A Multi-state Corridor Comprehensive Traveler Information System
Defining Consistent Event Messages

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Overview

- North/West Passage Background and Focus
- Current Situation
- Project Need
- Project Tasks
- Consistent Description Advantages
- Consistent Description Disadvantages
- Project Results
- Questions
Background and Focus

- North/West Passage was established as FHWA Pooled Fund Study in 2003
- 8 State DOT Members along I-90 and I-94 (Washington to Wisconsin)
- Goals
  - Integrate traveler information systems that can provide information appropriate to the location and need of the traveler
  - Develop and promote cross-border jurisdictional cooperation and coordination in the planning, deployment, operations, and maintenance of ITS infrastructure
  - Integrate ITS projects for the North/West Passage Corridor into the state, regional, and local planning and programming processes
Background and Focus

Work Completed

- Phase I (3 states)
  - 9 Projects Completed
- Phase II (8 states)
  - ITS Integrated Corridor Strategic Plan
- Phase III (8 states)
  - **Corridor-Wide Consistent Major Event Descriptions**
  - Clarus Regional Demonstration ESS Metadata Development
  - CAD to Reporting Systems Integration Workshop
  - North/West Passage Traveler Information Web Site
  - Cross Border O & M Collaboration Workshop

North/West Passage
11/20/08
Current Situation

• Individually each state disseminates reports to traveler information websites and/or 511 phone systems

• Travelers must access separate phone and web systems for corridor conditions

• Each state is using one of the National ITS Standards for data exchange (different phrases from state to state)
Project Need

• Disseminate Corridor-Wide Information to Travelers

• Standards Compliant Systems

• Define Consistent Event Description Phrases (when sharing messages between states)

Sample of Ice-related Phrases

Ice, Icy Patches, Black Ice, Ice Pellets, Ice Build Up, Wet and Icy Roads, Slush, Frozen Slush
Task 1: Document Current Phrases used by each North/West Passage state for:

- Weather and Road Condition Information
- Incidents
- Road Restrictions
- Road Work
Task 1 Results

- Weather and Road Condition Information provided the largest inconsistencies between states
  - Some states describe only observed conditions (packed snow, icy patches, wet roads)
  - One state defines a qualitative assessment (good, fair, difficult)
  - Some states describe best estimates of the performance of vehicles (slick spots, slippery roads)
Task 1 Results (cont.)

- States are similar in the phrases used, but most states use numerous phrases to describe conditions.
Task 2: Document Current Standards

- Each state follows ATIS or TMDD
- Standards are flexible and allow multiple phrases to be used
- Inconsistencies in exchanging information between states

Example: Snow Storm in Fargo, ND/Moorhead, MN vicinity

Fargo Operator: **Snow**
Moorhead Operator: **Heavy Snow**

*Implies: Condition is better in Fargo, when in fact the two operators are describing the same condition*
Project Tasks

Task 3: Develop a Recommended Set of Consistent Event Descriptions

- Recommended/Translation Phrases Identified (most states don’t want to give up current phrases)
## Task 3 Results

<table>
<thead>
<tr>
<th>State</th>
<th>Road Work Phrases Currently Used by NWP States</th>
<th>Recommended NWP Phrase and Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin</td>
<td></td>
<td><strong>Road Work</strong></td>
</tr>
<tr>
<td></td>
<td>Work is being performed on the roadway. This work may include typical maintenance activities, repairs, or the addition of lanes. Travelers should expect delays at times, and may encounter flaggers directing traffic.</td>
<td></td>
</tr>
<tr>
<td>Minnesota</td>
<td>Road Construction, Construction Work</td>
<td><strong>Road Work</strong></td>
</tr>
<tr>
<td>North Dakota</td>
<td>Maintenance, Surfacing, Chip/Seal/Overlay</td>
<td></td>
</tr>
<tr>
<td>South Dakota</td>
<td>Fresh Oil, Grading, Paving, Pavement Repair, Striping</td>
<td></td>
</tr>
<tr>
<td>Montana</td>
<td>Fresh Oil, Crack Sealing, Grading, Striping, Chip Sealing, Overlay, Milling, Rut Filling, Rumble Strip, Paving, Guardrail, Shoulder, Patching, Sweeping, Culvert Installation, Median</td>
<td>Ideally, this phrase would be accompanied by a qualifier describing the impacts to the travelers (in the form of delay, restrictions, or the use of detours).</td>
</tr>
<tr>
<td>Wyoming</td>
<td>Road Construction, Roadway Surface</td>
<td></td>
</tr>
<tr>
<td>Idaho</td>
<td>Road Construction, Road Maintenance</td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>Road Construction, Construction Work</td>
<td></td>
</tr>
</tbody>
</table>
Project Tasks

- There are similar recommended NWP phrases for:
  - Weather
  - Road Surface Conditions
  - Vehicle Restrictions
  - Incidents
Consistent Descriptions Advantages

- Travelers receive consistent and non-conflicting event reports.
- Confusion due to the use of local phrases or terms would be eliminated.
- The finite number of agreed phrases to be used when performing consistent reporting would allow for clear and well defined definitions of each phrase.
Consistent Descriptions Disadvantages

- Some level of detail may be lost in standardizing the messages

- Consistent message definitions would (at least initially) be limited to the North/West Passage Corridor
• Reference for surrounding states to learn about road condition phrases used

• Guidelines to consider as reporting systems are updated
  – Montana recently upgraded their system and incorporated the suggested translation phrases
  – Most other states prefer to retain their current phrases and use a translation process
Looking Ahead

North/West Passage States are Considering:

• State to State Message Exchange (option on 511 phone to hear I-90/I-94 conditions in a neighboring state)

• Consolidated Corridor Website (view all active conditions along the corridor)
  - An initial version implemented
Questions

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