Introduction to Commercial Vehicle Information Systems and Networks (CVISN)

Presented to: FMCSA Division Staff

July 11, 2012
Objectives

- The objectives of this presentation are to:
  - Provide an overview of the CVISN Program
  - Provide the FMCSA Divisions information about their role in the CVISN Program
Agenda

- CVISN Program Overview
- Core and Expanded CVISN Program Areas
- Examples of CVISN Deployment
- Role of FMCSA Division in the CVISN Program
- Next Steps
CVISN Deployment Program Overview

- CVISN is a nationwide deployment grant program administered by FMCSA under the authority of 49 U.S.C. § 31106 that is designed to:
  - Improve safety and productivity of motor carriers, commercial vehicles and their drivers
  - Improve efficiency and effectiveness of commercial vehicle safety programs through targeted enforcement
  - Improve commercial vehicle data sharing within states and between states and FMCSA
  - Reduce Federal/State and industry regulatory and administrative costs
## Core CVISN Program Areas

### Program Areas

<table>
<thead>
<tr>
<th>Safety Information Exchange</th>
<th>Credentials Administration</th>
<th>Electronic Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Sharing of safety data and supporting credentials data among State agencies</td>
<td>- Automated processing of IRP and IFTA credentials</td>
<td>- Automated screening based on safety, weight and credentials information (at fixed or mobile site)</td>
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<tr>
<td>- Interstate data exchange</td>
<td>- Interstate data exchange and funds transfer via IRP and IFTA Clearinghouses</td>
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<td>- Use of ASPEN inspection software</td>
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</table>

### CVISN Architecture (Technical Infrastructure)

Mainstreaming and Deployment Planning (Organizational Infrastructure)
Expanded CVISN

- Expanded CVISN functionality is designed to:
  - Build upon Core capabilities to further improve commercial motor vehicle safety, security, and mobility/productivity
  - Extend the services provided through CVISN (e.g., additional screening sites, more automated credentials/permits)

- Expanded CVISN program is more flexible than the Core component of the program
  - Cafeteria approach is employed
    - States customize their Expanded CVISN programs and focus their resources on the commercial vehicle safety and productivity projects that are most important to them and their constituencies
    - States are not required to deploy a set of fixed capabilities
CVISN Deployment Status Map (June 2012)

- **Green**: Core CVISN Compliant (29 States)
- **Blue**: Working towards Core CVISN Compliance (21 States plus DC)
Safety Information Exchange

- **Objectives**
  - Improve the exchange of safety and credentials information among State agencies and between states and FMCSA
  - Proactively identify unsafe operators

- **Core CVISN functionality**
  - Implement a State-specific data exchange system, Commercial Vehicle Information Exchange Window (CVIEW) or equivalent
    - Store interstate and intrastate carrier and vehicle information
    - Share information with authorized State users (e.g., law enforcement)
    - Exchange carrier and vehicle data with FMCSA’s SAFER system
  - Use Aspen or equivalent automated inspection software at all major inspection sites
Additional elements often included in safety information exchange deployments:

- Wireless connectivity to CVIEW, SAFER, and other data repositories
- Web-based query interface to allow roadside enforcement personnel to access CVIEW
- Web-based query interface to allow motor carriers and deskside enforcement personnel to access CVIEW
- Facilitate cross-checking of credentials
CVIEW is a state operated system

It is the primary inter-agency data exchange system at the state level

CVIEW-SAFER interfaces are standardized and must be certified before a state can send or receive data to/from SAFER
Safety Information Exchange Process
Pre-CVISN/Pre-CVIEW

Roadside Enforcement

Other State Credentials  IRP  IFTA  SAFER (FMCSA)
Safety Information Exchange Process

CVISN

Electronic Screening System

Roadside Enforcement

CVIEW

Other State Credentials
IRP
IFTA

SAFER (FMCSA)
Safety Information Exchange
State of Connecticut

Note: Diagram taken from FMCSA's “CVISN Safety Information Exchange for Commercial Vehicles in Connecticut: A Case Study”
DOUG ANDRUS DISTRIBUTING LLC (234)

DBA: none
Last MCMIS Update 2012-03-05

MCSIP
MCSIP Level = 0
MCSIP Level = 0

MCSIP Active Carrier
MCMIS Status = A - Active

ISS Score
ISS Score = 86
ISS Score = 86

UCR/Interstate
UCR fee paid for year 2012
Continue
Uploading Credential Data to SAFER (June 2012)
Electronic Credentials Administration

- **Objectives**
  - Allow carriers to apply for and receive credentials electronically
  - Allow carriers to file returns on fuel taxes and pay the associated fees electronically
  - Support base state agreements (IRP and IFTA) and associated fee payment reconciliation

- **Core CVISN functionality**
  - Automate processing of at least IRP and IFTA credentials
  - Participate in IRP Clearinghouse to share information across jurisdictions and automate funds settlement
  - Participate in IFTA Clearinghouse to share information across jurisdictions and automate funds settlement

*Note: Alaska and Hawaii are exempted from IRP and IFTA and therefore do not need to implement the electronic credentialing portion of Core CVISN.*
Expanded elements often included in electronic credentialing programs:

- One-stop shop/Internet portal for multiple credentials
- Inclusion of additional credentials
  - Oversize/overweight permits
  - Intrastate vehicle registrations
  - Intrastate fuel tax credentials/payments
  - Operating authority
  - Transponder registration
- Electronic payment
- Cross-checking of credentials
Electronic Credentials Administration
State of Kansas

IFTA Return Filing
The purpose of this application is to give motor carriers the ability to submit IFTA tax returns online.
File a Quarterly Return
Change Mailing Address
View Online History Info

Useful Resources
Trucking Through Kansas Handbook (pdf)
IRP Resources

USDOT Resources
USDOT Number for New Carrier
Update MCS-150

Heavy Vehicle Use Tax (HVUT)
Form 2290 and Instructions
FAQ's for filing Form 2290
File HVUT Form 2290
Electronic Credentials Administration
Deployment Status (June 2012)

- AK has implemented e-credentialing for OS/OW.
- AK and HI are exempt from IRP and IFTA
Electronic Screening

- **Objectives**
  - Use technology to identify trucks as they approach roadside weigh or inspection stations
  - Allow safe and legal vehicles to bypass inspection/weigh facilities without stopping

- **Core CVISN functionality**
  - Implement electronic screening at a minimum of one fixed or mobile inspection site
    - Identify enrolled vehicles (e.g., via in-vehicle transponders)
    - Screen vehicles based on safety history and credentials status (e.g., registration, fuel tax payment, operating authority) as well as weight (optional)
    - Allow enrolled vehicles that meet the State’s criteria to bypass inspection sites
Current, accurate information allows enforcement personnel to be more discriminating in selecting vehicles for inspections.

As a result, enforcement officers can focus on high-risk operators, allowing safe and legal carriers, vehicles, and drivers to bypass roadside inspections.

This is accomplished by electronically:

- Using inspection selection tools
- Accessing credentials and safety information at the roadside
- Exchanging information with other agencies and states
- Screening vehicles at mainline speeds
Electronic Screening (continued)

1. Commercial vehicle approaches weigh station. Screening system identifies the carrier and vehicle; classifies the vehicle; and weighs the vehicle.

2. Credential, safety, and weight data are processed to determine whether vehicle can bypass station.

3. Bypass decision is sent to the transponder. Driver is notified of decision via green light or red light on transponder.

4. Compliance reader verifies that vehicle has been cleared to bypass the station.
Electronic Screening Participation (June 2012)

- PrePass (420,000+ vehicles)
- NORPASS (75,000+ vehicles)
- State operated/developed (38,500 + vehicles Oregon Green Light)
Electronic Screening (continued)

- Expanded elements included in electronic screening programs:
  - Agricultural screening
  - Integration with toll collection systems
  - Virtual weigh station
Electronic Screening (continued)

Virtual Weigh Stations

Virtual Weigh Station Screening

Virtual Weigh Station

Mobile Unit

Highway Bypass Route

Mainline Highway

Overheight Detection
Advance Reader
Clearance Reader
OCR

Fixed Station Screening (Mainline – Ramp)

Entrance Ramp

Exit Ramp

Scale Bypass Lane

Fixed Scale

Parking and Inspection Area

OCR

Automatic Sign

Lighting

Compliance Reader

CVIEW System
Electronic Screening (continued)

Virtual Weigh Stations

Source: JAXPORT Demonstration, 2008 Smart Roadside Workshop.
Electronic Screening (continued)

Virtual Weigh Stations

Source: Weigh-in-motion scales and license plate reading cameras in Washington State, FMCSA photo
## Electronic Screening (continued)

### Virtual Weigh Stations

#### Vehicle Live Summary

<table>
<thead>
<tr>
<th>Overview</th>
<th>Vehicle</th>
<th>Plates</th>
<th>DOT #</th>
<th>Alerts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interstate X&lt;br&gt;Southbound #1&lt;br&gt;07:28:43 2009-02-20</td>
<td>AD 31166</td>
<td>USDOT 054283</td>
<td>NCIC Alert, Tax Owing</td>
</tr>
<tr>
<td></td>
<td>Interstate X&lt;br&gt;Southbound #1&lt;br&gt;17:10:19 2009-02-03</td>
<td>47093HZ</td>
<td>NoRead</td>
<td>Plate / DOT Mismatch Alert: Here's some extra context for the issue of showing longer messages. Tax Owing</td>
</tr>
<tr>
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<td>Interstate X&lt;br&gt;Southbound #1&lt;br&gt;17:08:19 2009-02-03</td>
<td>PX6 1A3</td>
<td>USDOT 212920</td>
<td>Nebraska Plate Alert, Tax Owing</td>
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Source: State of New Mexico Department of Public Safety
Virtual Weigh Stations

Source: State of New Mexico Department of Public Safety
## CVISN Benefits

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<th>Benefit Applies to</th>
<th>Benefit Derived From</th>
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<tbody>
<tr>
<td>Carrier</td>
<td>State</td>
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<tr>
<td>Targeted enforcement focused on high-risk carriers and vehicles</td>
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</tr>
<tr>
<td>More effective use of roadside enforcement resources</td>
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<tr>
<td>Real-time access to online data at fixed inspection facilities and by mobile units</td>
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<tr>
<td>Improved asset tracking and safety/driver management</td>
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<tr>
<td>Improved access to credential and safety information from other jurisdictions</td>
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<tr>
<td>More efficient and cost effective processing of credential applications</td>
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<tr>
<td>Improved customer service/Ability to receive select credentials 24X7</td>
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</tr>
<tr>
<td>Improved accuracy and timeliness in credentials processing</td>
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CVISN Can Save Lives

- Evaluation compared six different operating scenarios:
  - **RE-0, Random selection**: Inspectors select commercial vehicles for inspection in a random manner without using personal experience, judgment or any CVISN technologies
  - **RE-1, Pre-CVISN Baseline**: Inspectors select commercial vehicles for inspection using personal experience and judgment, but without the aid of most CVISN technologies
  - **RE-2**: Electronic screening based on ISS score
  - **RE-3**: Electronic screening based on high vehicle and driver OOS rates
  - **RE-4**: Electronic screening based on high driver OOS and brake violation rates
  - **RE-5**: Electronic screening based on infrared screening and high driver OOS violation rate
  - **RE-6**: Electronic screening based on high ISS score

CVISN Can Save Lives (continued)

Potential Fatalities Avoided

Potential Crashes Avoided

CVISN Benefits (continued)

CVISN Benefits

- Convenience: 94.0%
- Staff Time Savings: 83.0%
- Getting Trucks into Service Faster: 80.0%
- Increased Accuracy of Registration Information: 75.0%
- Dollar Cost Savings: 58.0%
- Increased convenience or efficiency: 99.2%
- Reduced delays or turnaround time for shipments: 97.6%
- Labor cost savings: 79.4%
- Improved working conditions for drivers: 73.6%

Role of FMCSA Division

- Oversee CVISN Grant related activities
- Ensure that the State’s CVISN Plan is compliant with CVISN Program requirements
- Ensure that the State’s CVISN Plan is consistent with the other FMCSA grant programs being implemented by the State
- Support and monitor the State’s CVISN Program to ensure continued compliance
Next Steps

- Conduct additional training sessions geared toward FMCSA Divisions to provide:
  - Detailed technical information on the CVISN program
  - Complete understanding of the roles and responsibilities
  - In-depth information to support and monitor states’ CVISN program

- Continue monthly CVISN State program managers conference calls and CVISN architecture configuration control board calls

- Continue to provide technical assistance to FMCSA Service Centers and Divisions