Commercial Vehicle Information Systems and Networks (CVISN)

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2009 National Rural ITS Conference
Seaside, Oregon
CVISN Objectives

- Move Freight
  - Safely
  - Legally
  - Economically
Using Weigh-In-Motion (WIM) and Automatic Vehicle Identification (AVI) we can electronically sort commercial vehicles on the mainline.
Electronic Screening-How Does It Work?

- WIM scales are imbedded in the roadway about one half mile ahead of the weigh station.
- AVI uses transponder serial numbers to uniquely identify a vehicle.
- Provides the ability to query a database and screen the data associated with that vehicle.
Mainline Screening & Clearance
A way to electronically sort trucks on the mainline
Where are we going?

• License Plate Readers
• Infrared Sensors
• USDOT Readers
• Virtual Weigh in Motion

Virtual Weigh Station, Idaho, USA. This station utilizes Weigh-in-Motion (WIM) technology for vehicle weight enforcement. Overweight truck information is transferred through wireless technology to a nearby law enforcement officer.
Images From Ft. Lewis ALPR
## Commercial Vehicle Detail

### Vehicle Weight Data

<table>
<thead>
<tr>
<th>axle</th>
<th>static axle dist</th>
<th>weight in motion lbs</th>
<th>WIM axle dist</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0.000</td>
<td>12.8</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>15.175</td>
<td>4.9</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>14.122</td>
<td>22.9</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>12.033</td>
<td>4.1</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>15.549</td>
<td></td>
</tr>
</tbody>
</table>

### Vehicle Information

- **Vehicle Information:**
  - **License Plate:** WA-AD1907U
  - **VIN:** 1HKGE3AX0CT030625
  - **Transponder ID:**
  - **Stolen Vehicle:**

- **Carrier Information:**
  - **Carrier Name & Address:**
    - **Address:** 297 MERIDIAN EAST, EDGECOOD, WA 98021
  - **Contact Information:**
    - **Contact Person:** BARTELSON TRANSPORT INC
    - **Address:** 297 MERIDIAN EAST, EDGECOOD, WA 98021

### Carrier Violations

- **Carrier Violations:**
  - **Bridging:**
  - **Violations:**
  - **Point:**
    - 12.0
    - 4.9
    - 22.9
    - 4.1
  - **Static Scale:**
  - **Vehicle Class:**

- **ISS Inspect:**
- **Good Vehicle**
- **ISS Inspect**
- **ISS Inspect**
- **ISS Inspect**
- **No Plate Read**
Seek the HEAT
Automated Infrared Scanning System

Defective brake
(cold - not working)

Active brake
(Hotter - working)
Notice tires – Middle warmer than edges
Expanded CVISN
Automated Infrared Scanning System (AIRSS)

- WSDOT Expanded CVISN to provide the IR system as a stationary pass on the ramps
  - Focus on key points of vehicle vs. all
  - No Operator involvement
- Utilize software to monitor the readings and alert users when something is out of the predefined range
Automated USDOT Reader

- Utilize same machine vision software as for Infrared system to identify and automatically read USDOT numbers
- Utilize USDOT number if in database for sorting
Virtual WIM Equipment

- Weigh in Motion
- Transponder Reader
- Cameras
- License Plate Reader
Interstate 90 Virtual Weigh in Motion Study

- Completed June 2009
- Identified potential sites for a Virtual WIM
- Identified sites for enforcement and inspection
Putting it together for Safety

- Weigh in Motion
- Transponder Reader
- Axle counter
- Cameras
- License Plate Reader
- Automated USDOT reader
- Automated infrared scanning system
Questions