ITS Lessons Learned

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DART ITS Planning efforts

• ITS National architecture & standards
• ITS Regional architecture & accepted standards
• Transit agency ITS architecture & accepted standards
ITS National Architecture
DART ITS implementation efforts

- Passenger Information Systems
  PAVMB/Next train information

- Traffic Signal Priority systems
  LRT priority in Dallas Central Business District

- In-vehicle systems
  Cameras/GPS/ Infotainment systems

- HOV/Managed HOV systems
  Vehicle detection system/CCTV/DMS/Gantry locations

- Wireless and wire-line communication networks
DART ITS implementation efforts

• Comprehensive Fare Payment System
  - Mobile app for fare payment
  - Contactless card, account based

• Passenger Counting Systems
  – 150 on buses
  – 68 on LRT
  – Integrating Fare box data with GPS data to improve system analysis

• Parking Management Systems
DART Control Centers

• DART Control Centers
  LRT center
  Fixed route center
  HOV/Managed HOV center
  Customer information center
  Police center

• TRE center

• Regional partners centers
Integrated Corridor Management (ICM)

• Dallas ICM initiative
  511 system
  Detection system
  Decision Support System
  Route shifting system

• ICM Goal
  Share network conditions
  Manage traffic
  Implement response plan requests
  Inform public of network conditions
  Determine available capacity of transit network
  Monitor LRT capacity and recommend mode shift
In-Transit Customer Information

Information Types

Bus/Train Location
Service Interruptions
Detours
Emergency Notifications

Events Driven Services
Public Notices
Service Change Notices

Rules of Riding
Schedules

Advertising
Multimedia
3rd party content

Delivery Targets

Customer Service Agents
Transit Centers displays
Rail Stations displays and announcement
Vehicle based displays
Field Operators, Agents
WEB sites
Cell Phones
Text Messaging
E-mail
RSS, Twitter
Face Book

Geographic targets
Subscribers
Route-specific

The “publisher” is a new function, comprising people, processes and technology

PUBLISHER
Authenticate
Reformat
Target
Push Out
Mobile Surveillance Advancement

• Introduction of IP camera
  – Better picture resolutions (from .3 Mega Pixel (MP) to ranges from 2 – 15 MP
  – Increased field of view
  – Each camera is independent of DVR for viewing and configuring
  – More camera analytics potential
  – Dual stream capabilities
  – Web server (access) over network
Mobile Surveillance Advancement

• 4G Modem and network solution
  – Makes vehicle node on network
  – Addition of switch hardware adds to overall devices that can send/receive data
  – Modem can provide Wi-Fi for customers
  – Allows cameras to be viewed remotely regardless of vehicle location.
What have we learned

• ITS can solve Transportation problems and potentially increase transit ridership
• Consolidation of ITS in an organization
• Compliance with Federal requirements
• ITS architecture & standards our best friends
• Prepare for next ITS implementation
• Funding challenges will continue
What have we learned

Improved system efficiency
Enhanced mobility
Improved safety
Prolonged life of existing investment
Improves communication exchange between agencies

We can work side by side with other agencies that have opposing needs
End