8 ELECTRONIC SCREENING IN THE CVISN MODEL DEPLOYMENT STATES

Several of the CVISN Model Deployment States provided information about how they are implementing electronic screening functions (see subsequent sections in this chapter). This information is included below as written by the states without further editing. All information is as of April 1999 unless otherwise noted. It is subject to change and is provided as background only.

8.1 California

Highlights of California electronic screening modifications and planned or existing capabilities include:

- Installed electronic screening (PrePass™) hardware/software at 24 fixed inspection facilities statewide.
- PrePass™ carrier participation includes pre and post enrollment verification which includes valid credentials (vehicle registration, IRP, SSRS, MCP, and IFTA) and safety rating.
- Plan to equip electronic screening capabilities in seven additional fixed inspection facilities to complete California's electronic screening deployment.
- Developing an interface through CI with the PrePass™ administrators for enrollment/verification processes.
- Develop an interface with the CVIEW/SAFER snapshot data systems for enrollment/verifications processes.
- Investigating the use of performance based inspection selection systems, in lieu of the current safety criteria.

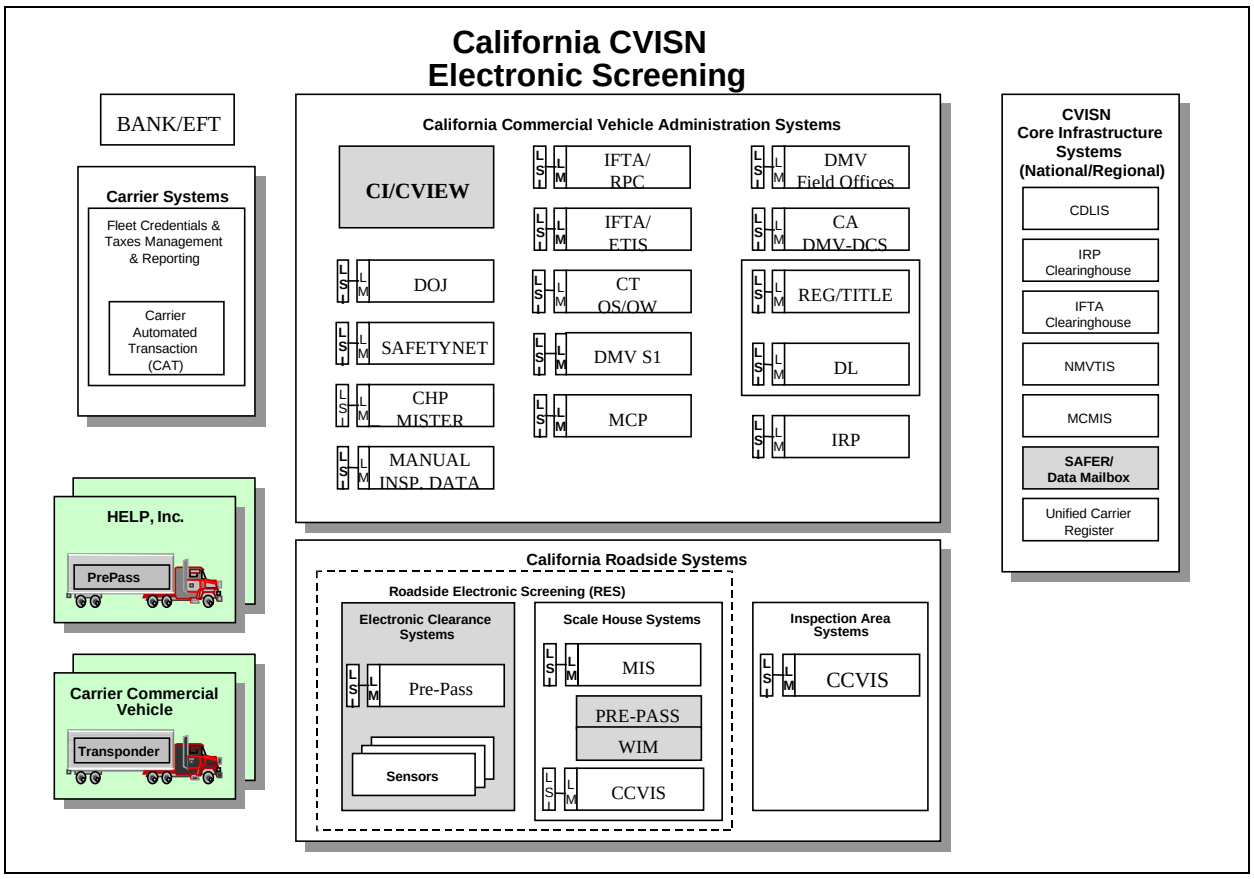

Figure 8–1. California Electronic Screening Design

8.2 Colorado

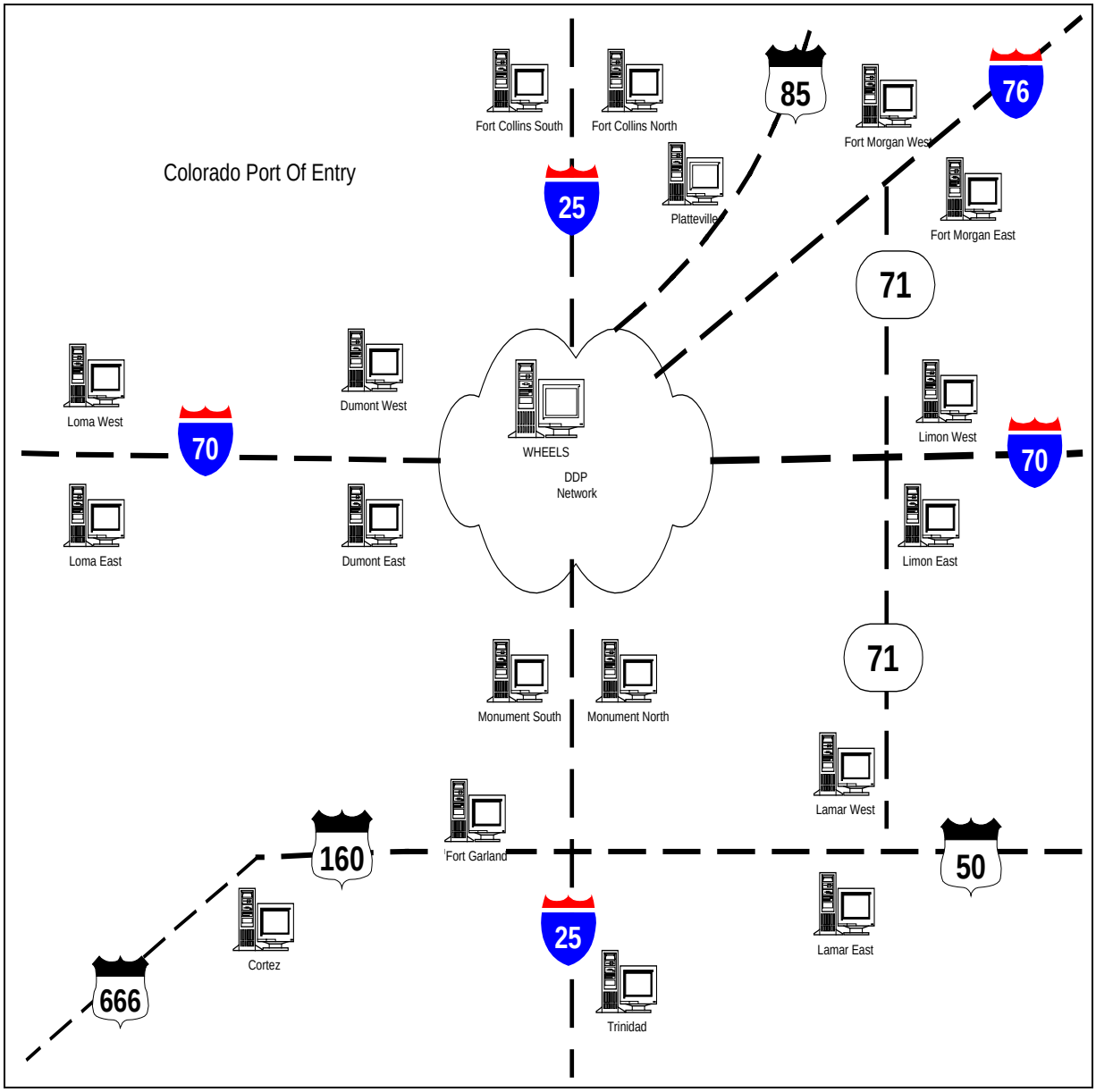

Figure 8–2. Colorado Commercial Vehicle Computer Systems

Colorado has been maintaining a database of commercial vehicle credentials for many years. This process began in 1985 with the installation of computer systems in each port of entry location. By July of 1986, the Fort Collins Port of Entry (POE) became automated. In a few months, the remaining ports were also up and running. These computers were gathering and displaying credential information, issuing clearances and receipts, and providing reports needed for the daily operations.

In 1990, a bill was implemented by the legislature, SB159, which eliminated the Gross Ton Mileage (GTM) tax and replaced it with a registration-based fee system. The loss of data (account numbers) and the elimination of the need to speak to each driver allowed us to explore ways to enhance the port operations. A primary improvement that was identified was to use Automatic Vehicle Identification (AVI), Automatic Vehicle Classification (AVC), and Weigh-In-Motion (WIM) technologies.

By 1994, with the cooperation of the Colorado Department of Transportation (CDOT) and with the assistance of our vendor, International Roadway Dynamics (IRD), Colorado had issued 350 Mark IV transponders to vehicles, associated these transponders to our credential database, and began clearing trucks at mainline speeds at our Trinidad site.

Currently (Spring of 1999), we have two locations that are AVI/WIM-equipped, have contracts in place for the installation of five additional facilities, and may potentially receive state funding for two more sites.

Colorado has 18 fixed buildings in the state, located in 11 cities and towns that are known as Port of Entry offices (sometimes called weigh stations). Of these dual locations, it is our intent to primarily service the "in-bound" traffic lanes with AVI/WIM technologies. Any site not receiving both AVI and WIM will have an AVI reader and the PrePass system installed in the 1999 calendar year.

8.3 Connecticut

No information was available from Connecticut at the time of publication of this document.

8.4 Kentucky

Kentucky's CVISN plans call for:

- Rewrite (next generation) of electronic screening software to include the capability for multiple configuration options
- Use of Ethernet LAN's and 56KB WAN links to provide for data communication links
- Use of CVIEW to receive snapshot information containing safety and credential information
- Use of CVIEW snapshot data to automatically generate and update (as necessary) the screening database for electronic screening
- Establishing an unmanned remote monitoring site on a bypass route with the images projected/communicated back to a nearby weigh station. Communications are planned as land lines currently

Kentucky serves as a prime partner in NorPASS – a continuing and combined effort of the MAPS and Advantage I-75 electronic screening programs. Kentucky's efforts include a second generation of electronic screening software that offers compliance with the CVISN architecture as well as backward compatibility with the enrollment list concepts of Advantage (CVO) I-75. Additional information relating to CVISN and CVO activities can be found at http://www.kytc.state.ky.us/motorcarrier/Motorcar.htm and http://acvo.uky.edu.

A high-level overview of the involved systems in Kentucky's CVISN plans is contained in Figure 8-3.

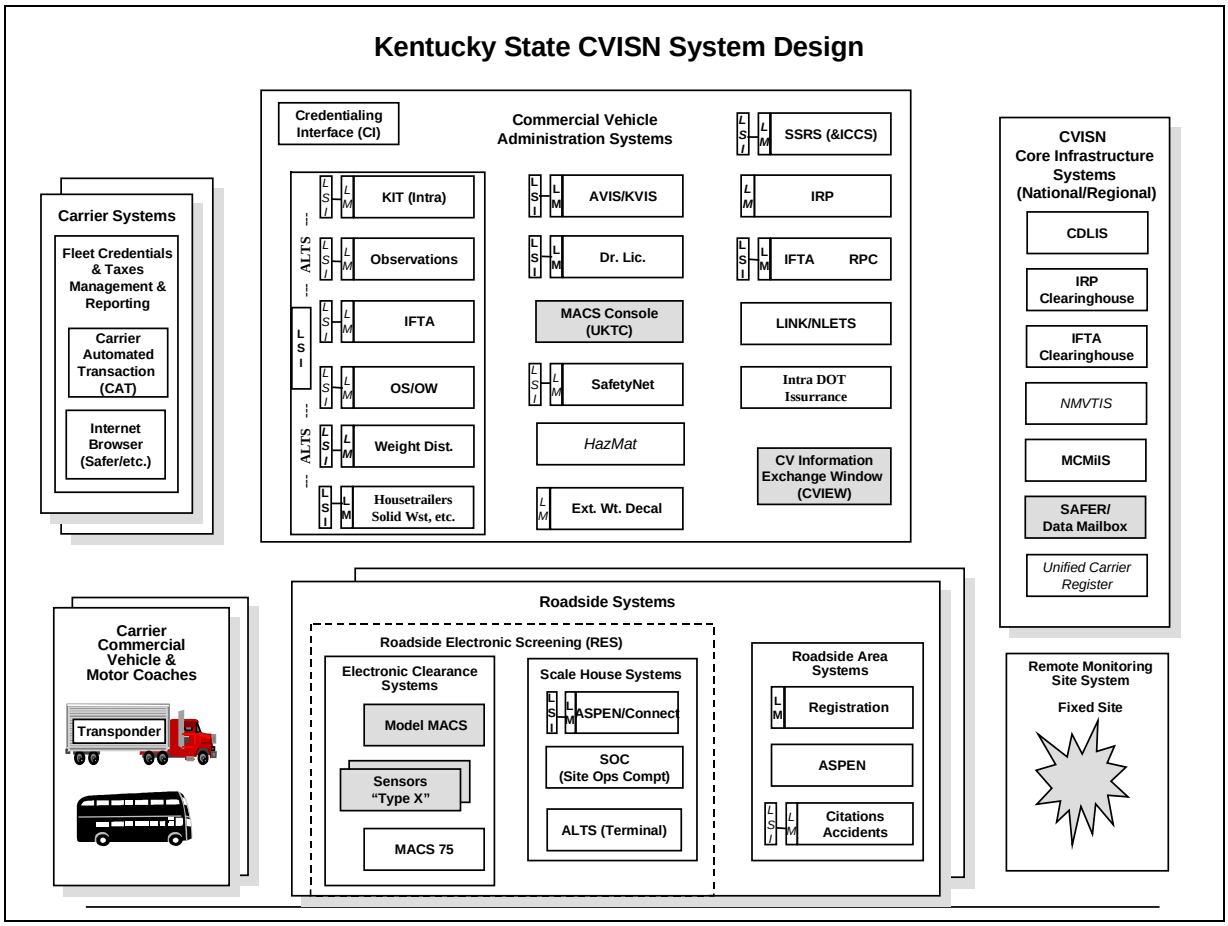

Figure 8–3. Kentucky CVISN System Design Template

8.5 Maryland

Figure 8–4 show Maryland's system design template, with the electronic screening-related functions highlighted. More information about the Maryland CVISN project can be found at http://www.mdot.state.md.us/mmcp/index.html. Information about the Maryland Business Licensing Information System can be found at http://www.blis.state.md.us/.

Highlights of Maryland's electronic screening modifications and planned or existing capabilities include:

- Installed Roadside Operations Computer (ROC) and software at State Highway Administration.
- Installed Roadside Operations Computer (ROC) and software at West Friendship.
- Subscribed to CVIEW to receive snapshots at West Friendship.
- Developing detailed requirements to implement electronic screening at Perryville site.
- Established connectivity between CVIEW and West Friendship.
- Improved existing connectivity between MVA and weigh station facilities for carrier and vehicle snapshots.

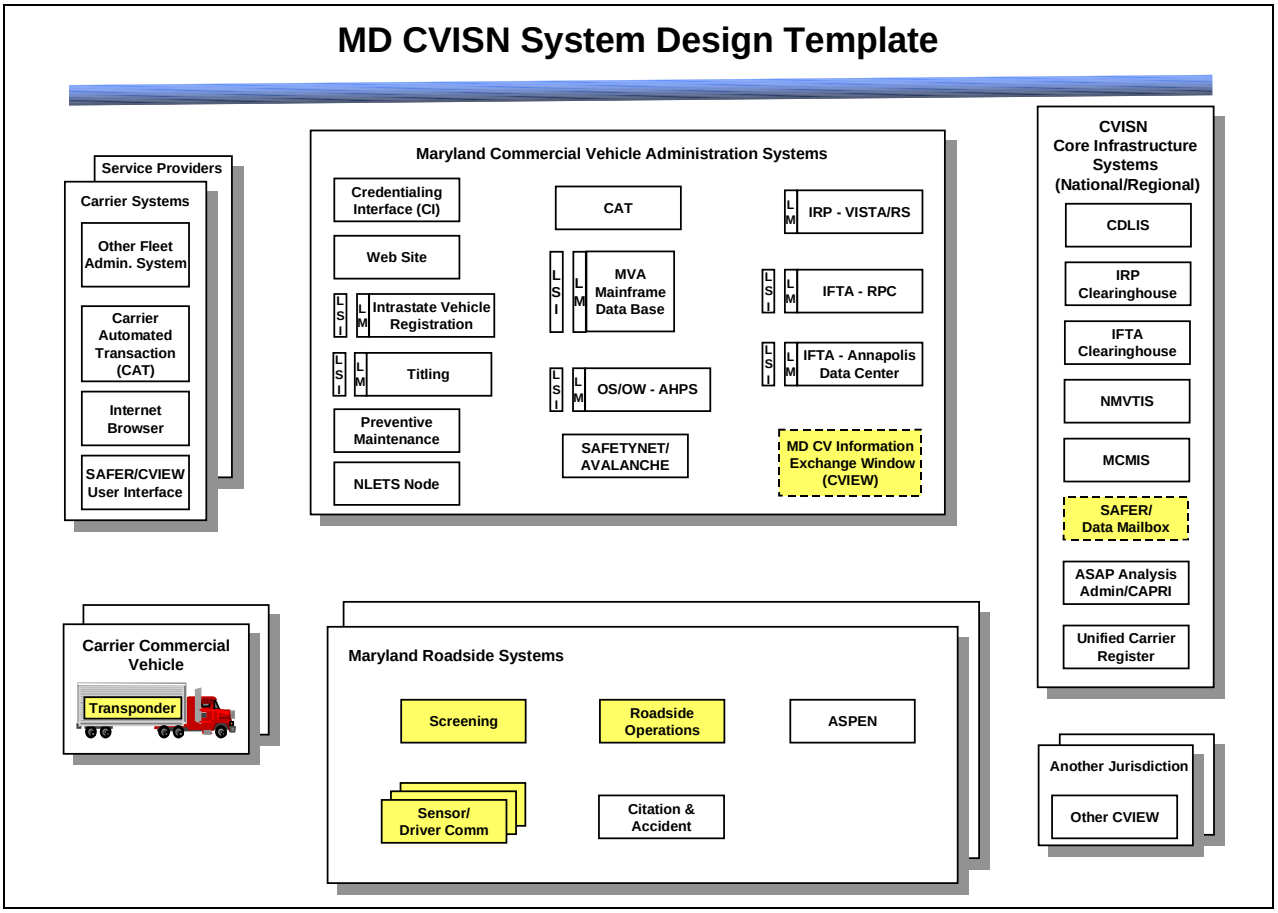

Figure 8–4. Maryland CVISN System Design Template

8.6 Michigan

Compliance and enforcement activities are conducted by two organizations in Michigan. The Bus and Limousine Department of the Michigan Department of Transportation (MDOT) inspects buses and motor coaches, while the Michigan State Police inspect all other commercial vehicles.

Michigan does not use "probable cause" as a mechanism for targeting inspections. Therefore, data about a motor carrier or a vehicle is not required until the vehicle has stopped for an inspection.

Figure 8–5 shows the MDOT Bus and Limousine unit view of the recommended CVISN architecture. Legacy system interfaces will be needed to handle the translation of information between the legacy systems for credentials and an integrated CI/CVIEW.

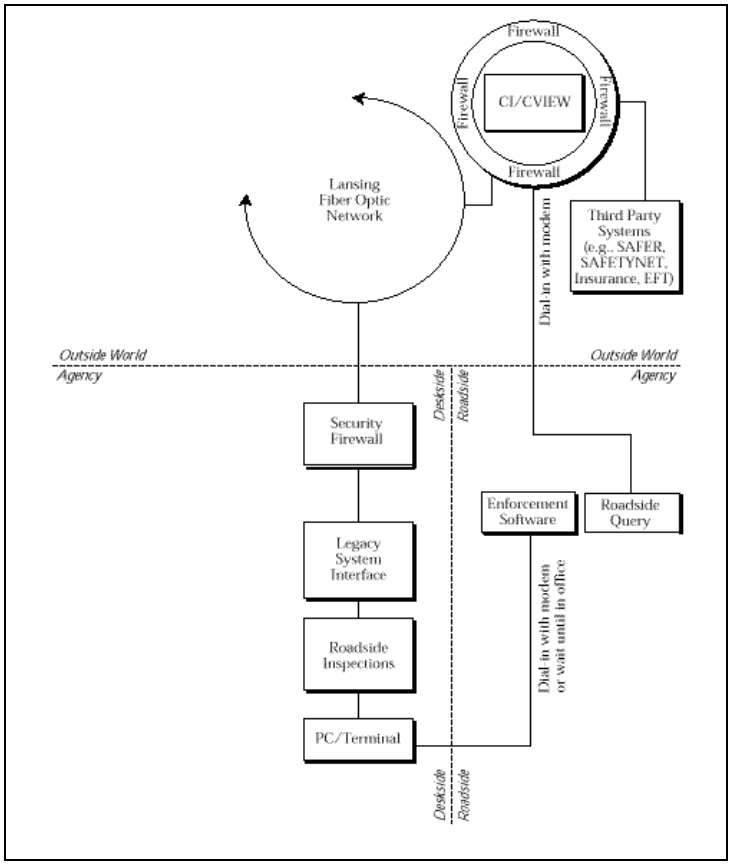

Figure 8–5. MDOT Bus and Limousine View

ASPEN enforcement software loaded on laptop computers is used for entering commercial bus inspection data at the roadside. ASPEN data will be transferred by modem or diskette to the deskside files. State staff will continue to perform manual processing and review as necessary using their desktop PCs. Software loaded on the PCs also will perform data manipulation. All inspection data will be transferred to the CI/CVIEW on an hourly or nightly basis for storage in

the vehicle snapshot. Selected bus inspection data will be forwarded from the CI/CVIEW to both SAFETYNET and SAFER on a nightly or weekly basis.

The registration system may access credentials, safety, and enforcement information generated by Michigan agencies, packaged into snapshots, and delivered by the CI/CVIEW. The system also may access similar data in SAFER and other third party systems through the CI/CVIEW. Therefore, the CI/CVIEW will receive electronic filings from insurance companies and will enable the legacy system to access SAFER for additional insurance and safety information. Operating authority and insurance information will be transferred to the CI/CVIEW on a nightly basis to update the carrier snapshot. In turn, SAFER and other third party systems will be updated with information transmitted by the CI/CVIEW on a periodic basis.

The Michigan Department of State Police performs safety inspections of trucks at the roadside. Most inspections are conducted at weigh stations. One deskside legacy system is involved in this operation. This system contains inspection information.

Figure 8-6 shows the State Police view of the recommended Michigan CVISN architecture. A legacy system interface will be needed to handle the translation of information between the legacy system and the CI/CVIEW.

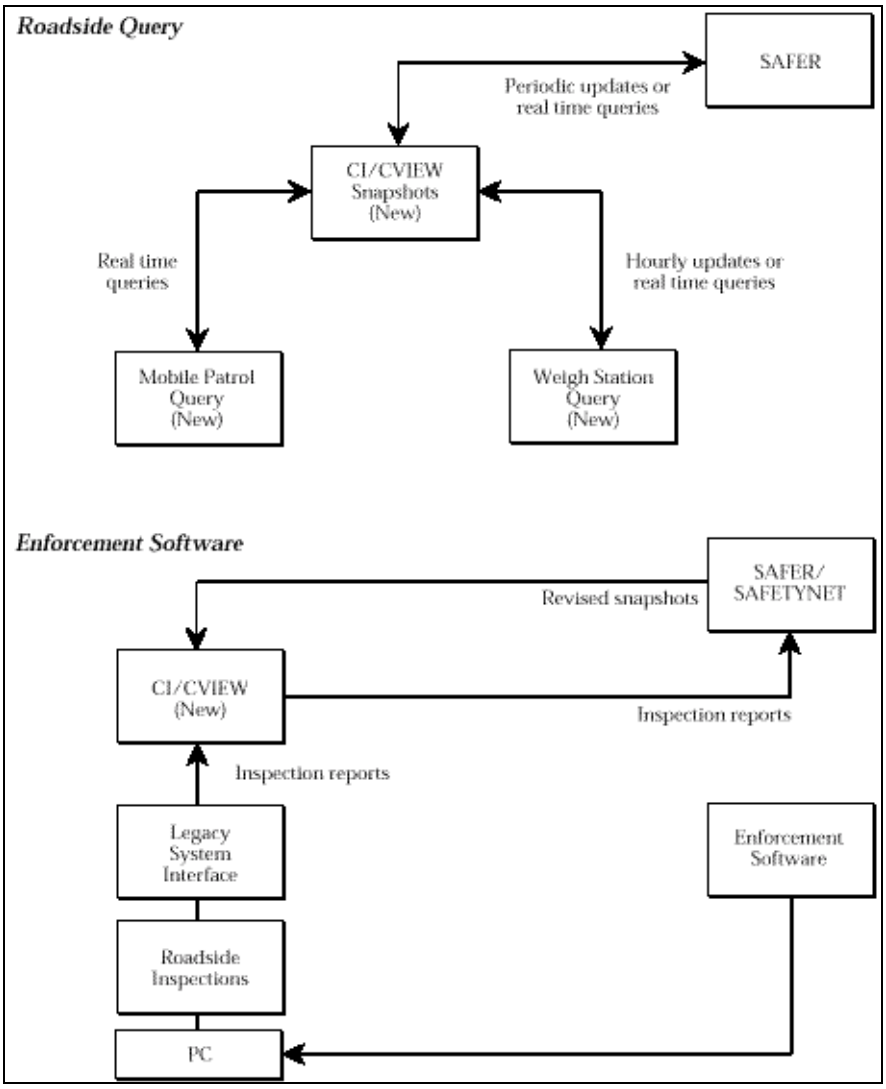

Figure 8–6. Michigan State Police View

ASPEN enforcement software loaded on laptop computers is used to record inspection results at the roadside. ASPEN data will be transferred by modem or diskette to the deskside files. State staff will continue to perform manual processing and review as necessary using their desktop PCs. Software loaded on the PCs also will perform data manipulation. Inspection data will be transmitted from the legacy system to SAFETYNET and SAFER via the CI/CVIEW.

Delivery of safety, registration, and taxation information on interstate and intrastate carriers to the roadside is accomplished by the roadside query element of the architecture. The CI/CVIEW delivers information generated by Michigan agencies (snapshots) and from third party systems such as SAFER. For fixed roadside assets such as weigh stations, the CI/CVIEW will deliver carrier safety data from the carrier and vehicle snapshots to the roadside on an hourly basis, as well as allowing for ad hoc query requests in real time (for example, when a carrier states that its taxes were paid only a few minutes earlier). For mobile roadside assets, a "pull" approach will

be used that will allow enforcement officers to request full carrier and vehicle snapshots in real time.

8.7 Minnesota

Highlights of Minnesota's electronic screening include:

- Demonstration site at the I-94 St. Croix Weigh Station will allow screening of vehicles on the ramp with the ability to send cleared vehicles back to the mainline.
- Developing customized Roadside Operations Computer (ROC) and Screening System software.
- Sensor technology being installed or integrated includes WIM, AVI, LPR and overheight detector.

Figure 8–7 summarizes the system interactions in Minnesota's electronic screening design.

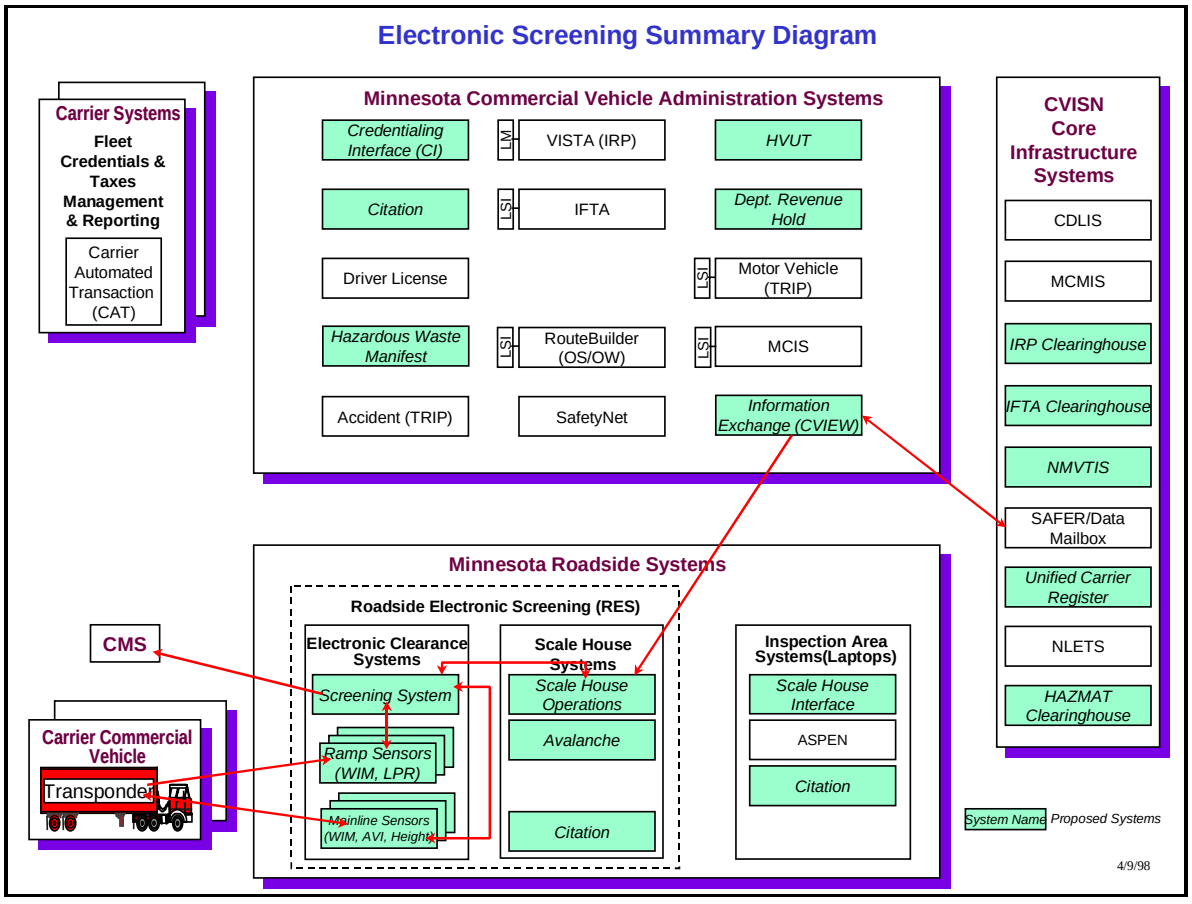

Figure 8–7. Minnesota Electronic Screening Design

8.8 Oregon

No information was available from Oregon at the time of publication of this document.

8.9 Virginia

Highlights of Virginia's Roadside Electronic Screening's current and planned capabilities include:

- Upgraded Stephens City Weigh Station (I81) infrastructure with fiber-optics network and AVI readers to accommodate electronic screening in addition to Weigh-In-Motion (WIM).
- Completed integration and acceptance testing of Roadside Operations Computer (ROC) & Sorter Computer.
- Tested SAFER to CVIEW to Roadside connectivity for download of TS285 Carrier snapshot records (safety data).
- Completed end-to-end technical demonstration to FHWA Administrator in July 1998. Demonstrated ability to read a truck's transponder to identify the vehicle, dynamically check vehicle's weight and safety/credential "weighting factor", and to signal the vehicle to either bypass or pull-in to the fixed scale.
- Purchased and outfitted NOMAD (mobile screening vehicle) for full electronic screening capability. Currently field testing unit.
- Completed performance tuning and interoperability testing scenarios to validate site capability under real-world load.
- Developing deployment plans to increase carrier involvement. Marketing and transponder interoperability issues need resolution.

Figure 8–8 shows Virginia's Top Level Data Flow for electronic screening.

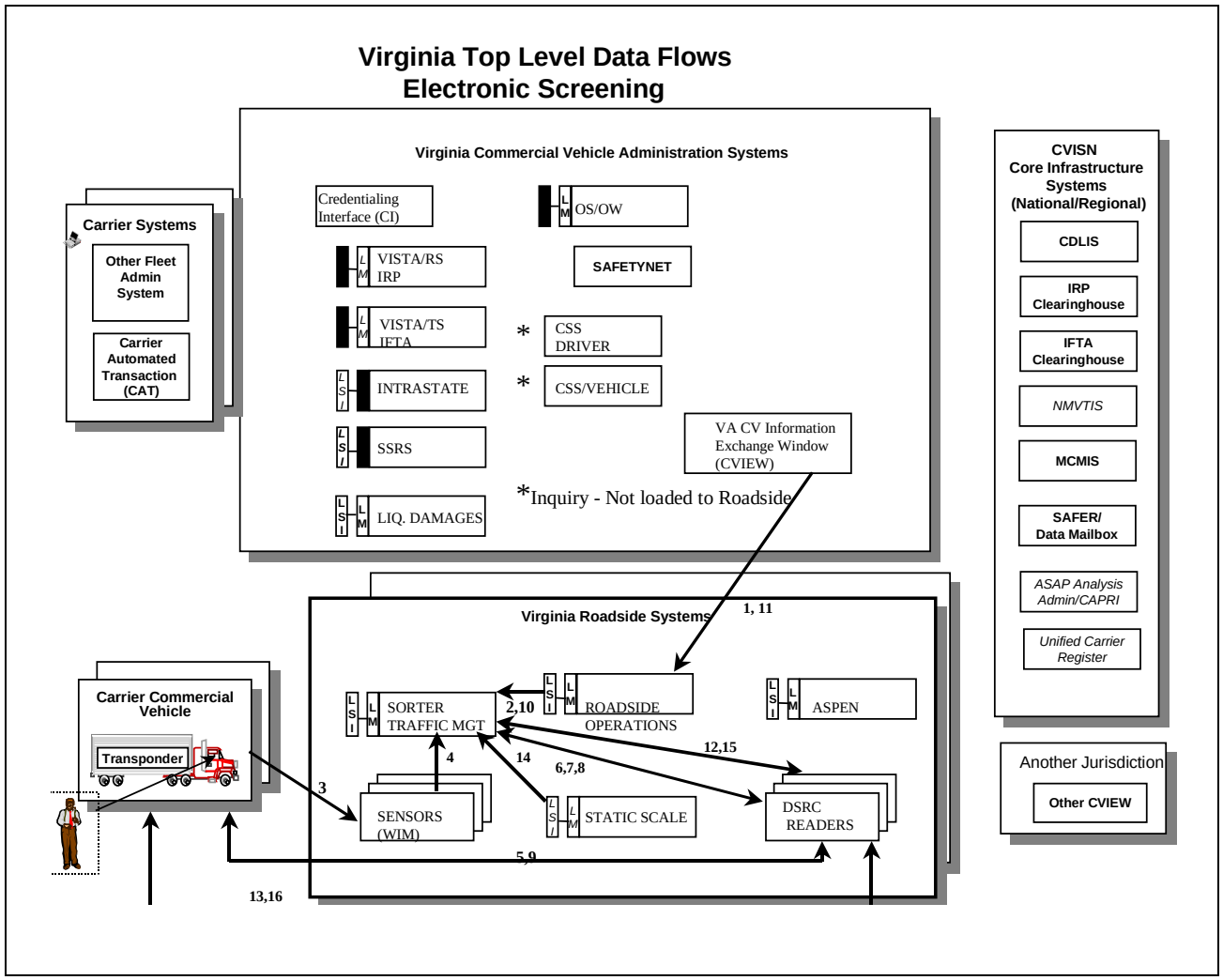

Figure 8–8. Virginia Electronic Screening Design

8.10 Washington

Highlights of Washington's electronic screening modifications and planned or existing capabilities include:

- Installed Screening Server and software at Ridgefield (Port of Entry)
  - Communications software between WIM and Screening Server
  - Installed screening routine software
  - Installed screening results application (modified ROC)
- Installed Screening Server at WSDOT headquarters
- Installed WEB Server at WSDOT headquarters
- Created interfaces to Department of Licensing (DOL) vehicle registration system (VRS) and Washington State Patrol (WSP) Safetynet

- Obtained and installed Oregon vehicle data on WSDOT headquarters Screening Server
- Obtained IRP information from Lockheed and installed on WSDOT headquarters Screening Server
- Obtained IFTA information from Lockheed and installed on WSDOT headquarters Screening Server
- Put together LAN at Ridgefield with connection to WSDOT WAN
- Established mailbox at SAFER and installed safety information on Screening Server
- Developed Transponder Administrator contract and used transponder ID at roadside for screening

Figure 8–9 shows Washington's approach to electronic screening.

Washington used:
Microsoft NT Server
Windows Based Applications
in VB6 and C++6
MS SQL Database

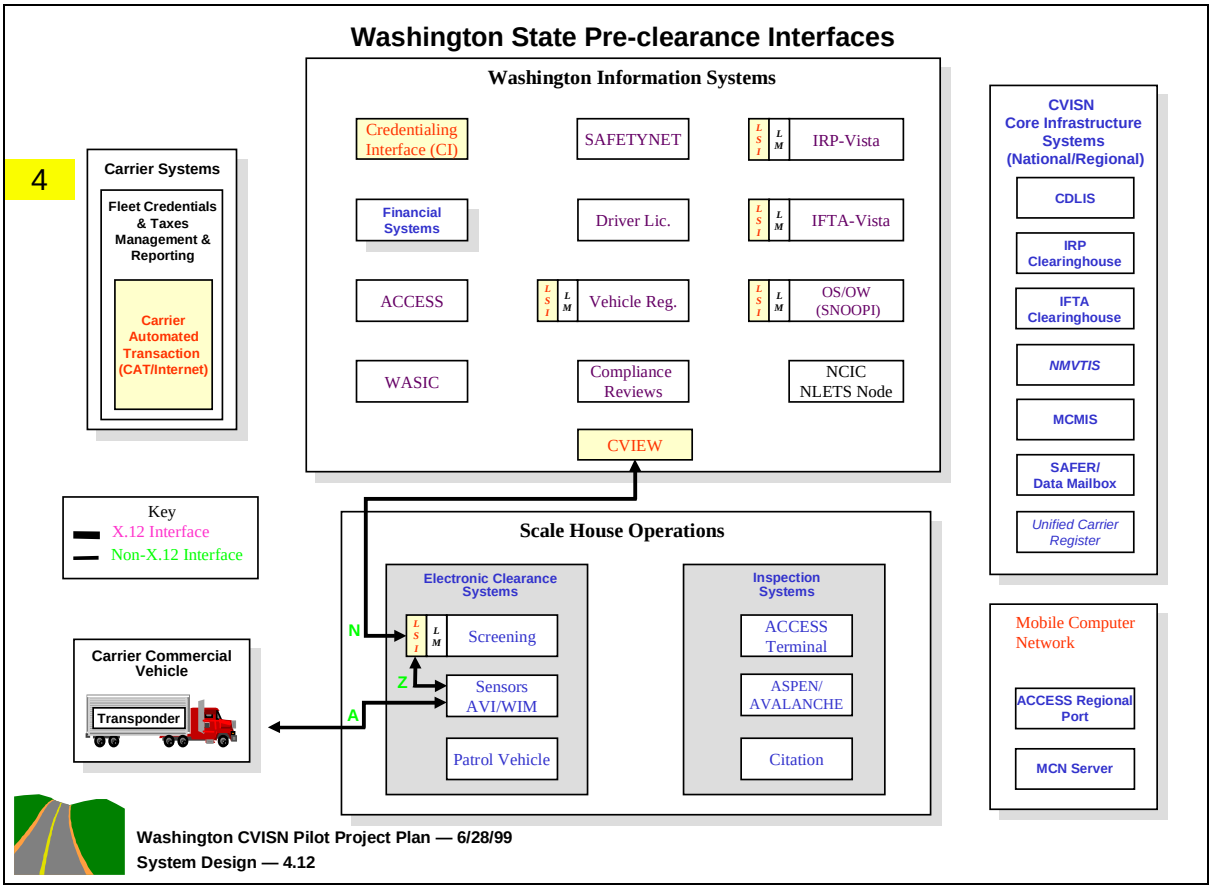

Figure 8–9. Washington Electronic Screening Design

More information about the Washington CVISN project can be found at
ftp.CVISN.WSDOT.WA.Gov
Please note: this is a secured site and you will need a user id and password for access. Call Anne Cline, CVISN Project Coordinator, at (360) 705-7341 for a user id and password.