National 511 Overview

National Rural ITS Annual Meeting

James Pol, PE, PMP
FHWA – Office of Operations
October 10, 2007
Agenda

• 511 Progress
• Future Regulation Development
• Looking Beyond 511
511 Deployment Status

as of September 4, 2007

Accessible by 44.4% of Population

= 511 Operational ("Live")

= Expected "Live" in 2008

Accessible by 65% of Population in 2008
511 Deployment Progress

Call Volumes by Quarter

Over 75 Million Calls To Date
2008 Tipping Point?

- Coverage by 2/3 of population, with many major metropolitan areas
- Solid footprint for “national” service
  - Consumer demand / expectation
- Look toward sustainability
  - Organization
  - Support
<table>
<thead>
<tr>
<th>Traffic Conditions</th>
<th>No. of States</th>
<th>% of States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic speeds</td>
<td>14</td>
<td>28%</td>
</tr>
<tr>
<td>Travel times/delay</td>
<td>11</td>
<td>22%</td>
</tr>
<tr>
<td>Traffic flow/congestion</td>
<td>23</td>
<td>46%</td>
</tr>
<tr>
<td>Incident data</td>
<td>39</td>
<td>78%</td>
</tr>
<tr>
<td>CCTV camera images</td>
<td>40</td>
<td>80%</td>
</tr>
<tr>
<td>DMS messages</td>
<td>17</td>
<td>34%</td>
</tr>
<tr>
<td>HAR messages</td>
<td>3</td>
<td>6%</td>
</tr>
</tbody>
</table>
511 Data Considerations

• Assess quality metrics
  – Call volume not necessarily indicator of value or usefulness
  – Examine information quality measures beyond customer satisfaction

• Sharing data
  – Institutional, beyond standards
Future Regulation Development
2006 Proposed Program

• “Section 1201” RFI
  – Real-Time System Management Information Program
  – Published May 2006

• Traffic and travel conditions information
  – “Decision quality” for traveler choice of mode, time, and route
Span of the Proposed Program

- **Major Highways**
  - NHS, limited-access roads
  - Major arterials in metro areas

- **Traffic & Travel Conditions**
  - Road and lane closures (construction, incidents, weather)
  - Adverse roadway weather conditions
  - Congestion
  - Travel times in congested metro areas
  - Transit service disruptions in metro areas
Characteristics of the Proposed Program

• Real-Time
  - Construction closures / openings within 30 minutes; 15 minutes in metro areas
  - Confirmed road or lane blocking incident information within 15 minutes
  - Roadway weather conditions updated at least 30 minutes
  - Congestion information updated at least 15 minutes
  - Travel times reflect conditions no older than 10 minutes
  - Transit disruptions updated at least 30 minutes
Quality Metrics in the Proposed Program

- “Decision quality” for travelers
- Accuracy
  - Minimum of 85% accuracy
- Availability
  - Minimum of 90% availability
Value of the Proposed Program

• Transportation Agencies
  – Greater control of system-wide transportation assets

• Private Sector
  – Immediate access to shareable data
Upcoming NPRM

- Incremental Implementation
  - Initially focus on high-priority roadways and information
  - Expand Program for broader, deeper coverage

- Flexibility
  - Technology neutral
  - Congestion, performance metrics
  - Alignment with budget cycles

- Data Exchange Formats
  - Build on existing standards
  - Relatively short list
Looking Beyond 511
2008 Activities

• Data Exchange Formats
  – Interim Guidance

• Data Quality Workshops
  – Address quality metrics and data ownership issues
  – Define guide for sharing data and quality metrics

• Notice of Proposed Rulemaking
Data Exchange Formats: Not a Regulation

- A good practice
  - Facilitating consideration of standards
- There is no regulation for this
  - DOT has to adopt a standard
- SAFETEA-LU requires that states use the data exchange formats
  - No time frame established
<table>
<thead>
<tr>
<th>Req. No</th>
<th>Functional Specification Description</th>
<th>Source</th>
<th>Dialog(s)/Message(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td><strong>General Specifications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.1</td>
<td>The RTIP may provide a list of points and segments between any two points that comprise the traffic network (i.e. network topology).</td>
<td>TMDD</td>
<td>Standard: TMDD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Message: 1.14.2 -TrafficNetworkInventory</td>
</tr>
<tr>
<td>0.1.1</td>
<td>The RTIP may provide unique identification for all points in the traffic network.</td>
<td>TMDD</td>
<td></td>
</tr>
<tr>
<td>0.1.2</td>
<td>The RTIP may provide unique identification of all road segments between any two points in the traffic network.</td>
<td>TMDD</td>
<td></td>
</tr>
<tr>
<td>0.2</td>
<td>The RTIP may provide any change to the traffic network.</td>
<td>TMDD</td>
<td></td>
</tr>
<tr>
<td>0.2.1</td>
<td>The RTIP may provide any change to the identification of any point in the traffic network.</td>
<td>TMDD</td>
<td></td>
</tr>
<tr>
<td>0.2.2</td>
<td>The RTIP may provide any change to the identification of any road segment in the traffic network.</td>
<td>TMDD</td>
<td></td>
</tr>
<tr>
<td>0.3</td>
<td>The RTIP may receive and process information about the network topology.</td>
<td>TMDD</td>
<td>Standard: TMDD</td>
</tr>
<tr>
<td>0.3.1</td>
<td>The RTIP may request information about the network topology upon initialization.</td>
<td>TMDD</td>
<td>Message: 1.14.1 -TrafficNetworkRequest</td>
</tr>
<tr>
<td>0.3.2</td>
<td>The RTIP may provide information about the network topology upon request.</td>
<td>TMDD</td>
<td>Message: 1.14.2 -TrafficNetworkInventory</td>
</tr>
<tr>
<td>1</td>
<td><strong>Traveler Information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>The RTIP may provide route segment travel times.</td>
<td>National ITS Architecture</td>
<td>Standard: TMDD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Message: 1.14.9 -LinkData</td>
</tr>
<tr>
<td>1.2</td>
<td>The RTIP may provide route segment speeds.</td>
<td>National ITS Architecture</td>
<td>Standard: TMDD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Message: 1.14.9 -LinkData</td>
</tr>
<tr>
<td>1.3</td>
<td>The RTIP may provide roadway incident information.</td>
<td>National ITS Architecture</td>
<td>Standard: SAE J2354</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Dialog: One-way Traveler Information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Message: 5.4 – MSG_AdvisoryInformation where ResponseGroup has entry for incidents.</td>
</tr>
<tr>
<td>1.4</td>
<td>The RTIP may provide roadway detours and closures information.</td>
<td>National ITS Architecture</td>
<td>Standard: IEEE 1512 Base Standards</td>
</tr>
<tr>
<td>1.4.1</td>
<td>The RTIP may provide list of road segments as detour information.</td>
<td>National ITS Architecture</td>
<td>Message: 6.3—MSG_Public incident description (PID) where DF_IDX_Wrapper has value of impactReports entry.</td>
</tr>
<tr>
<td>1.4.2</td>
<td>The RTIP may provide list of road segments that are closed.</td>
<td>National ITS Architecture</td>
<td></td>
</tr>
<tr>
<td>1.4.3</td>
<td>The RTIP may provide information about the effective time frame as a part of detours and closures information.</td>
<td>National ITS Architecture</td>
<td></td>
</tr>
</tbody>
</table>
Resources Available

• **511 Websites**
  - http://www.deploy511.org
  - http://ops.fhwa.dot.gov/511

• **Deployer Websites**
  - AZ511.com, 511.KY.gov, 511MN.org, 511tampabay.com, 511virginia.org, etc.

• **Listserv at Yahoo! Groups**
  - 511_coalition-subscribe@yahooogroups.com
Business Models Review

- Private sector works best with broadcast media and ‘bundled’ services
- Public and private sectors are sharing roles
- Public sector policies need to catch up with market changes
Using ATIS During Disasters

- Public panic is not the norm
- People make rational decisions based on information
- Amount of detail should be specific to medium
Contacts

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