Commercial Vehicle Services
In Washington State

Bill Legg
State ITS Operations Engineer
Vehicle Permitting – Includes web based self issuing permitting, superloads and movement coordination.

CVISN – Transponder administration and management of a collection of information systems and communications networks that support commercial vehicle operations.

WSP - Work in partnership with WSP who operate the states weigh stations and are responsible for commercial vehicle enforcement.

Responsibilities of the two agencies are defined by a MOU which covers operations and infrastructure.
Issue approximately 150,000 permits with annual revenues of around $9 million.
20% of the permits are self issued over the web by registered carriers. The entire transaction is electronic and done using a credit card. Superload permits cannot be self issued.
We issue approximately 2500 superload permits yearly, they are handled individually by our Superload Coordinator. Most super loads at this time are wind generator components.
We license private outside agents who can issue permits, there are currently 22 agents in 7 different states. Superload permits cannot be issued by an agent.
CVISN – A collection of information systems and communications networks that support commercial vehicle operations. CVISN includes information systems owned and operated by governments, carriers, and other stakeholders.

WSDOT designs, implements, and maintains most of the CVISN systems.

Primary objectives are to develop and deploy information systems that support new capabilities:
- Safety Information Sharing
- Credentials Administration
- Electronic Screening
- More efficient and effective use of WSP resources at the roadside
Core CVISN

- Weigh-in-Motion (WIM) using mainline scales
- Automatic Vehicle Identification (AVI) using transponder tags
- Electronic Screening linking AVI and WIM data linked to carrier information databases
- Cameras for vehicle imaging
- Axle counters
- Over height detection
Approximately 62,000 trucks have transponders representing 11,500 carriers. This is about 20% of the trucks that pass the states weigh stations.

WSDOT provides the transponders to the carrier’s at cost and manages the transponder database.

About 300 transponders are added to the fleet monthly.

AVI uses transponder serial numbers to uniquely identify a vehicle.

Provides the ability to query databases and screen the data associated with that vehicle.
Northbound I-5 just north of Vancouver, Washington (Ridgefield)
Scale House Vehicle Screening Interface
Expanded CVISN

- Builds on Core CVISN system by adding:
  - Automatic License Plate Recognition (ALPR)
  - Automated Infrared Roadside Screening (AIRS)
System is operational: Four systems have been installed, the remaining six will be installed by the end of this summer.
Automated License Plate Recognition (ALPR)

- System currently recognizes ten state and Canadian provinces
- ALPR reads all visible reflective plates
- Provides visible and infrared images for day and night use and better recognition
- Provides mainline, freeway speed recognition
These will result in the truck being brought into the station.
Same data as if vehicle had a transponder

Transponder Read (TAG)

ALPR Read (No transponder)
Database search from ALPR read
Images from Ft. Lewis ALPR Camera

Translated to text for computer use

VP48421
Automated Infrared Roadside Screening (AIRS) Project

- Removes officer from time consuming manual scanning process for unsafe brake and tire issues
- Improve scanning results
  - Scan every vehicle entering the station
  - User notified when preset temperatures are detected
  - Detection goals:
    - Cold (non-functioning) brakes
    - Hot brakes
    - Different size tires on the same axle
    - Flat or underinflated tires
    - Delaminating tires
    - Hot axle hubs
Three Potential Placements for the IR Camera

1 - Straight on

2 - At an angle under vehicle

3 - Embedded in center of roadway
Requires 2 cameras to cover both sides of the truck

View of Brakes through holes

Straight on view
At an angle under vehicle

View of Brakes from far side

Very limited view of Brakes from near side due to angle

May require 2 cameras to cover both sides of the truck
Embedded in center of ramp

Only requires 1 camera to cover both sides of the truck
Based on WSDOT/WSP Feasibility Study
IR Scan Location
First system will be installed by the end of this summer.

Significant work is underway to integrate the imaging results and alarms in the operator's computer interface in the Scale House.
Bill Legg
leggb@wsdot.wa.gov
wsdot.wa.gov/Operations/ITS/

Washington State
Department of Transportation