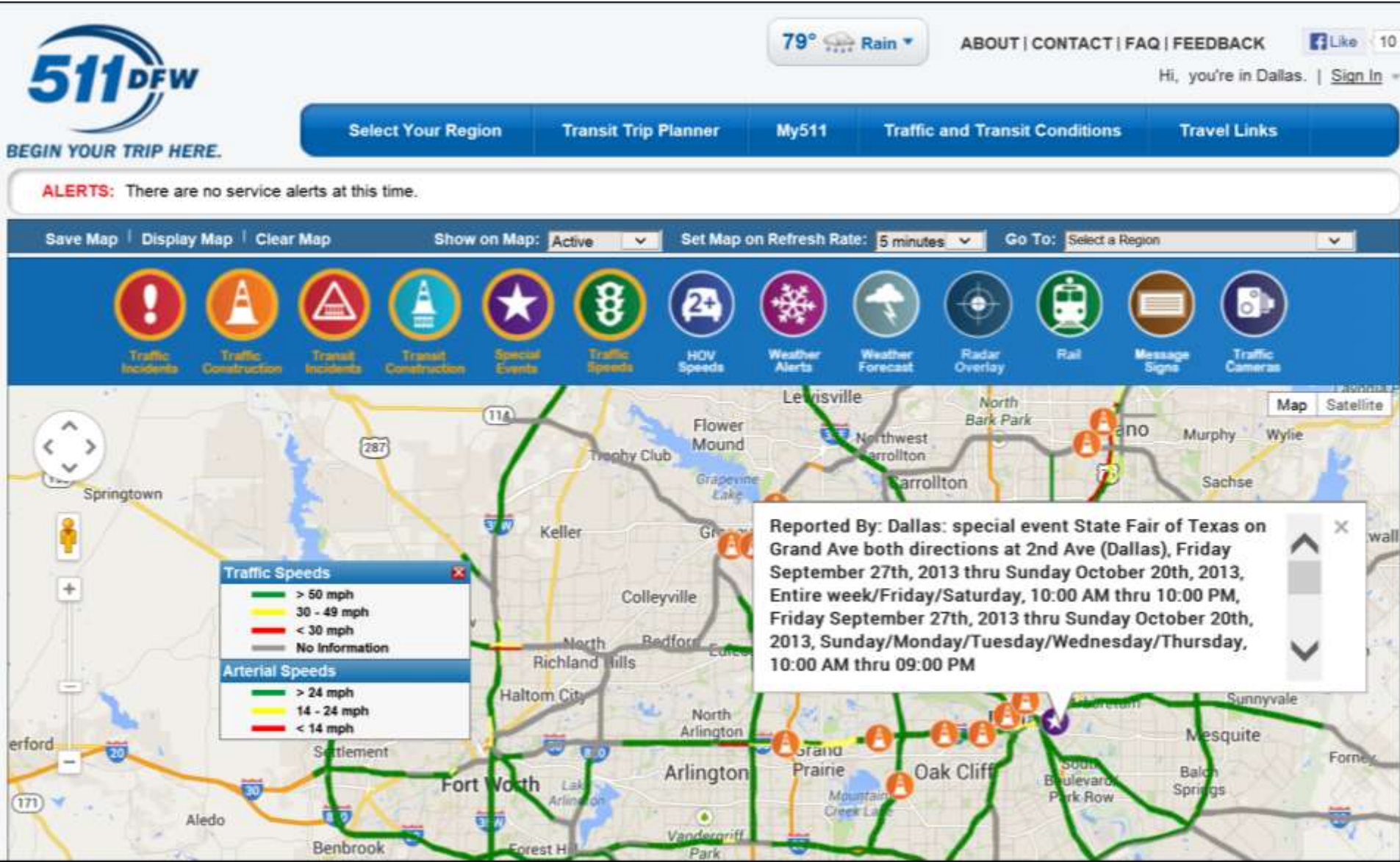


# SmartNET - Agency Interface





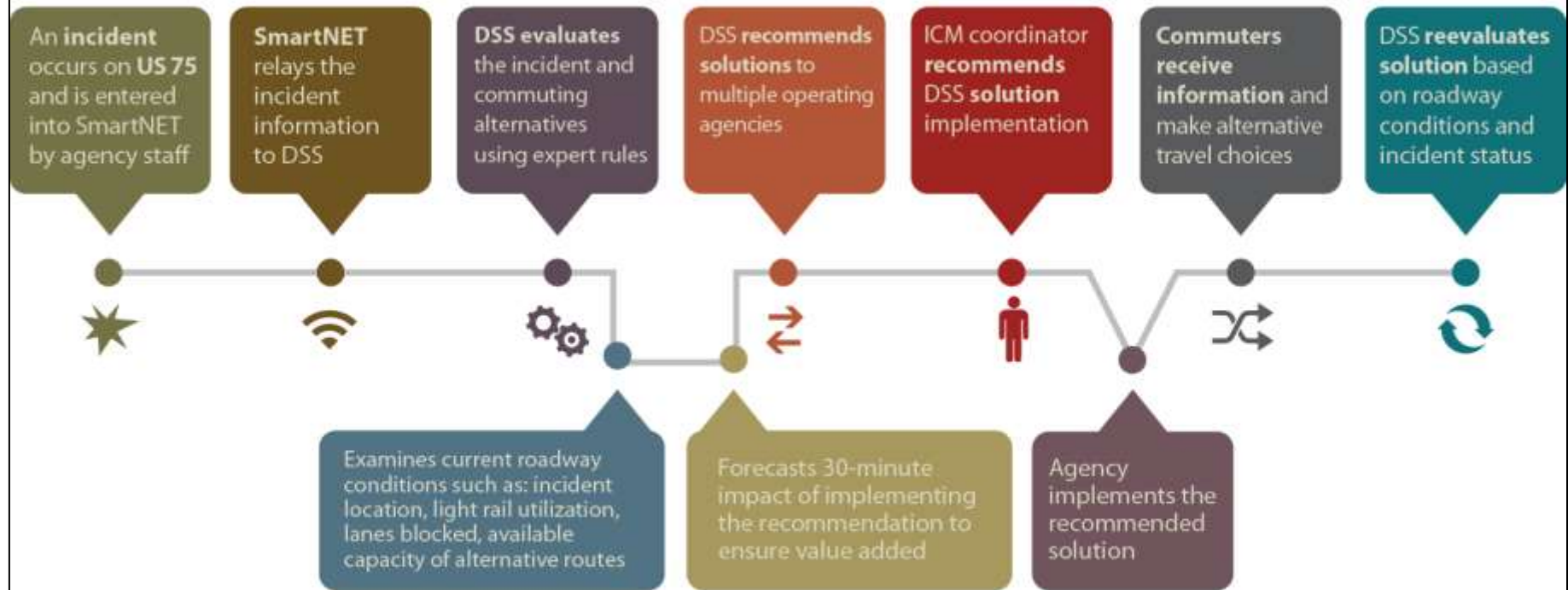
# Traffic Map



# Integrated Corridor Management (ICM) Decision Support System (DSS)

Alternatives for Agencies, Options for Commuters When Incidents Occur on US 75

## THE PROCESS



## THE BENEFITS



**Improved travel time reliability for commuters**



**Enhanced decision making support for operating agencies**



**Achieves a 20:1 return (\$278.8 million) on the project's cost over 10 years**



**Less pollution from idling vehicles in congested traffic**



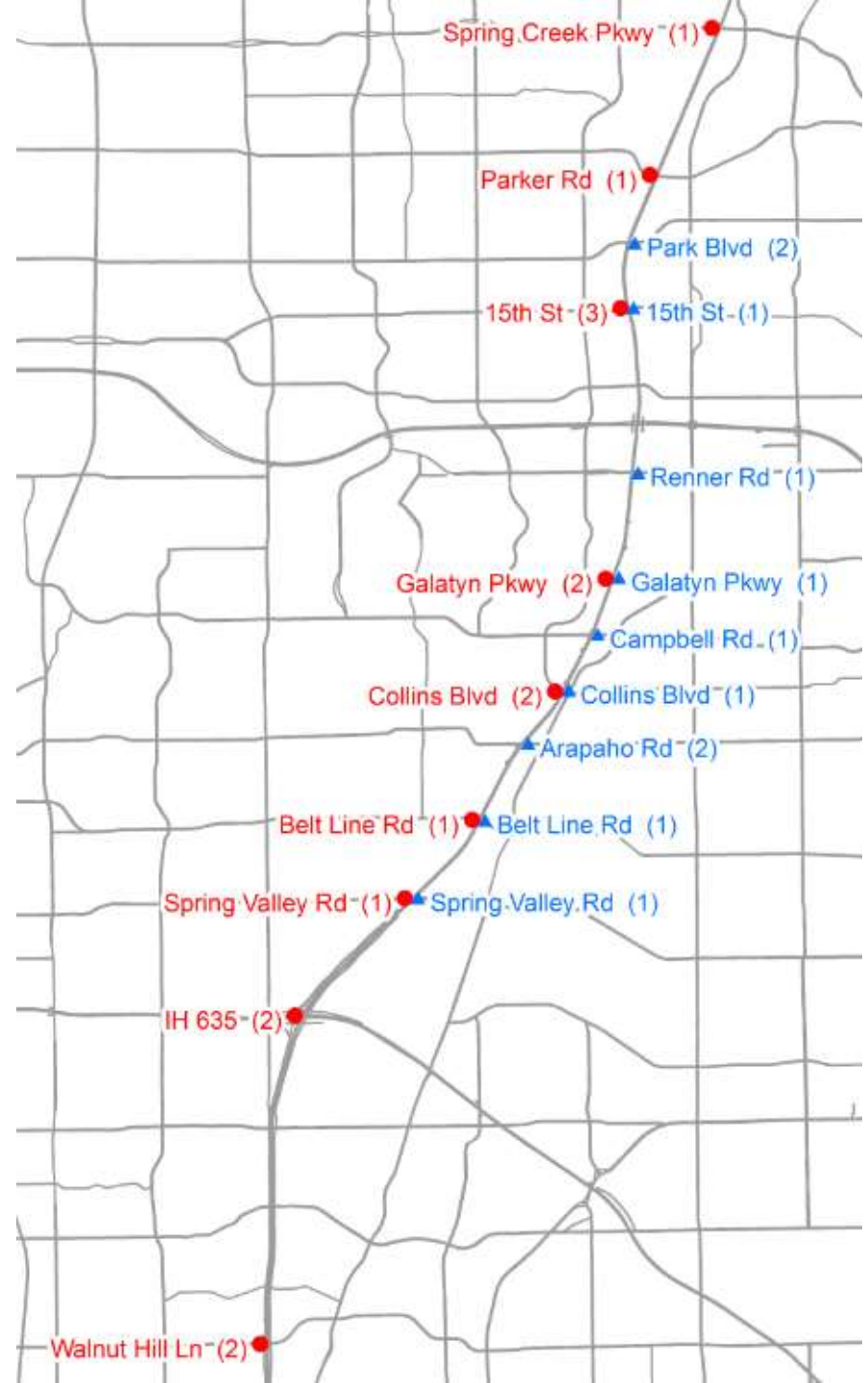
# DSS Statistics from 3/1-3/31

## (On US-75 between Legacy and Mockingbird)

- During operating hours (6a-6p weekdays)
  - Incidents logged in SmartNET & monitored by DSS (incl. Daltrans & DART):

Month	Total	With Lanes Affected ≥ 1
June	180	83
July	207	132
August	185	83
September	112	52
October	131	71
November	73	41
December	101	55
January	134	68
February	94	45
<b>March</b>	<b>159</b>	<b>94</b>

# Incident Events with “Recommended” Response Plans March, 2014



# Project Schedule

Project Phases	Start	First Draft	Final Published (508 version)	Iterations with USDOT
Concept of Operations	October 2006	February 2007	May 2009	4
High-Level System Requirements	March 2007	November 2007	April 2008	4
System Requirements	January 2010	March 2010	December 2010	3
Design	December 2010	June 2011	August 2013 (508 version)	6
Development			March 2013	
Test Plan		October 2012	August 2013	4
Deployment	February 2013			
Testing				
Operations	April 26, 2013		October 26, 2014	

# It is a Team Work

- Individual agencies operate their systems well
- Opportunities for advancement are in coordinated management
- Building on existing institutional arrangements is key to building consensus
- Set expectations
- Define roles and responsibilities



# Plan Big, Start Small

- ICM must be in your regional ITS strategic plan
- Plan for future ICM expansion
  - Geographic
  - Systems
  - Agencies
  - Applications
- Deal with Institutional Issues from beginning
- Everyone must win for the program to succeed
- Everyone must be committed
- Data sharing is a good start for ICM systems

# Proceed with O&M in Mind

- Envision ultimate working system
  - Determine who is in charge up front
  - Determine resources needed honestly
  - Prepare regional agreements and policies in advance
  - Don't start unless there is realization that the partners will have to fund this in the future
- Invest on the ConOps
- It is all about commitments

# Be Flexible

- Plans are plans
- Expect unexpected
- You either don't have it or don't know it
- It is OK to go back to basics
- Hopefully it is not your consultants fault

# Out of Site, Out of Mind

- Build Strong Partnership
- Schedule routine stakeholders meetings
- Define Committees, leads and assignments
- It is a teamwork
- **Benefit for all**



# Data

- It is all about data
- Whose Data, map, naming, etc.?
- MPO's Regional data or DOT's facility data?
- Why not Google, Microsoft, others?
- Regional Standards (ESRI, Google, Microsoft, etc.)?
- Events data should drive the map data selection.
- Is probe based travel time data good enough?
- Translation of nodes and links are huge
- Individual system static data updates has to be coordinated.
- Open data policy

# Stay Flexible – Be Patient



- Your corridor is always evolving
  - New projects are added
- Crashes patterns are always changing
- ICM is a process
  - It takes time

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