Integrated Corridor Management (ICM) Initiative

Dallas Demonstration Site

APTA 2011 Trans/Tech Conference
Miami, FL
March 30, 2011
Topics

• Site Team
• Goals and Objectives
• Corridor Description
• Proposed Strategies
• Decision Support System (DSS)
• Schedule
Dallas ICM Team

• Agency Partners:
  – Dallas Area Rapid Transit (Lead)
  – Cities of Dallas, Highland Park, Richardson, Plano, and University Park
  – North Central Texas Council of Governments
  – North Texas Tollway Authority
  – TxDOT Dallas District

• Technical Support Team:
  – Telvent Farradyne (Lead)
  – Texas Transportation Institute
  – Southern Methodist University
  – University of Texas at Arlington
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.
US 75 Corridor Networks

- US 75 Freeway with Continuous Frontage Roads
- HOV Lanes; US 75 & I-635
- Dallas North Tollway
- 167 Miles of Arterials
- DART Bus Network
- DART Light Rail
- 900 Signals
- Multiple TMCs
- Regional ATIS
Why ICM is needed in US 75 Corridor

- DFW is the 5th most congested region in US
- #1 worst region for growth in congestion
- DFW population is 6 million, adding 1 million every 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
Highlights of Site ICMS

Systems:

- DART Data Portal
- Interagency Information Exchange Network
- Decision Support System
- Expanded Traveler Information / 511
- Real Time Weather Information

Infrastructure:

- Arterial Street Monitoring System
- Adaptive Signal System
- Parking Management
- Bus Signal Priority
- Video Sharing Network
ICM Strategies

• Advanced Traveler Information (all scenarios)
  – Better pre-trip, en-route, and multi-modal information

• Route Diversion Strategy (minor incident)
  – Diverts traffic to parallel frontage roads

• Route Diversion Strategy (major incident)
  – Diverts traffic to frontage road and strategic arterials

• Mode Diversion Strategy (major incident)
  – Diverts travelers to DART Red Line

• Combined Route and Mode Diversion Strategy
  – Diverts travelers to frontage roads, strategic arterials, and DART Red Line
DART Data Portal

- Bus Operations
- Emergency Management System
- Transit Passenger Information
- DART Network
- T RES System
- LRT System
- Paratransit System
- HOV System
- Smart Cards
- On-Board System

DART Data Portal
C2C Network

City of Richardson
City of Plano
City of Dallas
City of Garland
City of Mesquite
City of Arlington
Arlington Stadium
City of Fort Worth
Texas Stadium

DFW
Emergency Management System

Dallas
Fort Worth
Regional
Network

DalTRANS
TxDOT
NTTA
NCTCOG
Regional C2C
ICMS - SmartNET / SmartFusion

- Information Exchange Tool & Backbone of ICM Network
  - Web Based Interface to ICM System
  - Data Fusion Engine
  - Allows entry and management of Incidents, Planned Events
  - Receives and Publishes data to the Regional Center to Center System & Other External Systems
  - Feeds Data to the 511 Systems, and Decision Support System
ICMS – Decision Support System

- Receives data from SmartNET/SmartFusion
- Evaluates various response plan options
- Provides the recommended plan to incident to partner agencies
ICM – Supporting Systems (Info Sources)

- Utilizing the existing Regional C2C system implemented by TxDOT
- Adding Parking Management, Weather Information, and Arterial Travel Time System
- Integrating DART AVL
511 DFW Systems

• Deploying Texas’ first 511 System including:
  – Interactive Voice Response System
  – 511 Public Web
  – ALERT System
  – Data Portal to Public
  – Mobile
  – Social Networking
Weather Information
Deployment Schedule

• Full Deployment by August 2012
  – 511 Deployment – December 2011
  – O&M Services for 18 Months
For More Information

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