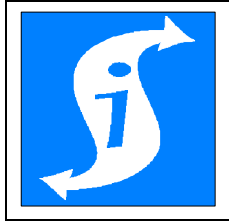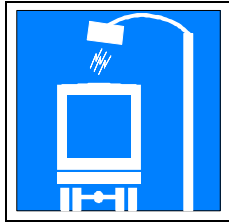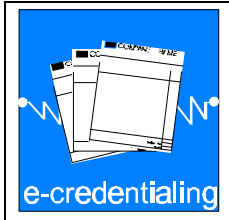U.S. Department
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**Federal Highway
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e-credentialing

Tracking State Deployments of Commercial Vehicle Information Systems and Networks

National Report

March 31, 1998

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13. ABSTRACT (Maximum 200 words)
The ITS Joint Program Office (ITS/JPO) of the USDOT has begun tracking progress by state governments in the deployment of Commercial Vehicle Information Systems and Networks (CVISN) in all 50 states through the year 2005. FHWA's goal is to have between 22 and 35 states deploy the initial (Level 1) operating systems and capabilities of CVISN by the year 2005. This report summarizes the results of the effort to track CVISN deployment in 1996. This deployment is representative of the deployment status of CVISN components before specific CVISN deployments were in place. The report summarizes data on deployment of CVISN by states in 1996. It is presented by the three primary CVISN components: Credential Administration, Safety Information Exchange and Roadside Electronic Screening. Both total deployment and Level 1 indicators are presented.

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Executive Summary

Overview

In order to improve program planning, the ITS Joint Program Office (ITS/JPO) of the USDOT has begun tracking progress by state governments in the deployment of Commercial Vehicle Information Systems and Networks (CVISN) in all 50 states through the year 2005. FHWA's goal is to have between 22 and 35 states deploy the initial operating systems and capabilities of CVISN by the year 2005. This report summarizes the results of the effort to track CVISN deployment in 1996. This deployment is representative of the deployment status of CVISN components before specific CVISN deployments were in place.

CVISN is the collection of information systems and communication networks that support commercial vehicle operations (CVO). It is not a new information system, but rather a way for existing and newly-designed systems to exchange information through the use of standards and available communications infrastructure. CVISN includes information systems owned and operated by federal and state governments, motor carriers, and other stakeholders. CVISN will enable government agencies, the motor carrier industry, and other parties engaged in CVO safety and regulation to exchange information and conduct business transactions electronically.

Currently CVISN focuses on the following areas of ITS/CVO:

- *Credential Administration* which facilitates electronic application, processing, fee collection, and issuance and distribution of CVO credentials, and supports base state agreements and CVO tax filing and auditing;

- *Safety Information Exchange* which facilitates automated collection of information on safety performance and credentials status, improved access to carrier, vehicle and driver safety and credentials information, and pro active updates of carrier, vehicle and driver snapshot data; and

- *Roadside Electronic Screening* which facilitates screening of vehicles that pass roadside check stations. Screening applications may be based on identifiers read from the transponder, and correlated with snapshot safety/credential information or manual identifiers linked to credential or safety information, which aid in determining whether further inspection or verification of credentials is required. Screening applications may also include weigh-in-motion (WIM) and automatic vehicle classification (AVC) systems that flag vehicles for static weight or credential checks.

The initial operating systems are those systems that provide the initial operating capabilities of CVISN and are referred to as Level 1 deployments. The CVISN program is currently in the prototype and piloting stage which allows testing and evaluation of Level 1 system components before national deployment. However, elements of CVISN have been deployed through operational tests, national grant programs, and individual state initiatives. The ITS/CVO Mainstreaming initiative is supporting the creation of state and regional ITS/CVO business plans and policy forums, as well as the appointment of "champions" to work with groups of states to promote and coordinate ITS/CVO deployment. A total of 37 states is participating in the initiative, organized into seven regional forums.

CVISN Deployment

A survey was used to assess the CVISN deployment indicators as well as to obtain information that will support the understanding and application of CVISN deployments. Survey questions assessed deployment consistency with CVISN Architectural Guidelines, the use of vender developed and managed software and state-developed software, the use of federally-developed software and the proximity of CVISN and potential CVISN Roadside Electronic Clearance deployments to international border crossings.

The survey results are first summarized to show overall and Level 1 deployment, then the results of the deployment of each CVISN component are presented, and finally state deployments of CVISN Level 1 capabilities are assessed. The specific calculations and additional analysis are described in the CVISN Deployment Tracking National Report.

In order to provide a quick appraisal of the nationwide CVISN deployment in 1996, preliminary indicators of total deployment and Level 1 deployment levels for each of the three CVISN components are shown in the adjacent figure. The total level of deployment is shown as a percentage of the total deployment opportunity for the responding states and the Level 1 goals.

Overall CVISN deployment levels are the measure of the percent of all administrative processes that were conducted electronically in 1996; the percent of all inspection sites with the capability of electronically uploading and downloading safety information in 1996; and the percent of all vehicles that were screened electronically for credential, safety or weight status in 1996. Level 1 deployments are the measure of total deployment against FHWA's initial deployment goals.

Overall and Level 1 CVISN Deployment

	Total Deployment	Level 1 Deployment
Credential Administration	2%	3%
Safety Information Exchange	14%	14%
Roadside Electronic Screening	21%	64%
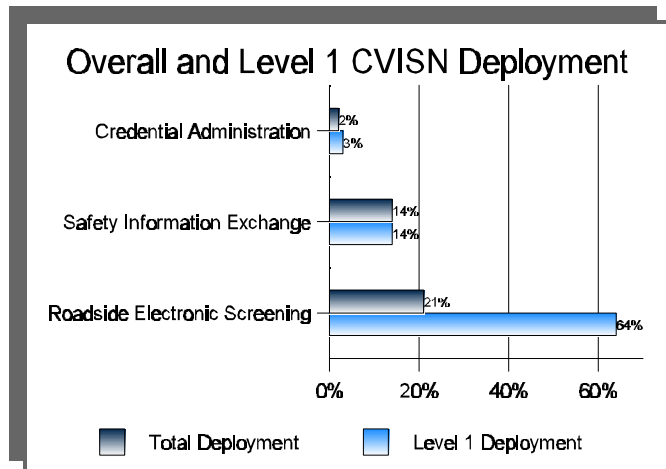
Credential Administration CVISN Credential Administration applications include applying for, processing, and granting CVO credentials. CVISN Level 1 capabilities call for end-to-end electronic processing for International Fuel Tax Agreement (IFTA) and International Registration Plan (IRP), and for connection to the IFTA and IRP Clearinghouses. CVISN Level 1 deployment goals call for at least 10 percent of the transaction volume to be handled electronically. Level 1 capability is supported by the following systems:

- Carrier Automated Transactions (CAT) Systems, which facilitate electronic credential filing and issuance.

- Credential Interface (CI) Systems which process and store data from existing state database management systems; and

- Electronic Data Interchange (EDI) to IFTA and IRP Clearinghouses, which support fuel tax and interstate registration agreements

These systems are anticipated to reduce paperwork and processing time for both states and motor carriers. The IFTA and IRP Clearinghouses are data exchange systems that will support IFTA and IRP base state agreements.

Credential Administration

Objectives

- to allow stakeholders to send, receive, process, and retrieve credential data electronically;
- to allow carriers owners, and drivers to apply for pay for and receive credentials electronically;
- to support state/regions in the administration of credentials collecting and distributing funds and in storage and distribution of credentials-related data; and
- to provide credentials information to enforcement officials and other authorized stakeholders

CVISN Operating Systems

- Carrier Automated Transactions System
- Credential Interface
- IFTA and IRP Clearinghouses

CVISN Level 1 Deployment Goals and Capabilities

- end-to-end IFTA and IRP Credentials done electronically
- electronic link to IFTA and IRP Clearinghouses; and
- 10% of all IFTA and IRP transactions conducted electronically

Electronic Credential Administration deployment is a measure of the percent of all IFTA, IRP, Intrastate, SSRS and OS/OW applications, fee payments, and permits/credentials that were conducted electronically in 1996.

Survey results show that in 1996 electronic credentialing was available in only a few states. Only 6% of oversize/overweight credentials were issued electronically and only about 1% of IRP processes were conducted electronically. These deployments were the result of regional operational tests and individual state deployments. The CVISN supporting systems are currently under development. Carrier Automated Transactions Systems are in the development and testing stage, Credential Interface Systems are still being developed, and the IFTA and IRP Clearinghouses are not anticipated to be completed until 1999.
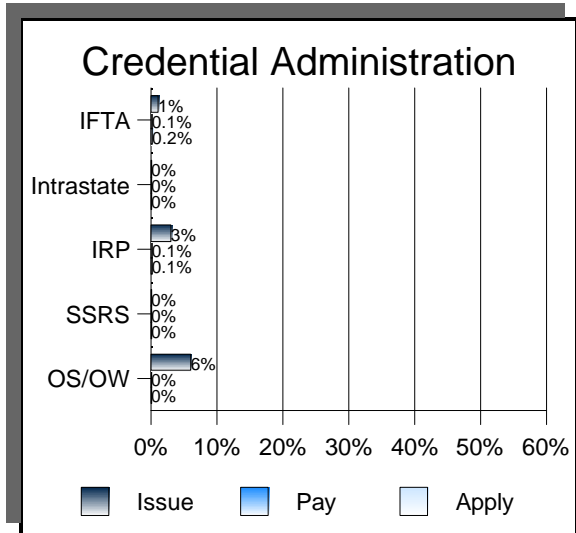
Credential Administration

	Issue	Pay	Apply
IFTA	1%	0.1%	0.2%
Intrastate	0%	0%	0%
IRP	3%	0.1%	0.1%
SSRS	0%	0%	0%
OS/OW	6%	0%	0%

Safety Information Exchange

Safety Information Exchange applications are supported by a national infrastructure including the Safety and Fitness Electronic Record (SAFER) and the Office of Motor Carriers Motor Carrier Management Information System (MCMIS) database. The communication and information standards are consistent with federally-sponsored software, such as ASPEN, and state SafetyNet systems deployed by the Motor Carrier Safety Assurance Program (MCSAP).

Safety Information Exchange
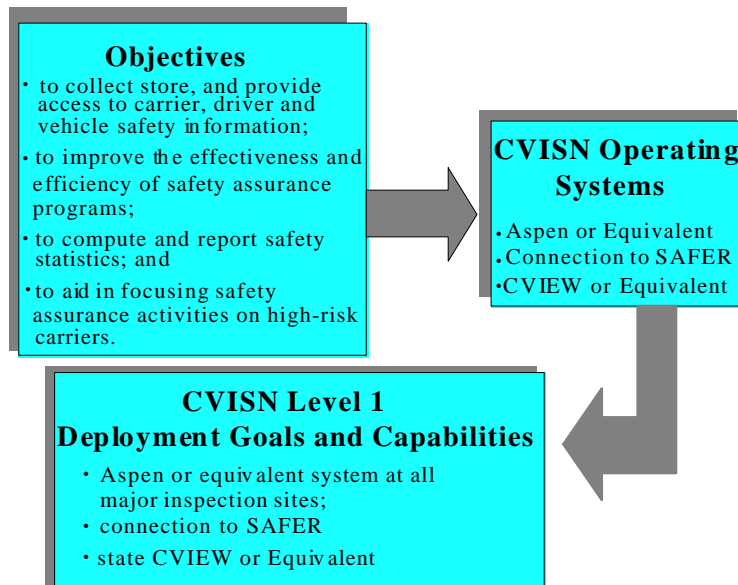
Objectives
- to collect store, and provide access to carrier, driver and vehicle safety information;
- to improve the effectiveness and efficiency of safety assurance programs;
- to compute and report safety statistics; and
- to aid in focusing safety assurance activities on high-risk carriers.

CVISN Operating Systems
- Aspen or Equivalent
- Connection to SAFER
- CVIEW or Equivalent

CVISN Level 1 Deployment Goals and Capabilities
- Aspen or equivalent system at all major inspection sites;
- connection to SAFER
- state CVIEW or Equivalent

Level 1 capabilities call for connection to SAFER and the development of a state Commercial Vehicle Information Exchange Window (CVIEW) system (or equivalent) to support the exchange of snapshot data within the state or to other states. Level 1 deployment goals call for ASPEN or equivalent systems at all major inspection sites.

The functions of this component are accessing, downloading, collecting, and uploading of inspection data through electronic means. The level of deployment of these functions is a good measure of the overall CVISN deployment in the nation since CVISN is essentially a network of systems that facilitates electronic exchange of data pertaining to CVO functions.

Safety Information Exchange deployment is a measure of the percent of all responding states that electronically collected inspection data from the roadside and uploaded to SafetyNet or an equivalent system in 1996 and the percent of all fixed, mobile and other inspection stations with computer access to safety information in 1996.

Of the states responding to the survey, 69 percent have this capability. However, only 3 percent of responding states indicated having computer access to current safety information at the roadside. The application of remote access to timely current safety

Safety Information Exchange

- Electronic Collection and Uploading of Inspection Data — 69%
- Inspection Facilities with Computer Access to Safety Data — 3%

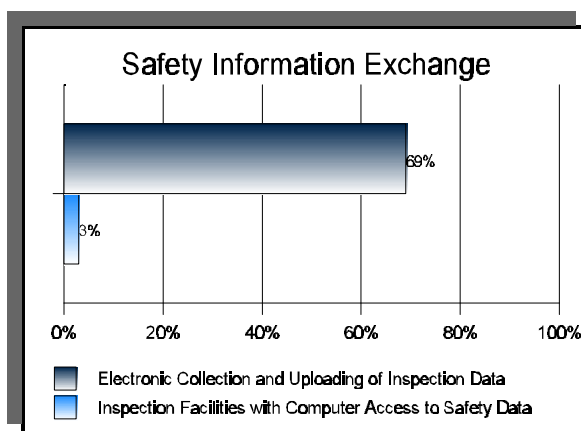information will be supported by SAFER and CVIEW links which were not in place in 1996. It should also be noted that although 69% of states indicated having the capability of collecting inspection data at the roadside, national deployment levels indicate that only 14% of all inspectors are equipped with this technology.

Roadside Electronic Screening

The electronic screening system distinguishes between legal and illegal vehicles, where legal status is based on having the necessary credentials, being paid up on taxes, and/or operating within the weight and size restrictions established by jurisdictions. In some applications, the system first identifies the vehicle and then correlates its ID with carrier information available about credentials and tax status and in some applications the current load (weight and size). Ideally, this identification can be performed while the vehicle is traveling at mainline speeds with the use of dedicated short range communications (DSRC) systems and vehicle-mounted transponders. In some mainline electronic screening applications, the carrier ID is correlated with carrier safety, credential, and performance data which allows enforcement actions to focus on high-risk carriers.

Roadside Electronic Screening

Objectives

- to expedite the processing of vehicles identified as safe and legal;

- to identify overweight and improperly credentialed vehicles;

- to identify high-risk and improperly credentialed carriers;

- to identify illegal drivers;

- to select higher-risk safety performers for close inspection; and

- to provide safety and credentials compliance statistics to support policy decisions, rule making, and program development.

CVISN Operating Systems

- Weigh-in-Motion

- Dedicated Short Range Communications

CVISN Level 1

Deployment Goals and Capabilities

- One or more fixed or mobile facilities equipped for electronic screening

- Ready to expand to other facilities

Roadside Electronic Screening will be supported by a national standard for dedicated short-range communication as well as other aspects of interoperability and EDI standards. These standards will allow states to share weight, safety, and credential information, and carriers to subscribe to multiple roadside electronic screening applications with a single technology investment. Level 1 deployment and capabilities call for electronic screening to be implemented at a minimum of one fixed or mobile inspection site, and ready to replicate at other sites.

Roadside Electronic Screening deployment is the measure of the percent of all fixed, mobile, and other inspection stations using electronic screening at mainline and non-mainline speeds in 1996 and the percent of all vehicles screened electronically at
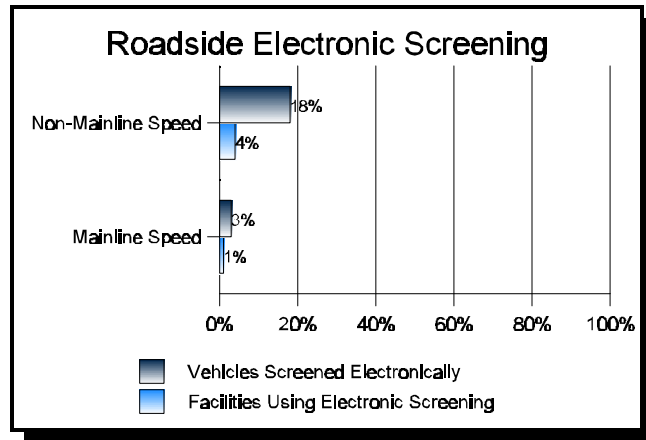
mainline and non-mainline speeds in 1996. Total deployment levels show that 64 percent of all states have at least one facility equipped for electronic screening. Of the total facilities in the responding states, 4 percent were equipped for non-mainline screening and 1 percent were equipped for mainline screening. However, 18 percent of all vehicles processed in the responding states were screened in non-mainline electronic screening applications and only 3 percent were screened at mainline speeds.

It should be noted that non-mainline electronic screening applications may comprise WIM sorting, manual identification for credential and safety record checks, or automated identification systems which correlate vehicle identification with carrier information, and mainline applications comprise only those systems that use automated vehicle identification.

Level 1 Capabilities

The following table shows the number of states responding that have achieved Level 1 deployment goals and the number of responding states that indicated plans for CVISN deployments by 1998. Currently, only one state indicated having the capability to perform end-to-end processing of IRP, and no states indicated that capability for IFTA. The 1996 survey did not ask states for specific IFTA and IRP plans, however, it can be inferred that at least the ten CVISN states have plans to begin deployment of these systems in the next two years.

	CVISN Level 1 Capability	Percent of States with Level 1 Deployment Capability	Percent of States Indicating Plans for Level 1 Deployment by 1998
Credential Administration	End-to-end IFTA and IRP electronic transactions	3%	not asked in 1996 survey
	Connection to IFTA and IRP Clearinghouses	0%	IRP and IFTA Clearinghouses will not be available until 1999
Safety Information Exchange	ASPEN or equivalent	64%	89%
	Connection to SAFER	0%	32%
	CVIEW or Equivalent	0%	5%
Roadside Electronic Screening	One fixed or mobile site equipped for electronic screening	66%	86%

Also, 24 of the responding states indicated having ASPEN or equivalent systems in use in 1996, and 33 states indicated having plans to deploy these systems by 1998. No states were linked to SAFER in 1996 but 12 states indicated plans to link to SAFER by 1998. No state indicated having deployed a CVIEW or equivalent system in 1996 and only two states indicated plans to have this capability by 1998.

1. INTRODUCTION

1.1 OVERVIEW

Commercial Vehicle Information Systems and Networks (CVISN) is the collection of information systems and communication networks that support commercial vehicle operations (CVO). The National ITS Architecture provides a technical framework that describes how ITS elements fit together into an overall system. The CVISN Architecture is the ITS/CVO information systems portion of the National ITS Architecture. It is not a new information system, but rather a way for existing and newly-designed systems to exchange information through the use of standards and available communications infrastructure. CVISN includes information systems owned and operated by federal and state governments, motor carriers, and other stakeholders. CVISN will enable government agencies, the motor carrier industry, and other parties engaged in CVO safety and regulation to exchange information and conduct business transactions electronically. FHWA's vision for CVISN is that by the year 2005, all interested states will have integrated the initial operating information systems that will support safe and seamless commercial transportation throughout North America. These systems will provide high-quality, timely, and easily-accessible information to authorized users.

There are three primary CVISN components: Credential Administration, Safety Information Exchange and Roadside Electronic Screening. The initial operating systems are those systems that provide the initial operating capabilities of CVISN and are referred to as Level 1 deployments. The specific components of CVISN and the systems and capabilities that form Level 1 deployment are described in detail in the later sections of this report.

The CVISN program is currently in the prototype and piloting stage which allows testing and evaluation of Level 1 system components before national deployment. However, elements of CVISN have been deployed through operational tests, national grant programs, and individual state initiatives. The ITS/CVO Mainstreaming initiative is supporting the creation of state and regional ITS/CVO business plans and policy forums, as well as the appointment of "champions" to work with groups of states to promote and coordinate ITS/CVO deployment. A total of 37 states are participating in the initiative, organized into seven regional forums.

1.2 BACKGROUND

1.2.1 Approach

In order to improve program planning, the ITS Joint Program Office (ITS/JPO) of the USDOT has begun tracking progress by state governments in the deployment of both CVISN Level 1 and other capabilities in all 50 states through the year 2005. This report is the first summary and analysis of data that have been collected to date.

During the early part of 1997, the ITS/JPO and the FHWA Office of Motor Carriers (OMC) identified and discussed potential deployment indicators, and consensus emerged. Accommodating concerns about burdening states with redundant requests for information, an investigation of current sources of data was made. Besides information from states participating as pilots or prototypes, very little relevant data were currently available. Consequently, the decision was made to implement a survey of deployment. The draft survey was developed and tested in two states, one currently participating in CVISN and one not involved in this effort. The survey was revised and subjected to review by staff at the Johns Hopkins University Applied Physics Laboratory (JHU-APL) involved in CVISN development. After a final internal review, the survey was prepared for distribution.

Where possible, surveys were prefilled with information already available. The surveys were distributed through ITS/CVO Mainstreaming Champions, as well as FHWA Regional and Division Offices. At this time, 37 states have responded to the questionnaire. Of the 37 states responding, 32 responded to all three portions of the survey. Appendix C provides a listing of each state's response status.

1.2.2 CVISN

CVISN refers to the ITS information system elements that support CVO. These information systems are part of the USDOT-sponsored National ITS Architecture, which defines the elements, principles and standards for the deployment of ITS. Currently CVISN focuses on the following areas of ITS/CVO:

- *Credential Administration* which facilitates electronic application, processing, fee collection, and issuance and distribution of CVO credentials, and supports base state agreements and CVO tax filing and auditing;

- *Safety Information Exchange* which facilitates automated collection of information on safety performance and credentials status, improved access to carrier, vehicle and driver safety and credentials information, and proactive updates of carrier, vehicle and driver snapshot data; and

- *Roadside Electronic Screening* which facilitates screening of vehicles that pass roadside check stations. Screening applications may be based on identifiers read from the transponder, correlated with snapshot safety/credential information or manual identifiers linked to credential or safety information which aid in determining whether further inspection or verification of credentials is required. Screening applications may also include weigh-in-motion (WIM) or automatic vehicle classifications systems that flag vehicles for static weight or credential checks.

The CVISN Architecture and standards facilitate individual applications of these ITS/CVO capabilities and includes a national infrastructure that supports state initiatives and facilitates resource and information sharing between the various applications.

CVISN Credential Administration applications include applying for, processing and granting CVO credentials. CVISN Level 1 capabilities call for end-to-end electronic processing for International Fuel Tax Agreement (IFTA) and International Registration Plan (IRP), and for connection to the IFTA and IRP Clearinghouses. CVISN Level 1 deployment goals call for at least 10 percent of the transaction volume to be handled electronically.

Safety Information Exchange applications are supported by a national infrastructure that includes the Safety and Fitness Electronic Record (SAFER) and the OMC MCMIS database. Additionally, the communication and information standards are consistent with federally-sponsored software such as ASPEN and state SafetyNet systems which have been widely deployed by the Motor Carrier Safety Assurance Program (MCSAP). Level 1 capabilities call for connection to SAFER and the development of a state Commercial Vehicle Information Exchange Window (CVIEW) system (or equivalent) to support the exchange of snapshot data within the state or to other states. Level 1 deployment goals call for ASPEN or equivalent systems at all major inspection sites.

Roadside Electronic Screening will be supported by a national standard for dedicated short-range communication (DSRC) as well as other aspects of interoperability and EDI standards. These standards will allow states to share weight, safety and credential information, and carriers to subscribe to multiple roadside electronic screening applications with a single technology investment. Level 1 deployment and capabilities call for electronic screening to be implemented at a minimum of one fixed or mobile inspection site, and ready to replicate at other sites.

1.3 CVISN DEPLOYMENT TRACKING SURVEY

The deployment tracking survey was used to assess the CVISN deployment indicators as well as to obtain information that will support the understanding and application of CVISN deployments. Survey questions assessed state conformance to CVISN Architectural Guidelines, the use of vendor-developed and managed software and state-developed software, the use of federally-developed software and the proximity of CVISN and potential CVISN Roadside Electronic Clearance deployments to international border crossings.

A glossary of terms is listed in Appendix A, a copy of the survey is located in Appendix B and a summary of the states responding to the survey is in Appendix C.

Other CVISN applications include similar deployments for intrastate registrations and Oversize/Overweight (OS/OW) permitting and titling. Also, end-to-end processing functionality should be ready to extend to other credentials (intrastate registration, titling, OS/OW and hazardous materials permitting).

2. SURVEY RESULTS

As of January 31, 1998 a total of 37 states responded to at least some portion of the survey. Because several agencies within each state may be responsible for different responsibilities covered by CVISN, a state may not have returned all portions of the survey.

The survey results are first summarized nationally, and then presented by CVISN components. The national results first show the total deployment levels, which are a measure of the total opportunity for deployment of each CVISN component, and second show the deployment level against Level 1 deployment goals. The national overview provides the big picture for all responding states at a national level as well as deployment levels by participation in ITS/CVO Mainstreaming or CVISN prototype and pilot demonstrations. The total CVISN deployment is then examined in detail for each CVISN component.   Next, the CVISN deployments are assessed against Level 1 deployment capabilities. Finally, state-indicated plans for future deployments are presented.

2.1 NATIONAL OVERVIEW

2.1.1 National CVISN Deployment Levels

In order to provide a quick appraisal of the nationwide CVISN deployment in 1996, preliminary indicators of total deployment and Level 1 deployment levels for each of the three CVISN components are shown in Figure 1. The total level of deployment is shown as a percentage of the total deployment opportunity for the responding states and the Level 1 deployment level is the measure of deployment against Level 1 deployment goals. The specific calculations are presented in Tables 1 and 2.

The total deployment of credential administrative processes is a measure of the total number of IFTA, IRP, Intrastate, OS/OW and Single State Registration credential applications submitted, processed, paid and issued electronically. The Level 1 deployment is a measure of the total number of IFTA and IRP applications submitted, processed and issued electronically against the Level 1 goal of having 10 percent of these credential processes being conducted electronically.

The survey responses indicate that 2 percent of all of the considered credential administration processes within the responding states were conducted electronically in 1996.   The Level 1 deployment measures show that in 1996, deployment had reached 3 percent of the Level 1 deployment goal of conducting 10 percent of all IFTA and IRP processes electronically. These baseline deployments are primarily the result of ITS/CVO Operational Tests. Specific Credential Administration CVISN deployments were not in place in 1996.
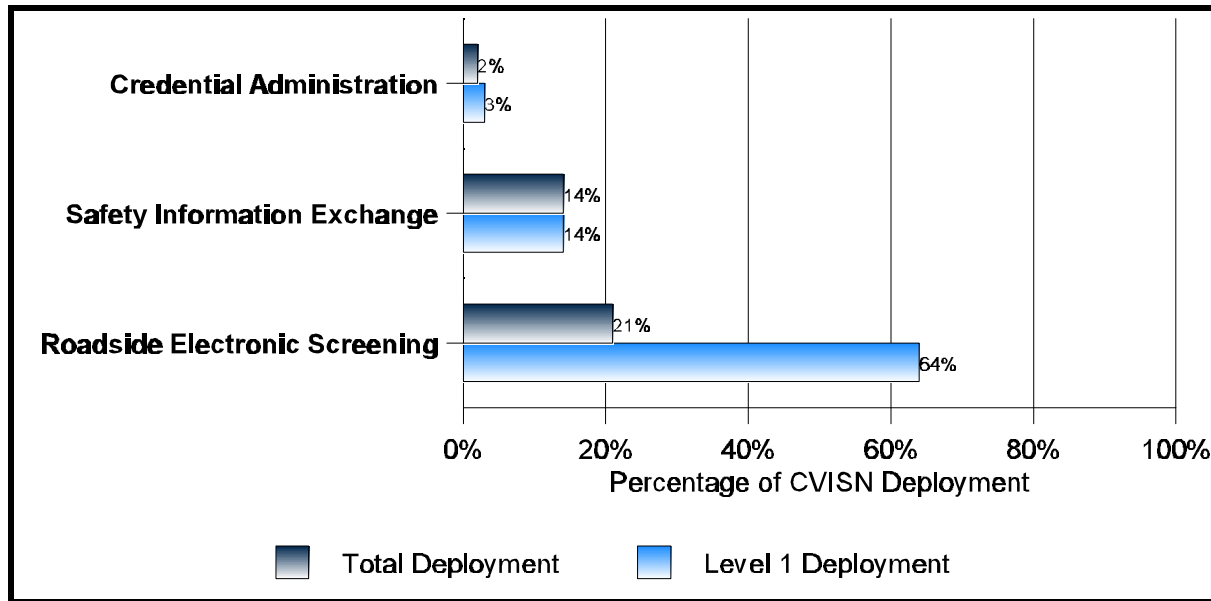
Figure 1. National CVISN Deployment Levels in 1996
(Based on responses obtained from 37 states as of March 21, 1998. See Table 1 for calculations.)

In Safety Information Exchange, both the total deployment and the Level 1 deployment are a measure of the total number of fixed facilities and CVO inspectors equipped with technology capable of electronically collecting and uploading safety information. Survey responses indicate that in 1996 these deployments were at 14 percent.

Much of the current deployment can be attributed to the federally-funded MCSAP Program which was established in 1996 and aided many states in obtaining portable computers and software to facilitate these safety applications.

In Roadside Electronic Screening, the total deployment level is a measure of all vehicles that were screened electronically and the Level 1 deployment is the measure of the total number of states that have at least one fixed site or mobile unit equipped for electronic screening. The survey responses indicate that 21 percent of all vehicles processed by fixed and mobile sites in the responding states receive some form of electronic screening and that 64 percent of all responding states had at least one Roadside Electronic Screening deployment in 1996.

NOTES:
1. Responses from the state of Iowa were not included in the calculations for Electronic State Administrative Processes due to inconsistent responses for IRP applications submitted.
2. Responses from the state of Florida were not included in the calculations due to inconsistent responses for inspections stations' computer access to safety information.
3. Responses from the states of Oklahoma, Pennsylvania, Georgia, and Montana were not included in the calculations due to incomplete responses for vehicles inspected at fixed inspection sites.

Screening applications used to establish this baseline measure includes deployments of WIM systems that sort vehicles based on weight and classification criteria to determine which vehicles are statically weighed, deployment of manual vehicle identification systems which access credential information and safety information and screen vehicles for credential verification, and deployments of systems that identify vehicles electronically and correlate the identification with WIM, safety and credential information to determine which vehicles require additional verification. It should be noted that while the national deployment level indicates that 21 percent of vehicles are screening, the percent of vehicles that are screened using electronic identifiers is only 1 percent.

Table 1. CVISN Total Deployment Levels in 1996 - Measurement of Indicators

(Based on responses obtained from 37 states as of January 31, 1998)

Y-Axis Category	Description	Method of Measurement
Roadside Electronic Screening	Percent of all vehicles that were screened electronically for credential, safety or weight status in 1996 (data from 32 of 50 states)	Numerator: Total number of commercial motor vehicles screened electronically for credential, safety or weight status (15085993) Denominator: Total number of commercial motor vehicles screened or inspected for credential, safety or weight status (70501598) Value: (15085993/70501598)*100 = ~ 21%
Safety Information Exchange	Percent of all inspection sites with the capability of electronically uploading and downloading safety information in 1996 (data from 35 of 50 states)	Numerator: Total number of mobile, fixed and other inspection facilities equipped with ASPEN or equivalent system (478) Denominator: Total number of mobile, fixed and other inspection facilities (3371) Value: (478/3371)*100 = ~ 14%
Credential Administration	Percent of all administrative processes that were conducted electronically in 1996 (data from 36 of 50 states)	Numerator: Total number of applications submitted and number of permits or credentials issued electronically for Oversize/Overweight, Single State Registration, International Registration Plan, International Fuel Tax Agreement, and Intrastate Registration (312854) Denominator: Total number of applications submitted and number of permits or credentials issued for Oversize/Overweight, Single State Registration, International Registration Plan, International Fuel Tax Agreement, and Intrastate registration (15985309) Value: (312854/15985309)*100 = ~ 2%

Table 2. CVISN Level 1 Deployment Levels in 1996 - Measurement of Indicators

(Based on responses obtained from 37 states as of January 31, 1998)

Y-Axis Category	Description	Method of Measurement
Roadside Electronic Screening	Percent of states with at least one fixed facility or mobile unit equipped for electronic screening.(data from 37 of 50 states)	Numerator: Total number states with at least one fixed facility or mobile unit equipped for electronic screening (24) Denominator: Total number of responding states (37) Value: (24/37)*100 = ~ 64%
Safety Information Exchange	Percent of all inspection sites with the capability of electronically uploading and downloading safety information in 1996 (data from 35 of 50 states)	Numerator: Total number of mobile, fixed and other inspection facilities equipped with ASPEN or equivalent system (478) Denominator: Total number of mobile, fixed and other inspection facilities (3371) Value: (478/3371)*100 = ~ 14%
Credential Administration	Percent of the goal of 10% of all IFTA and IRP processes conducted electronically in 1996 (data from 36 of 50 states)	Numerator: Total number of applications submitted and number of applications submitted, credentials processed or issued for International Registration Plan and International Fuel Tax Agreement. Denominator: Ten % of the total number of applications submitted and number of credentials processed and issued for International Registration Plan and International Fuel Tax Agreement) Value: (10037/(3957090 * 0.1))*100 = ~ 2%

2.1.2 Geographic and Categorical Comparison

Table 3 provides a breakdown of deployment levels by state participation in a CVISN prototype/pilot, ITS/CVO Mainstreaming, or neither. Table 4 provides a breakdown by regions. The deployment levels were calculated from individual state responses in the same way as indicated in Tables 1 and 2.

While 13 states have not yet responded, and there is a response bias leading to greater reporting of states involved in CVISN pilots, prototypes or mainstreaming, some patterns can be observed. Survey results show that CVISN states show the highest deployment levels of Safety Infomation Exchange and the highest total level of deployment of Roadside Electronic Screening applications.

The total deployment indicators show that CVISN pilot and prototype have the highest level of vehicles screened. Nevertheless, many states not involved in this effort are trying electronic screening at at least one site. Deployment levels of Credential Administration are highest for Mainstreaming states.

Table 3. Percent of CVISN Deployment by Participation in CVISN Pilot/Prototype Demonstrations or ITS/CVO Mainstreaming

	Percent Electronic Credential Administration		Percent Safety Information Exchange		Percent Roadside Electronic Screening	
	Total	Level 1	Total	Level 1	Total	Level 1
CVISN Prototype/Pilot State (10 of 10 states responding)	0%	0%	20%	20%	20%	20%
ITS/CVO Mainstreaming State (22 of 27 states responding)	3%	15%	9%	9%	15%	40%
Other (4 of 13 states responding)	1%	0%	6%	6%	11%	60%

Table 4. Percent of CVISN Deployment by Region

	Credentials Administration Processes		Safety Information Exchange		Roadside Electronic Screening	
	Total	Level 1	Total	Level 1	Total	Level 1
Region 1 (New England)	1%	0%	4%	4%	16%	75%
Region 3 (Mid Atlantic)	0%	0%	6%	6%	2%	50%
Region 4 (Southeast)	0%	0%	27%	27%	29%	40%
Region 5 (Great Lakes)	0%	16%	10%	10%	12%	50%
Region 6 (South Central)	11%	31%	9%	9%	4%	50%
Region 7 (Midwest)	0%	0%	17%	17%	98%	75%
Region 8 (Mountain)	0%	0%	17%	17%	56%	50%
Region 9 (Southwest)	1%	19%	30%	17%	12%	66%
Region 10 (Pacific Northwest)	0%	0%	16%	16%	92%	75%

A regional breakdown shows higher deployments of Roadside Electronic Screening in Pacific Northwest and Midwest states; this can in part be attributed to major operational tests that were conducted in many of these states in the last decade. Likewise, the higher deployment levels of Credential Administration Processes in the South Central region can be attributed to operational tests in these states. The fact that there are no clear regional patterns of deployments for Safety

Information Exchange may be due to the fact that much of the technology that is deployed was acquired through a national program that was open to all states.

2.2 CREDENTIALS ADMINISTRATION PROCESSES

2.2.1 Objectives

The overall objectives of Credential Administration Processes include:

- to allow stakeholders to send, receive, process, and retrieve credentials data electronically;

- to allow carriers, owners, and drivers to apply for, pay for, and receive credentials electronically;

- to support states/regions in the administration of credentials, collecting and distributing funds, and in storage and distribution of credentials-related data; and

- to provide credentials information to enforcement officials and other authorized stakeholders.

2.2.2 Description

The state commercial vehicle administrative systems are likely to consist of:

- Driver licensing;
- Titling;
- Registration;
- Fuel Tax Credentialing/Tax Return Processing;
- Oversize/Overweight Permitting; and
- Credentialing Interface.

CVISN applications of credential administration may include electronic facilitation of application submittals, permit and registration issuance, and fee payment for OS/OW, SSRS, IRP, and IFTA as well as electronic data interchange (EDI) within state administrations and with national data exchange systems.

CVISN Level 1 deployment goals and capabilities call for end-to-end electronic processing of IFTA and IRP, links to the national IFTA and IRP Clearing Houses and 10 percent of all IFTA, IRP

credential administration be conducted electronically. Level 1 capabilities are supported by the following systems:

- Carrier Automated Transactions Systems which facilitate electronic credential filing and issuance.

- Credential Interface Systems which process and store data from existing state database management systems; and

- EDI to IFTA and IRP Clearinghouses which support fuel tax and interstate registration agreements.

These system are anticipated to reduce paperwork and processing time for both states and motor carriers. The IFTA and IRP Clearinghouses are data exchange systems that will support IFTA and IRP base state agreements.

2.2.3 Deployment by Type of Transaction

The 1996 deployment levels represent the baseline deployment of CVISN component systems prior to any specific CVISN deployment effort. Survey responses indicated that approximately 3 percent of all IRP applications and approximately 6 percent of all OS/OW applications were issued electronically. The results also indicated that there were some applications of electronic funds transfers and electronic credential issuance for other Credential Administrative processes, however, these calculations were less than 1 percent of all transactions for any of the credentials considered. It should also be noted that the instances of electronic fee payment were negligible and that this function is not part of the CVISN Level 1 capabilities.

The 1996 deployment levels are the result of regional operational tests and individual state deployments. The CVISN supporting systems are currently under development. CAT systems are in the development and testing stage, CI systems are still being developed, and the IFTA and IRP Clearinghouses are not anticipated to be completed until 1999.

Figure 2 takes a closer look at the deployment levels in individual credential administrative functions and Figure 3 shows these specific functions for Level 1 deployments. Table 5 provides descriptions of the measurement of indicators.
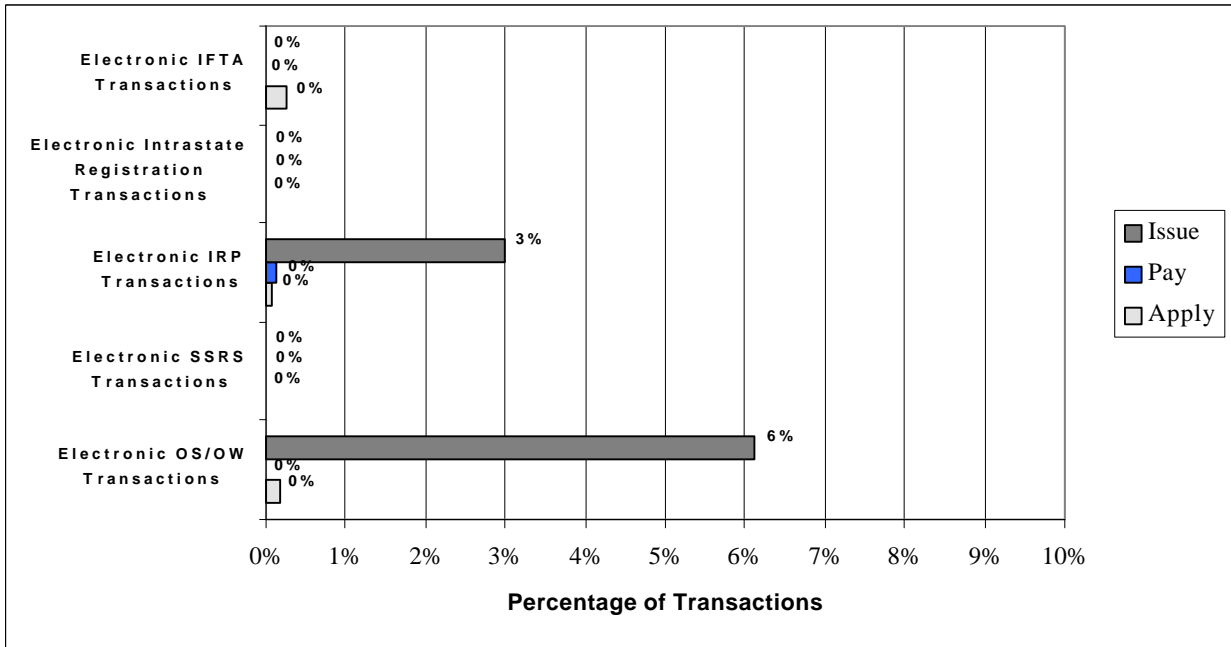
Figure 2. Percent of Credential Administrative Processes Conducted Electronically in 1996

(Based on responses obtained from 37 states as of March 21, 1998. See Table 4 for calculations.)

NOTE: Responses from the state of Iowa were not included in the calculations due to inconsistent responses for IRP applications submitted.

Table 5. Percent of Credential Administrative Processes Conducted Electronically in 1996 - Measurement of Indicators

(Based on responses obtained from 37 states as of March 21, 1998)

Y-Axis Category	Description	Method of Measurement
Electronic IFTA Transactions	Percent of all IFTA applications, fee payments, and permits/credentials that were conducted electronically in 1996 (data from 36 of 50 states)	Numerator(s): Total number of IFTA applications submitted, fees paid, and permits/credentials issued electronically (Apply: 1000, Pay: 29, Issue: 0) Denominator(s): Total number of IFTA applications submitted, fees paid, and permits/credentials issued (Apply: 386375, Pay: 386375, Issue: 825862) Value(s): Apply: (1000/386375)*100 = ~ 0% Pay: (29/386375)*100 = ~ 0% Issue: (8608/825862)*100 = ~ 0%
Electronic Intrastate Registration Transactions	Percent of all Intrastate Registration applications, fee payments, and permits/credentials that were conducted electronically in 1996 (data from 36 of 50 states)	Numerator(s): Total number of intrastate registration applications submitted, fees paid, and permits/credentials issued electronically (Apply: 7, Pay: 0, Issue: 0) Denominator(s): Total number of intrastate registration applications submitted, fees paid, and permits/credentials issued (Apply: 1633572, Pay: 1633572, Issue: 1754281) Value(s): Apply: (7/1633572)*100 = ~ 0% Pay: (0/1633572)*100 = 0% Issue: (0/1754281)*100 = 0%

Y-Axis Category	Description	Method of Measurement
Electronic IRP Transactions	Percent of all IRP applications, fee payments, and permits/credentials that were conducted electronically in 1996 (data from 36 of 50 states)	Numerator(s): Total number of IRP applications submitted, fees paid, and permits/credentials issued electronically (Apply: 262, Pay: 450, Issue: 32581) Denominator(s): Total number of IRP applications submitted, fees paid, and permits/credentials issued (Apply: 377886, Pay: 377886, Issue: 1201779) Value(s): Apply: (279/377886)*100 = ~ 0% Pay: (450/377886)*100 = ~ 0% Issue: (56898/1201779)*100 = ~ 3%
Electronic SSRS Transactions	Percent of all SSRS applications, fee payments, and permits/credentials that were conducted electronically in 1996 (data from 36 of 50 states)	Numerator(s): Total number of SSRS applications submitted, fees paid, and permits/credentials issued electronically (Apply: 12, Pay: 0, Issue: 12) Denominator(s): Total number of SSRS applications submitted, fees paid, and permits/credentials issued (Apply: 625758, Pay: 625758, Issue: 649375) Value(s): Apply: (12/625758)*100 = ~ 0% Pay: (0/625758)*100 = 0% Issue: (12/649375)*100 = ~ 0%
Electronic OS/OW Transactions	Percent of all OS/OW applications, fee payments, and permits/credentials that were conducted electronically in 1996 (data from 36 of 50 states)	Numerator(s): Total number of OS/OW applications submitted, fees paid, and permits/credentials issued electronically (Apply: 7379, Pay: 0, Issue: 271122) Denominator(s): Total number of OS/OW applications submitted, fees paid, and permits/credentials issued (Apply: 4189311, Pay: 4189311, Issue: 4341110) Value(s): Apply: (7379/4189311)*100 = ~ 0% Pay: (0/4189311)*100 = 0% Issue: (271122/4341110)*100 = ~ 6%

2.2.4 Software

Out of the 35 states responding, 21 states were using vendor-developed software for credential administrative services. Among the most widely-used vendor software for Credential Administration Processes are Lockheed Martin's Vehicle Information System for Tax Apportionment (VISTA) for IRP and IFTA filings, Polk for IFTA filings and New York State SSRS software for single state registrations.

2.3 SAFETY INFORMATION EXCHANGE

2.3.1 Objectives

The overall objectives of CVISN Safety Information Exchange include:

- to collect, store, and provide access to the identified carrier, driver, and vehicle safety information;

- to improve the effectiveness and efficiency of safety assurance programs;

- to compute and report safety statistics; and

- to aid in focusing safety assurance activities on high-risk carriers.

2.3.2 Description

Safety Information Exchange systems operate at one or more locations within a state, performing information exchange functions that support safety regulations. CVISN applications of Safety Information Exchange include electronic collection of safety inspection data, timely access to current safety information at the roadside and electronic data interface to state national snapshot/profile data.

To achieve safety information exchange objectives, the systems and networks collect, process, and provide access to information on measurable factors indicating unsafe carriers and drivers such as safety inspection data, out of service orders and motor carrier snapshot/profile statistics. The information systems inform interested parties of significant changes to relevant data rather than waiting for a specific request for information or overloading them with extraneous information.

The CVISN Level 1 capabilities and deployment calls for ASPEN or equivalent systems at all major inspection sites, connection to SAFER and the development of a state CVIEW or equivalent system. ASPEN software supports electronic collection, and uploading and downloading of safety inspection data.

SAFER will provide snapshot safety data on vehicles, drivers and carriers to remote users such as state police or commercial vehicle inspectors. These snapshot data may include:

- identification information such as name, address, and operating characteristics;

- safety information such as safety ratings, accident and violation history, and out of service orders; and

- credential information such as registrations, permits, driver records, and IFTA and IRP flags.

The profile data contain more detailed information than the snapshot, but not the complete set of information available, and are used when snapshot data do not provide all the needed information. State CVIEW or equivalent systems will facilitate intrastate snapshot/profile safety data storage and access. Level 1 CVIEW or equivalent system capabilities include:

- maintaining safety portion of snapshots for carriers and vehicles based in the state from inputs from own-state activities only;

- proactively updating SAFER;

- providing access to intrastate carrier and vehicle snapshots and reports to roadside stations; and

- reporting inspections electronically to SafetyNet.

Improving efficiency will allow more resources to be focused on higher-risk performers. The systems provide statistics necessary to evaluate and refine the safety assurance programs and other CVO programs.

2.3.3 Deployment by Capabilities

The functions of this component are accessing, downloading, collecting, and uploading of inspection data through electronic means. The level of deployment of these functions is a good measure of the overall CVISN deployment in the nation since CVISN is essentially a network of networks that facilitates electronic exchange of data pertaining to CVO functions. Current deployment levels shown

in Figure 1 (see page 5) indicate that 14 percent of all inspection facilities and inspectors are equipped with ASPEN or equivalent systems which facilitate electronic collection of inspection data. Of the states responding to the survey, 69 percent have this capability. However, only 3 percent of responding state indicated having computer access to current safety information at the roadside. The application of remote access to timely current safety information will be supported by SAFER and CVIEW links which were not in place in 1996. Figure 3 and Table 5 show the levels of deployment and measurement of indicators, respectively.
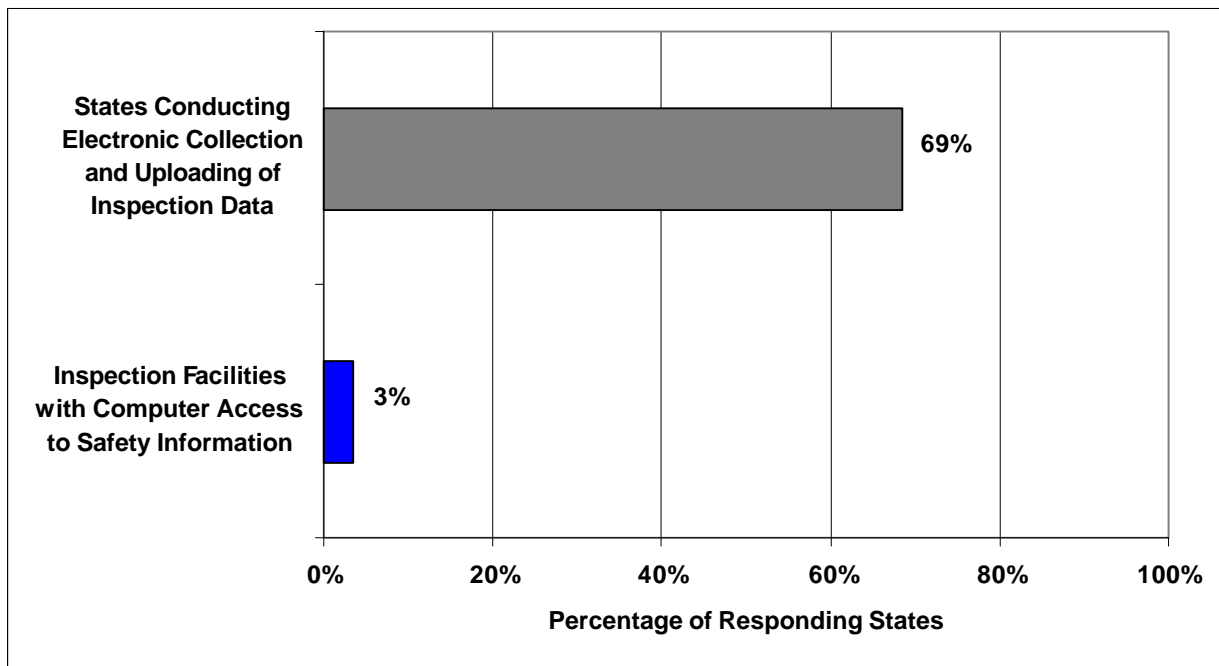
Figure 3. Percent of States and Inspection Facilities with the Capability of Accessing, Collecting, and Uploading Inspection Data in 1996
(Based on responses obtained from 36 states as of March 21, 1998. See Table 6 for calculations)

2.3.4 Software

Of the 35 states responding, 22 states (66 percent) were using ASPEN to conduct roadside inspections. Out of these 23 states, nine are CVISN states, eight are ITS/CVO Mainstreaming states, and the other two are non-ITS/CVO Mainstreaming states. Only one state, California, indicated using an equivalent system.

NOTE: Responses from the state of Florida were not included in the calculations due to inconsistent responses for inspections stations' computer access to safety information.

Table 6. Percent of States and Inspection Facilities with the Capability of Accessing, Collecting and Uploading Inspection Data in 1996 - Measurement of Indicators

(Based on responses obtained from 36 states as of January 31, 1998)

Y-Axis Category	Description	Method of Measurement
States Electronic Collection and Uploading of Inspection Data	Percent of all responding states that electronically collect inspection data from the roadside and upload them to SafetyNet in 1996 (data from 35 of 50 states)	Numerator: Total number of responding states that electronically collect inspection data from the roadside and upload it to SafetyNet (24) Denominator: Total number of responding states (35) Value: (24/35)*100 = ~ 69%
Inspection Facilities with Computer Access to Safety Information	Percent of all fixed, mobile, and other inspection stations with computer access to safety information in 1996 (data from 35 of 50 states)	Numerator: Total number of fixed, mobile, and other inspection stations equipped with computer access to safety information (117) Denominator: Total number of fixed, mobile, and other inspection stations (3132) Value: (117/3132)*100 = ~ 3%

2.4 ROADSIDE ELECTRONIC SCREENING

2.4.1 Objectives

The overall objectives of roadside electronic screening applications are to verify the safety and legality of commercial vehicles at both fixed and mobile roadside sites which will improve the efficiency, safety, and effectiveness of CVO operations through the use of timely, accurate, electronic screening information. These screening applications may include any or all of the following:

- expedite processing of vehicles identified as safe and legal;

- identify overweight and improperly credentialed vehicles;

- identify high-risk and improperly credentialed carriers;

- identify illegal drivers;

- select higher-risk safety performers for close inspection; and

- provide safety and credentials compliance statistics to support policy decisions, rule making, and program development.

2.4.2 Description

Roadside electronic screening systems operate at fixed or mobile commercial vehicle check stations within states. The systems perform roadside functions and may support automated carrier, vehicle, and driver identification at mainline and non-mainline speeds for credential checking, roadside safety inspections, and weight checks. In some applications, they allow safe and legal vehicles to pass check points at mainline speeds instead of pulling off for roadside checks. CVISN information systems will also permit the identification of illegal and higher safety-risk operators.

The electronic screening system distinguishes between legal and illegal vehicles, where legal status is based on having the necessary credentials, being paid up on taxes, and/or operating within the weight and size restrictions established by jurisdictions. In some applications, the system first identifies the vehicle and then correlates its ID with carrier information available about credentials and tax status and in some applications the current load (weight and size). Ideally, this identification can be performed while the vehicle is traveling at mainline speeds with the use of Dedicated Short Range Communications systems and vehicle-mounted transponders. In some mainline electronic screening applications the carrier ID is correlated with carrier safety, credential, and performance data which permits enforcement actions to focus on high-risk carriers.

2.4.3 Mainline and Non-Mainline Screening

Figure 4 takes a closer look at the percent of fixed, mobile, and other sites with the ability to electronically screen vehicles for weight, safety or credential status and the percent of vehicles that are electronically screened at mainline and non-mainline speeds. Total deployment levels show that 64 percent of all states have at least one facility equipped for electronic screening. Of the total facilities in the responding states, 4 percent are equipped for non-mainline screening and 1 percent are equipped for mainline screening. However, 18 percent of all vehicles processed in the responding

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states are screened in non-mainline electronic screening applications and only 3 percent are screened at mainline speeds. Table 7 provides a description of the measurement of indicators.

It should be noted that non-mainline electronic screening applications may comprise WIM sorting, manual identification for credential and safety record checks or automated identification systems which correlate vehicle identification with carrier information, and mainline applications comprise only those systems that use automated vehicle identification.
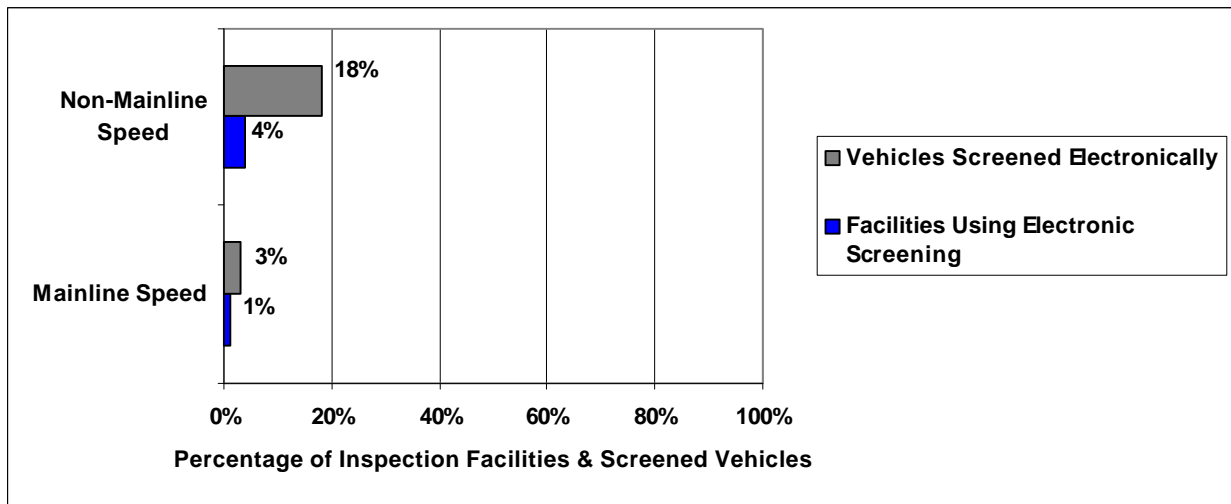
Figure 4. Percent of Inspection Facilities with the Ability to Conduct Electronic Screening and the Percent of Vehicles Electronically Screened in 1996
(Based on responses obtained from 32 states as of March 21, 1998. See Table 7 for calculations.)

2.4.4 Software

Out of the 37 states responding, 20 states (54%) reported using vendor-developed software for roadside electronic screening services, with 15 specifying the vendor. Two use Advantage I-75 and two use Help, Inc. for screening of credentials. Six use International Road Dynamics for weigh in motion, and four use Perceptics' license plate reader. Four reported using software from other vendors.

NOTE: Responses from the states of Oklahoma, Pennsylvania, Georgia, and Montana were not included in the calculations due to incomplete responses for vehicles inspected at fixed inspection sites.

**Table 7. Percent of Facilities with the Ability to Conduct Electronic Screening
and the Percent of Vehicles Electronically Screened in 1996 - Measurement of Indicators**
(Based on responses obtained from 36 states as of March 21, 1998)

Y-Axis Category	Description	Method of Measurement
Facilities Using Electronic Screening	Percent of all fixed, mobile, and other inspection stations using electronic screening at mainline and non-mainline speeds in 1996 (data from 32 of 50 states)	Numerator(s): Total number of fixed, mobile, and other inspection facilities equipped to electronically screen commercial motor vehicles at mainline and non-mainline speeds (Mainline Speed: 31, Non-Mainline Speed: 80) Denominator(s): Total number of fixed, mobile, and other inspection facilities (2177) Value(s): Mainline Speed: (31/2177)*100 = ~ 1% Non-Mainline Speed: (80/2177)*100 = ~ 4%
Vehicles Screened Electronically	Percent of all vehicles screened electronically at mainline and non-mainline speeds in 1996 (data from 32 of 50 states)	Numerator(s): Total number of commercial motor vehicles that were electronically screened for weight, credentials or safety (Mainline Speed: 2455749, Non-Mainline Speed: 12630244) Denominator(s): Total number of commercial motor vehicles that were screened for weight, credentials or safety (70501598) Value(s): Mainline Speed: (2455749/70501598)*100 = ~ 3% Non-Mainline Speed: (12630244/70501598)*100 = ~ 18%

2.4.5 International Borders

Seven states responded to the "International Borders Survey Addendum," identifying 20 international border crossings. Of these, only the State of Michigan has two border crossings that had computer access to current safety information at the nearest inspection facilities. None of the responding states utilize non-mainline screening at inspection sites near these border crossings.

2.5 ASSESSMENT OF STATE CVISN LEVEL 1 CAPABILITIES

CVISN Deployment Goals call for the deployment of Level 1 CVISN capabilities in 22 to 35 states. These CVISN Level 1 capabilities are as follows:

- Credential Administration
    - End-to-end processing of at least IRP and IFTA
    - Connection to IRP and IFTA Clearinghouses
    - At least 10 percent of transaction volume handled electronically;

- Safety Information Exchange
    - ASPEN or equivalent at al major inspection sites
    - Connection to SAFER
    - CVIEW or equivalent system; and

- Roadside Electronic Screening
    - Electronic screening application at a minimum of one site
    - Ready to replicate at other sites.

Table 8 shows the number of states that have achieved Level 1 deployment goals and the number of responding states that indicated plans for CVISN deployments by 1998. Currently, only one state indicated having the capability to perform end-to-end processing of IRP and no states indicated that capability for IFTA. The 1996 survey did not ask states for specific IFTA and IRP plans, however, it can be inferred that at least the ten CVISN states have plans to begin deployment of these systems in the next two years.

Also, 24 of the responding states indicated having ASPEN or equivalent systems in use in 1996 and 33 states indicated having plans to deploy these systems by 1998. No states were linked to SAFER in 1996 but 12 states indicated plans to link to SAFER by 1998. No state indicated having deployed a CVIEW or equivelent system in 1996 and only 2 states indicated plans to have this capability by 1998.

Table 8. Number of States with CVISN Level 1 Deployment in 1996 and the Number of Responding States Indicating Plans for Deployments by 1998

(Based on responses obtained from 36 states as of March 21, 1998)

	CVISN Level 1 Capability	Number of States with Level 1 Deployment Capability	Number of States indicating plans for Level 1 Deployment by 1998
Credential Administration	End-to-end IFTA and IRP electronic transactions	1	not asked in 1996 survey
	Connection to IFTA and IRP Clearinghouses	0	IRP and IFTA Clearinghouses will not be available until 1999
Safety Information Exchange	ASPEN or equivalent	23	33
	Connection to SAFER	0	12
	CVIEW or Equivalent	0	2
Roadside Electronic Screening	One fixed or mobile site equipped for electronic screening	23	32

APPENDIX A. GLOSSARY OF DEFINITIONS AND TERMS

Electronic Data Interchange (EDI): the electronic exchange of business information in a format that permits computer generation, processing, and response to the message. ANSI (American National Standards Institute) EDI standards provide an infrastructure for defining and maintaining open EDI standards. ANSI X12 is the dominant standard in use in the United States and Canada. TS 286 is a specific transaction set within the X12 standard. A transaction set is composed of a specific group of segments that represent a common business document (for example, a purchase order or an invoice). Each transaction set consists of the transaction set header (ST) as the first segment and contains at least one data segment before the transaction set trailer (SE).

Electronic Funds Transfer (EFT): management of financial transactions including payment request, fee transfers between financial institutions, and maintenance of financial records.

International Registration Program (IRP) Clearinghouse: data exchange system supporting IRP base state agreement.

International Fuel Tax Agreement (IFTA) Clearinghouse: data exchange system supporting the administration of IFTA base state agreement.

Single State Registration System (SSRS): registration and permitting system that facilitates vehicle registration of interstate carriers in individual states.

ASPEN: roadside safety inspection system that electronically facilitates the identification of motor carriers, past inspection checks, driver status checks, inspection data collection, inspection reporting, and data exchange to state SAFETYNET or other databases.

Commercial Vehicle Information Exchange Window (CVIEW): state data exchange system that generates intrastate snapshots to handle interstate snapshot data exchange, and to distribute snapshots within the state.

Safety and Fitness Electronic Records (SAFER): data exchange system that supports the creation of interstate carrier, vehicle, and driver snapshots and provides a single point of contact within the core infrastructure for all interstate snapshots and report queries.

SAFETYNET: PC based system supporting the collection, processing and analysis of commercial vehicle inspection, accident, audit, enforcement, and citations data.

APPENDIX B. SURVEY QUESTIONNAIRE

STATE ADMINISTRATIVE PROCESSES

Name: _____
Title: _____
Organization_____
Street:_____City:_____State:_____Zip:_____
Phone Number:_____Fax Number:_____
E-mail_____

The purpose of this questionnaire is to collect data measuring the deployment of Commercial Vehicle Information Systems and Networks in your state in 1996. The information that you provide will be used by the Intelligent Transportation Systems Joint Program Office to track deployment progress nationwide for use in program planning. We greatly appreciate your prompt response.

NOTE: We have tried to answer as many of the questions as possible with data from available sources. These sources include:

_____
_____
_____

If these data are not accurate please update them by crossing out the response we have made and entering the correct information. Technical questions should be directed to Ram Kandarpa at (703) 771-0020. If you have received no other guidance as to where to return this survey, please fax a completed survey to (703) 771-4274 or mail your survey response to :

> Ram Kandarpa
> Castle Rock Consultants
> 18 Liberty St. S.W.
> Leesburg, VA 20176

1. **In order to provide background information on your administrative processes, please fill in the following chart indicating how many of each of these transactions you performed in 1996.**

	# Applications Submitted	#Permits/Credentials Issued
Oversize/Overweight		
Hazardous Materials		
Single State Registration		
International Registration Plan		
Intrastate Registration		
International Fuel Tax Agreement (IFTA)		

2. Is your state using vendor-developed software for credential administrative services?

G   Yes

G No

If yes please specify._____

---

3. Does your implementation of credentials administration conform with the CVISN architecture and design?

- **G** Yes
- **G** No
- **G** Don't Know

---

4. Did your state participate in the IFTA Clearinghouse in 1996?

- **G** Yes
- **G** No

If not, do you plan to in 1997?

- **G** Yes
- **G** No
- **G** Don't Know

---

5. Did your state participate in the IRP Clearinghouse in 1996?

- **G** Yes
- **G** No

If not, do you plan to in 1997?

- **G** Yes
- **G** No
- **G** Don't Know

---

6. Did you allow or perform these functions electronically through EDI or tape/disk? Please fill in the following chart indicating how many transactions were conducted by these methods in 1996.

	# Applications submitted by EDI or tape/disk. Specify which EDI transaction set(s) were used (e.g., ANSI X12; TS 286).	# Electronic funds transfers between carrier and state	# Permits/Credentials issued electronically
Oversize/Over weight			
Hazardous Materials			
Single State Registration			
International Registration Plan			
Intrastate registration			
International Fuel Tax Agreement			

7. If you haven't already, do you plan to deploy electronic credential administrative services in the next 2 years?

G   Yes
G   No

8. If you are implementing or plan to deploy electronic credential administrative services, please provide contact information (name, telephone, e-mail, address) for a person familiar with the system plans.

_____
_____
_____

Thank you for your participation in answering these questions. The U.S. DOT's Intelligent Transportation Systems Joint Program Office appreciates your cooperation.

SAFETY INFORMATION EXCHANGE

Name: _____
Title: _____
Organization_____
Street:_____City:_____State:_____Zip:_____
Phone Number:_____Fax Number:_____
E-mail_____

The purpose of this questionnaire is to collect data measuring the deployment of Commercial Vehicle Information Systems and Networks in your state in 1996. The information that you provide will be used by the Intelligent Transportation Systems Joint Program Office to track deployment progress nationwide for use in program planning. We greatly appreciate your prompt response.

NOTE: We have tried to answer as many of the questions as possible with data from available sources. These sources include:

_____
_____
_____

If these data are not accurate please update them by crossing out the response we have made and entering the correct information. Technical questions should be directed to Ram Kandarpa at (703) 771-0020. If you have received no other guidance as to where to return this survey, please fax a completed survey to (703) 771-4274 or mail your survey response to :

Ram Kandarpa
Castle Rock Consultants
18 Liberty St. S.W.
Leesburg, VA 20176

1. How many inspection facilities were staffed with safety inspectors in 1996?

Fixed:_____ (Count fixed facilities which operate on different sides of the
                            highway separately)
Mobile units/vans:_____
Other _____

2. How many safety inspections were conducted in 1996?

At fixed inspection sites _____
Mobile units/vans:_____
Other: _____

3. Does your implementation of safety information exchange conform with the CVISN architecture and design?

G   Yes
G   No
G   Don't Know

4. Did your state electronically collect inspection data from the roadside and upload it to SAFETYNET?

G   Yes
G   No

5. Is your state using ASPEN?

G   Yes
G   No

If so, how many fixed inspection facilities were equipped with ASPEN in 1996? _____
Mobile units/vans? _____
Other _____

If you are not using ASPEN, please specify what other inspection software you are using
_____

6. Was your state connected to SAFER in 1996?

G   Yes
G   No

If not, is it planned for 1997?

G   Yes
G   No

7. **Was CVIEW or an equivalent system used in your state in 1996 to exchange snapshots within the state and to other states?**

   G   Yes

   G   No

If not, is it planned for 1997?

   G   Yes

   G   No

8. **Did your state have real time distribution of safety information to computers at roadside in 1996?**

   G   Yes

   G   No

If so, were SAFER snapshots used?

       G   Yes

   G   No

If some sites had access, how many fixed inspection stations had computer access to safety information in 1996?   _____

Mobile units/vans? _____

Other? _____

9. **If you haven't already, do you plan to deploy *electronic* safety information exchange services in the next 2 years?**

   G   Yes

   G   No

10. **If you are implementing electronic safety information exchange services or have plans to deploy these services please provide contact information (name, telephone, e-mail, address) for a person familiar with the system or plans.**

_____
_____
_____

Thank you for your participation in answering these questions. The U.S. DOT's Intelligent Transportation Systems Joint Program Office appreciates your cooperation.

ROADSIDE ELECTRONIC SCREENING

Name: _____

Title: _____

Organization_____

Street:_____**City:**_____**State:**_____**Zip:**_____

Phone Number:_____**Fax Number:**_____

E-mail_____

The purpose of this questionnaire is to collect data measuring the deployment of Commercial Vehicle Information Systems and Networks in your state in 1996. The information that you provide will be used by the Intelligent Transportation Systems Joint Program Office to track deployment progress nationwide for use in program planning. We greatly appreciate your prompt response.

NOTE: We have tried to answer as many of the questions as possible with data from available sources. These sources include:

_____
_____
_____

If these data are not accurate please update them by crossing out the response we have made and entering the correct information. Technical questions should be directed to Ram Kandarpa at (703) 771-0020. If you have received no other guidance as to where to return this survey, please fax a completed survey to (703) 771-4274 or mail your survey response to :

> Ram Kandarpa
> Castle Rock Consultants
> 18 Liberty St. S.W.
> Leesburg, VA 20176

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1. Please indicate the number of facilities used for commercial vehicle screening or inspections and the total annual number of commercial motor vehicles screened or checked/inspected for weight, credentials or safety. (*Screening would include any method of making a quick determination of whether a more thorough check/inspection of a commercial vehicle or static weight is warranted.*)

	Number of sites/facilities	**Number of vehicles**
Fixed weigh/inspection facilities in use		
Mobile inspection units/vans		
Other facilities (please include type)		

2.   Please indicate the number of facilities using *electronic* screening in 1996 and the annual number of commercial motor vehicles screened *electronically* for weight, credentials or safety.

	Number of sites/facilities	Number of vehicles screened
Fixed stations with capability to perform mainline roadside electronic screening[1]		
Fixed stations with capability to perform non-mainline roadside electronic screening[2]		
Mobile inspection teams with capability to perform mainline roadside electronic screening		
Mobile inspection teams with capability to perform non-mainline roadside electronic screening		
Other facilities with capability to perform mainline roadside electronic screening		
Other facilities with capability to perform non-mainline roadside electronic screening		

3.   Does your implementation of electronic screening conform with the CVISN architecture and design?

G   Yes
G   No
G   Don't Know

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[1] Screened on highway lanes while traveling at normal speeds

[2] Only include slowdown lane screening (vehicles are screened while traveling at a slow pace through facility lanes)

4. Is your state using vendor-developed software for roadside electronic screening services?

    G   Yes
    G   No

If so please specify._____

5. If you haven't already, do you plan to deploy roadside *electronic* screening services in the next 2 years?

    G   Yes
    G   No

6. If you are implementing or plan to deploy electronic screening services, please provide contact information (name, telephone, e-mail, address) for a person familiar with the system or plans.

_____
_____
_____

7. Does your state have an international border with Canada or Mexico?

    G   Yes
    G   No

If yes please fill out the international border addendum.

Thank you for your participation in answering these questions. The U.S. DOT's Intelligent Transportation Systems Joint Program Office appreciates your cooperation.

INTERNATIONAL BORDERS SURVEY ADDENDUM

1. List the international border crossings in your state and the truck volume at each crossing in 1996?

International Border Crossing	What is the Annual Truck Volume	Proximity of nearest inspection facility in miles	# of commercial vehicles checked for weight, safety or credentials at inspection sites near the border crossings	Do you have computer access to current safety information at this inspection site?	Do you utilize non mainline screening at this inspection site?
1.				**G** Yes **G** No	**G** Yes **G** No
2.				**G** Yes **G** No	**G** Yes **G** No
3.				**G** Yes **G** No	**G** Yes **G** No
4.				**G** Yes **G** No	**G** Yes **G** No
5				**G** Yes **G** No	**G** Yes **G** No

Thank you for your participation in answering these questions. The U.S. DOT's Intelligent Transportation Systems Joint Program Office appreciates your cooperation.

APPENDIX C. RESPONSE MATRIX

	State Administrative Processes	Safety Information Exchange	Roadside Electronic Screening
Alabama			
Alaska	✓	✓	✓
Arizona	✓	✓	✓
Arkansas			
California	✓	✓	✓
Colorado	✓	✓	✓
Connecticut	✓	✓	✓
Delaware			
Florida	✓	✓	✓
Georgia	✓	✓	✓
Hawaii			
Idaho			
Illinois	✓	✓	✓
Indiana	✓	✓	✓
Iowa	✓	✓	✓
Kansas	✓	✓	✓
Kentucky	✓	✓	✓
Louisiana	✓	✓	✓
Maine	✓	✓	✓
Maryland	✓	✓	✓
Massachusetts		✓	✓
Michigan	✓	✓	✓
Minnesota	✓	✓	✓
Mississippi	✓	✓	✓
Missouri	✓	✓	✓
Montana	✓	✓	✓
Nebraska	✓	✓	✓
Nevada	✓	✓	✓

	State Administrative Processes	Safety Information Exchange	Roadside Electronic Screening
New Hampshire			
New Jersey	✓	✓	✓
New Mexico	✓	✓	✓
New York			
North Carolina	✓	✓	✓
North Dakota	✓	✓	✓
Ohio	✓	✓	✓
Oklahoma	✓	✓	✓
Oregon	✓	✓	✓
Pennsylvania	✓	✓	✓
Rhode Island			
South Carolina	✓	✓	✓
South Dakota			
Tennessee			
Texas	✓		
Utah			
Vermont	✓	✓	✓
Virginia	✓	✓	✓
Washington	✓	✓	✓
West Virginia			
Wisconsin	✓	✓	✓
Wyoming	✓	✓	✓