AGENDA

• Introduction.
• Status Update.
• Data Models.
• Integrating GIS.
• Conclusion.
Phased Approach

- Phase One - Research and Planning
- Phase Two - Build Geometric Network
- Phase Three - Design and Build Server
- Phase Four - Application Development
- Phase Five - Application Testing
- Phase Six - Operation and Maintenance
WVDOT GIS Status Update

December 2006
4155 Miles

- 90% Completed Roads
- 10% All Roads

September 2007
13,509 Miles

- 73% Completed Roads
- 27% All Roads
WVDOT GIS Status Update

• Created Web-based Applications
  • STIP
  • Proto-type Crash Analysis
  • Port Locations

Other Information Systems evaluated and considered for GIS integration;
• Road Inventory Log (RIL)
• Project Tracking System (PTS)
• Average Daily Traffic (ADT)
• Pavement Management
• Document Management
• Coal Resource Tracking Systems (CRTS)
WVDOT GIS Status Update

- GIS Maps Developed:
  - Project Tracking System
  - Port Locations
  - Fuel Locations
  - HPMS Sample Locations
  - Homeland Security
Types of GIS-T Data Models

3 Main Types

• Network Models
  • Connections between links and nodes; i.e. TIGER

• Process Models
  • Concerned with how activities are conducted; i.e. UTPS Travel Demand Models

• Object Models
  • Identifies many transportation objects as possible and logically organize them; i.e. Enterprise GIS
Types of GIS-T Object Models

3 Main Types

• Centerline-based Models
• Carriageway-Based Models
• Lane-Based Models
Object Model Examples

Divided Highway

Carriageway
Lane
Lane
Lane
Lane
Centerline
Carriageway
Lane
Lane
WVDOT GIS LRS Model

Crash
WVDOT GIS Logical Groupings

- Assets
- Linear Referencing
- Reference Layer
- Activities
- Routing/ITS
- Crash
- Street Names Address Ranges
- Mobil Objects/ITS
This is a map showing the average daily traffic counts for Interstates and US Routes. The map symbology has been scaled for functional class to improve map readability. At the present time we are not showing ADTs on Interstate 77 toll.
<table>
<thead>
<tr>
<th>Column Name</th>
<th>Datatype</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUARDRAIL_ID</td>
<td>NUMBER(6)</td>
<td>Unique identifier of the guardrails</td>
</tr>
<tr>
<td>GUARDRAIL_TYPE</td>
<td>VARCHAR2(10)</td>
<td>Type of guardrail</td>
</tr>
<tr>
<td>DATE_INSTALLED</td>
<td>DATE</td>
<td>Date guardrail was installed</td>
</tr>
<tr>
<td>DATE_REPAIRED</td>
<td>DATE</td>
<td>Date guardrail was repaired</td>
</tr>
<tr>
<td>DATE_INSPECTED</td>
<td>DATE</td>
<td>Date of the most recent inspections</td>
</tr>
<tr>
<td>CONDITION</td>
<td>VARCHAR2(10)</td>
<td>Condition of the guardrail</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>VARCHAR2(10)</td>
<td>General comments about this guardrail</td>
</tr>
<tr>
<td>COUNTY_CODE</td>
<td>NUMBER(6)</td>
<td>County Code</td>
</tr>
<tr>
<td>ROUTE_CLASS</td>
<td>NUMBER(6)</td>
<td>Highway system</td>
</tr>
<tr>
<td>ROUTE_ID</td>
<td>VARCHAR2(10)</td>
<td>Route ID</td>
</tr>
<tr>
<td>BEG_MILE</td>
<td>NUMBER(6)</td>
<td>The mile post at beginning of the guardrail</td>
</tr>
<tr>
<td>END_MILE</td>
<td>NUMBER(6)</td>
<td>The mile post at end of the guardrail</td>
</tr>
<tr>
<td>LATITUDE</td>
<td>NUMBER(6)</td>
<td>Coordinates</td>
</tr>
<tr>
<td>LONGITUDE</td>
<td>NUMBER(6)</td>
<td>Coordinates</td>
</tr>
<tr>
<td>CREATION_DATE</td>
<td>DATE</td>
<td>Date the record is created in Geodatabase</td>
</tr>
<tr>
<td>UPDATE_DATE</td>
<td>DATE</td>
<td>The date the latest changes made to the record</td>
</tr>
<tr>
<td>UPDATED_BY</td>
<td>VARCHAR2(10)</td>
<td>Person who made the latest change to the record</td>
</tr>
</tbody>
</table>
PHASE II
CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS)
REPRESENTED AT 15 MILES

Coverage of CORS area at 15 Miles
Phase I: 16 Stations Proposed
Phase II: 17 Stations Proposed
PHASE I
CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS)
REPRESENTED AT 25 MILES

Coverage of CORS area at 25 Miles
Phase I: 16 Stations Proposed
Conclusions