Traveler Information Systems for Operations
Traveler Information for Operations

- The Role of Traveler Information for transportation agencies
- How Traveler Information has Evolved
- Core Components and Relationship to other Operations areas
- Key Trends Influencing Traveler Information
- Unique customers
What Role Does Traveler Information Serve?

- A direct link to transportation users
  - Your customers

- An integrated and cross-cutting function
  - Recurring congestion information
  - Traffic incident management
  - Emergencies and alerts
  - Planned events and work zones

- Extension of agency branding

- Strong potential for innovation – delivery and partnerships
Evolution of Traveler Information
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Today’s Mobile Environment
Core Components

Data Sources
- Transit Data (Real-time)
- Traffic Data
- Incident Data
- Weather Data
- Work Zone Data
- Regional Transportation Data Warehouses
- Public Sector Data
- Private Sector Data
- Special Event Data
- Mobile Source Data
- Probe Based Data
- Social Media
- Vehicle Data (Location & Status)

Data Aggregation
- Data Sets from Multiple Sources
- Data Environment Multi-Source & Multi-Modal

Data Portal
- Mobile Traveler Information Applications
- In-Vehicle Display
- Traveler Information Web Portal
- Social Media

Users
- Comprehensive Traveler Information
- Transportation Operations & Management Agencies
- Transit
- POV
- Individual Travelers
- CVO
As users and system operators ….

- What are some of the strengths of the Stockton/Altamont Corridor area traveler information capabilities?
As users and system operators ....

- What are some of the key gaps?
Key Trends Influencing Traveler Information

- The Business of Data
- Social Media
- Business Models and New Roles
- Industry, Market and Social influences
What comes to mind when you think of BIG Data??
The Business of Data

- Who is responsible for generating data to support operations?
- Who is responsible for managing the security of the data?
- What do we mean by “crowdsourced” data – and how do these companies get it?
The Business of Traveler Information…and Data

- Data is more available, more ubiquitous
  - Not limited to agency infrastructure
  - Some agencies very experienced with integrating private sector data into traveler info and ops

- More “competition” in the industry
  - Mobile applications (private and media)
  - Deep supply chain for traveler information

- What are objectives of private traveler information providers? Are they the same as agencies?
Operations Program Challenges for Big Data

- Legacy technology environments
  - Expansion and consolidation challenges
  - Siloed environments

- Just now talking about “the cloud”…

- Managing unstructured data in a structured environment

- Resources to manage and innovate

- Changes to “business as usual”

- Data security and liability

- Others?
Key Trend: Social Media

- Impact of social media on traveler information
- Emphasis on the end user has raised the profile for social media tools within state DOTs
- AASHTO Annual Survey
- Trends, new tools, ‘fading’ tools
Is your state using one or more of the following tools?

- Snapchat
- Podcasts
- Soundcloud
- Periscope/Meerkat
- Instagram
- Storify
- Pinterest
- Google+
- Vine
- Other
- Blogs
- LinkedIn
- Flickr
- Mobile Apps
- Video
- Facebook
- Twitter

Percent
Social Media for Traveler Information

- Alerts – closures, incidents, lanes blocked
- Hazards, including weather and disasters
- Road conditions
- Special event traffic advisories
- AMBER Alerts
- Project information
- Announcements – public and project meetings, milestones, achievements
- Safety messages and alerts
- Public service announcements
New Roles for Agency Social Media Staff

- Need for social media expertise in agencies
- Balancing traditional communications roles with demand for new social media tools
- Size of communications teams not growing in scale with need
- 42% of DOTs have full time staff for social media
Key Trend – Changing Roles for Public and Private Partners

Traditional Roles

- Well-defined and distinct roles and strengths
- Focus on urban area markets and commuters
- Contracted roles for private sector in ATIS
- Geographic limitations of agency infrastructure

Today’s Roles

- Overlap for several functions
- Capability for corridor and multi-state information
- Self-sustaining private sector models
- New technologies can broaden coverage
What kinds of partnerships are in place?

What partnerships do you think this region needs?
Key Trend – Industry Market Influences

- Dynamic market requires nimble customer service approach
- Rapid technology turnover and short shelf-life of mobile devices
  - 10-15 years for typical DMS vs.
  - 1-2 years for mobile operating system
- Future connected vehicle capabilities
  - A lot still to be defined
  - Dependency on auto industry, technology suppliers
  - Aligning policy, need and resources
  - Opens up a wealth of potential ATIS data
Group Activity

- Small group/table activity to address 3 questions:
  - Where will future trends and influences have the most impact on agency traveler information programs?
  - What steps would agencies need to take?
  - What is the role of agencies in the future traveler information scenario?
Customer Needs for Information

- Customer needs and expectations for traveler information
  - Changing at the pace of mobile technology
  - Defining different customers and their needs
  - Direct personal impact and connection
Freight Information Needs
Measuring Customer Satisfaction

- Is usage the only metric of customer satisfaction with your traveler information system?

- Let’s look at another industry: Airlines
  - People fly every day. Flights are full. Does this mean customers are “satisfied”? There are other expectations:
    - Arrivals within 10 minutes of schedule
    - No cancelled flights
    - No lost baggage
    - Edible food
    - Comfortable seats
Homework to Take Back

- Think about what metrics YOU as a user place on traveler information
  - Accessibility and availability
  - Accuracy
  - Relevance
  - Easy to understand

- Does your traveler information program align?
- If not, what changes could be put in place?
- What are some impacts to implementing enhancements?
Additional Resources

- SHRP2 L11: *Evaluating Alternative Operations Strategies to Improve Travel Time Reliability* (Traveler Information System Performance Metrics)
- SHRP2 L14: Lexicon for Conveying Travel Time Reliability Information
- Real-Time System Management Information Program (1201)
- AASHTO Annual Survey on State DOT Social Media Usage
- *Communicating With the Public Using ATIS During Disasters: A Guide for Practitioners* (FHWA-HOP-07-068)
- Real-Time Traveler Information Market Assessment (FHWA-JPO-10-055)
- NCHRP Synthesis 399: Real-Time Traveler Information Systems
- Next Generation traveler Information-A five Years Outlook
- Impact of Technology on TMC Operation (FHWA-HOP-13-008)
- Estimated Benefit of Crowdsourced Data from Social Media (FHWA-JPO-14-165)