What is ICM?

• The integrated management of freeway, arterial, transit, and parking systems within a corridor

• Management of the corridor as a system, rather than the traditional approach of managing individual assets
US DOT ICM Pioneer Sites

- Seattle
- Oakland
- Minneapolis
- San Diego
- Dallas
- San Antonio
- Houston

Stages for the Pioneer Sites:
- Stage 1 – Concept of Operations & Requirements
- Stage 2 – Analysis, Modeling and Simulation
- Stage 3 – Demonstration & Evaluation
Why ICM for US 75?

- DFW is the 5th most congested region in US
- #1 worst region for growth in congestion
- Population is over 6 million, adding 1 million every 7-8 years
- US 75 is a critical regional corridor
- Travel demand and congestion continues to grow
- No ability to expand freeway, arterials, or alternate routes
- Other freeways are scheduled for construction
- Significant employers in corridor
- Numerous special events throughout year
- Showcase for ITS integration in the region
US 75 Corridor Networks

- Freeway with continuous Frontage Roads
- Managed HOV lanes
- Dallas North Tollway
- Arterials
- Bus Network
- Light Rail
- Approx 900 Signals
- Multiple TMCs
- Regional ATIS
US 75 ICM Vision

Operate the US 75 Corridor in a true multimodal, integrated, efficient, and safe fashion where the focus is on the transportation customer.
## Summary Results

<table>
<thead>
<tr>
<th></th>
<th>San Diego</th>
<th>Dallas</th>
<th>Minneapolis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Travel Time Savings (Person-Hours)</strong></td>
<td>246,000</td>
<td>740,000</td>
<td>132,000</td>
</tr>
<tr>
<td><strong>Improvement in Travel Time Reliability (Reduction in Travel Time Variance)</strong></td>
<td>10.6%</td>
<td>3%</td>
<td>4.4%</td>
</tr>
<tr>
<td><strong>Gallons of Fuel Saved Annually</strong></td>
<td>323,000</td>
<td>981,000</td>
<td>17,600</td>
</tr>
<tr>
<td><strong>Tons of Mobile Emissions Saved Annually</strong></td>
<td>3,100</td>
<td>9,400</td>
<td>175</td>
</tr>
<tr>
<td><strong>10-Year Net Benefit</strong></td>
<td>$104M</td>
<td>$264M</td>
<td>$82M</td>
</tr>
<tr>
<td><strong>10-Year Cost</strong></td>
<td>$12M</td>
<td>$14M</td>
<td>$4M</td>
</tr>
<tr>
<td><strong>Benefit-Cost Ratio</strong></td>
<td>10:1</td>
<td>20:1</td>
<td>22:1</td>
</tr>
</tbody>
</table>
ICM Applications

- SmartNET
- Freeway Management
- HOV Lane Management
- Arterial Street Monitoring System
- Weather
- Responsive Traffic Signal System
- Parking Management
- Real-Time Transit Vehicle Information
- Decision Support System (DSS)
- DFW 511
SmartNET: Map Interface
Diversion Plan:

**Minor Incidents**
1- lane & shoulder blocked, <2-mile queue:
• Divert US 75 traffic to Frontage Rd

**Major Incidents**
2- lanes or more blocked, 2 - 4 mile queue:
• Divert US 75 traffic to (any or all): Frontage Road
• Greenville Ave
• Red Line LRT
HOV Lane Management
Arterial Street Monitoring

- Proven Bluetooth Technology
- Have deployed about 40 detectors along diversion routes
- DSS will use Travel Time and Speeds on diversion routes to select recommended plan
- External Data Sources
Weather: Dallas Ice Storm
Responsive Traffic Signal

- Develop new Traffic Signal Timing Plans for Greenville Ave
- Develop Event Specific Timing Plans
- DSS will recommend plans for specific events
Parking Management

- 5 Park & Ride lots along LRT Red Line
- Monitor availability at each Park & Ride lot
- Publish to DSS and 511 System
- Publish to TxDOT DMS
Real Time Transit Vehicle Information

Vehicle location
Time to arrive at next stop
Transit schedule
Available capacity
Install APC on Red Line cars
Transmit & integrate real time AVL & APC data to ICM System
DSS Concept

Monitor US 75 Congestion

Divert to Frontage Road

Divert to Frontage Road and Greenville Ave

Divert to Frontage Road, Greenville Ave & DART Red Line
511DFW Public Website

Welcome to 511DFW

511DFW is Dallas and Fort Worth region's official traffic and travel information source. Whether you drive or take public transit, 511DFW will help you reach your destination in the most efficient manner. Wherever you're going, 511DFW will get you there from here.

To learn more about 511DFW, see our Frequently Asked Questions (FAQs)
Cost & Schedule

Funded by the US DOT: $5.31M
Local Share: Over $3M
Total project value: $8.38M
Additional federal funds: $0.9M

Soft Launch: April 26, 2013
Shake-Out: April 26 - October 26, 2013
Soft Launch: Phase 1
Available Now

- SmartNet, SmartFusion, DSS & 511 systems.
- C2C Interface allowing data flow from TxDOT ATMS to SmartFusion.
- Arterial traffic signal timing plans for the two highest priority clusters.
- Real time & forecasted weather and alerts integrated into SmartFusion.
- Bluetooth arterial monitoring speed data.
- NavTech speed data for the corridor.
- Over 100 Response Plans.
- Video camera snapshots for all users of SmartNET & 511.
Soft Launch: Phase 2
by June 26, 2013

- Expanded Video Sharing.
- All DSS Response Plans.
- AVL & APC data from additional LRT fleet.
- Data from at least one LRT Station from the parking management system will be included.
- NTTA traffic data will be interfaced.
- Arterial Traffic Signal Diversion Timing Plans will be complete for more locations as identified by cluster analysis.
Soft Launch: Phase 3
by August 26, 2013

• 35 full motion cameras from TxDOT & the City of Richardson will be available via SmartNET.
• 140 approved DSS response plans will be complete.
• AVL & APC data for expanded LRT fleet.
• LRT station parking data for all 5 stations for parking management system will be included.
• NTTA traffic condition data will be integrated.
• Arterial Traffic Signal Diversion timing plans will be complete for top 60 locations as identified by the cluster analysis.
For More Information

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