1 Capability

The **Roadside Access to Data** capability is:

> Provide integrated and improved access for roadside personnel to data stored in infrastructure systems [e.g., Safety and Fitness Electronic Records (SAFER), Motor Carrier Management Information System (MCMIS), Commercial Driver's License (CDL) data systems].
>
> In developing this report, the Smart Roadside working group suggested that the capability statement be expanded beyond access to data stored in infrastructure systems. The requirements and solution options reflect the notions of improved access to data from the vehicle and data that may not be stored in existing infrastructure systems today.

2 Working Group Recommendations

The Smart Roadside Working Group offers these summary recommendations related to this capability:

- Before embarking on improving access to information from the roadside, stakeholders should agree on specific data elements, definitions, syntax, format constraints, and semantics that explain the intended business use of the data elements for each destination system and user type. The working group could tackle this effort as part of follow-on efforts to this report.
- The working group supports both options described in this report:
  - Improve data available via current systems and migrate to a Web-based solution Note: This solution should be coordinated with the Creating Opportunities, Methods, and Processes to Secure Safety (COMPASS) initiative.
  - Capture best practices for access to and display of information from the roadside.
- Three activities related to this capability are proposed for near-term funding:
  - Best Practices and Lessons Learned
  - Expanded Roadside Information Prototype
  - Roadside Web-Based Tools Prototype.

3 Concept of Operations

The term concept of operations (ConOps) means operational attributes of the system from the operators' and users' views. The ConOps allows for the use of a variety of technologies. There may be potential benefits to be gained by using some sophisticated technologies, but only if the technologies are part of a well-conceived and vetted set of practices, are thoroughly understood and tested, and are implemented and used correctly. This chapter summarizes the proposed concept of operations.

Existing systems contain much of the information needed to achieve the goals of the Expanded Commercial Vehicle Information Systems and Networks (CVISN) initiative. To increase information sharing, expand, merge, establish interfaces between, or enhance existing **information management systems** [e.g., MCMIS, Commercial Driver's License Information System (CDLIS), SAFER, Commercial Vehicle Information Exchange Window (CVIEW), Performance and Registration Information Systems Management (PRISM), International Registration Plan (IRP) and International Fuel Tax Agreement (IFTA) clearinghouses] to include:

- Role-based access to services using single sign-on
- Open standards for information sharing
- Improved and flexible user interfaces (e.g., provide default look and feel based on user's role; allow user to tailor)
- Standardization around a small number of standards. This gives each state the flexibility to work within its overall statewide architecture, but still encourages commonality among states' systems and approaches.
- Collection of data once and frequent reuse (e.g., collect census data from a carrier and re-use that data from a single source whenever it's needed)
- Consistent level of service regardless of time-of-day or day-of-year
- Improved access to data about all commercial drivers
- More timely and complete IRP and IFTA data in snapshots
- Consistent identification of carrier, driver, vehicle, and cargo
- Association of entities that are related during a trip (e.g., John Driver working for Carrier XYZ driving vehicle with plate 1234567 registered in Maryland hauling trailer with plate 8901234 registered in Delaware)
- Electronic security device event data (to track the status of and activities related to a security device attached to the container and/or trailer)
- Electronic safety device event data (e.g., to indicate rollover)
- Integrate with or link to asset tracking, arrival scheduling, and other vehicle, port and freight information systems [e.g., Freight Information Real-Time Systems for Transport (FIRST), electronic freight manifest, State On-Line Enforcement System (STOLEN)].
- Access to up-to-date credentialing information [e.g., oversize/overweight (OS/OW) permits].

To improve the quality of information and to improve access, develop, expand, merge, or enhance **data collection and reporting systems** used in the field [e.g., ASPEN, Carrier Automated Performance Review Information (CAPRI)] to include:

- Open standards for data collection and reporting

- Access to driver snapshots
- Out-of-service (OOS) processing
- Uniform citation reporting
- Uniform crash reporting
- Hours of service compliance evaluation
- Vehicle and cargo security checks
- Heavy duty diesel (HDD) emissions inspections
- Interface with electronic on-board systems
- Wireless technology.

Look for successes within innovative programs and build on or adapt their business models for broader use. Categories of programs/systems to review include:

- Regional data-sharing systems [e.g., Extensible CVIEW (xCVIEW)]
- Roadside information reporting systems (e.g., ASPEN)
- Port scheduling/access programs (e.g., PierPass)
- Freight security improvement programs [e.g., Operation Safe Commerce (OSC)]
- Cross-program technical interchange (e.g., CVISN/PRISM)
- Border-crossing improvement programs [e.g., Free and Secure Trade (FAST)]
- Data challenge and correction (e.g., DataQs).

Review and build on technology lessons learned. Categories of programs/initiatives to review include:

- Recent operational tests [e.g., Federal Motor Carrier Safety Administration's (FMCSA's) Hazardous Materials (HazMat) Op Test]
- Intelligent Transportation Systems (ITS) initiatives [e.g., Vehicle Infrastructure Integration (VII)]
- Applications and uses of standards [e.g., Dedicated Short Range Communication (DSRC) standards]
- Technology transfer opportunities [e.g., Federal Rail Administration's (FRA's) railroad track status reporting]
- Commercial Vehicle Operations (CVO) infrastructure deployments (e.g., e-screening)
- Broader transportation infrastructure deployments (e.g., e-toll collection)
- Data sharing models (e.g., CDLIS).

4 Requirements

Review of existing materials in preparation for the ITS/CVO 2005 Deployment Showcase seeded the requirements stated in this chapter. Subsequent review by members of the Smart Roadside Working Group finalized the requirements.

Roadside personnel need information from infrastructure systems to support these roadside activities:

- *Safety and security operations* – Components of roadside compliance and enforcement activities that occur on the highways, on other roadways and in fixed infrastructure facilities such as bridges, tunnels, borders, ports, terminals, warehouses and shippers and consignees.
- *Identification* – Unique identification of various components involved in a shipment of goods or people. Examples include the vehicle (tractor, trailer, motor coach), driver, cargo and motor carrier.
- *Screening* – Selection mechanism that roadside enforcement uses to choose which vehicles, drivers, carriers or cargo should be allowed to bypass a roadside station or other inspection and which should be pulled in for further scrutiny. Intended to target high-risk operators and make efficient use of weigh station and inspection resources.
- *Inspection* – Systematic examination of a commercial motor vehicle and its driver to determine their overall safety fitness; North American Standard Inspection Levels I through VI. May also include other activities that may be associated with an inspection, such as traffic enforcement.
- *Crash reporting* – Means and methods for documenting commercial vehicle involvement in crashes and for collecting and reporting crash data. The reporting function initially occurs within the jurisdiction where the crash occurred. If the crash meets certain criteria, it is then reported to one or more federal agencies [FMCSA, National Highway Traffic Safety Administration (NHTSA), Federal Highway Administration (FHWA) and/or Bureau of Transportation Statistics (BTS)].
- *Citation reporting* – Means and methods for documenting infractions relating to commercial vehicle drivers and/or motor carriers and for collecting and reporting citation data. Depending on the type of infraction (e.g., moving traffic violation vs. safety violation) and the particulars of the situation (e.g., in-jurisdiction or out-of-jurisdiction), the reporting function may vary.

The data needed to support those operations include:

- Carrier: ID, census (e.g., business identification, contact data, operation data, state-specific data), ratings, credentials (e.g., operating authority, IFTA, HazMat), safety history

- Vehicle: ID, census (e.g., title, state-specific data), credentials status/flag (e.g., registration, OS/OW permit, tax payment), inspection history, is truck stolen
- Driver: ID, census (e.g., name, address, identifying information), driver license data, driver history, immigration status, biometrics to confirm identity, National Law Enforcement Telecommunication System (NLETS) results, safety rating, OOS status
- Cargo: manifest, confirmation that actual cargo matches manifest and credentials, data from cargo sensors (e.g., radiation, chemicals, weight), container seal ID and status
- Hot lists of carriers, vehicles, drivers, or cargo to watch for.

Note: Please see the **Driver Snapshots** capability report (reference 1) for a list of potential driver data elements to be shared and the **Access to Credentials Data** capability report (reference 2) for a list of recommended credentials data to be shared.

Access requirements for roadside personnel include:

- Single sign-on to enable access to any information that a roadside officer might need
- Common standards that accommodate all states' regulations regarding what information can be accessed by a roadside officer. For instance, many states restrict access to tax information. If government agencies (federal and state) agree that they want roadside personnel to enforce CVO tax regulations, then they need to establish some common means to inform the roadside staff which carriers should be checked/cited for a tax problem.
- Common definitions of violations that can be translated back to state-specific definitions and data
- A means to access industry-held information about the cargo during a security check
- Equal access should be provided for mobile enforcement.

The presentation of information to the roadside personnel should have these characteristics:

- Rapid response time. Speed is a significant factor in keeping enforcement staff engaged in using the systems.
- Integrated across data sources
- Emphasis placed on highlighting exceptions and summary information
- Easy to probe into details if necessary
- Easy to populate report data fields from infrastructure data
- Clear indication of critical decision-making information that is unknown
- Information should be provided in the same "steps" the officer needs it:
  - The first set of information should help to identify the carrier, vehicle, driver, and cargo (i.e., identification). This information is based on what is observed or detected on the road.

  - The next set of information should help the officer to decide whether or not to pull the vehicle over (i.e., screening).
  - Then, once the vehicle has been pulled over, the officer should be able to access additional details to support the investigation, inspection, and/or citation functions.

- For mobile enforcement, information should be concise and require minimal navigation or examination of computer screens. Audible presentation of brief information is preferred.
- Violation patterns in the carrier's or driver's past safety inspections should be identified so that the inspector can check potential problem areas.

Meeting these requirements for roadside personnel (people) should not diminish the ability of roadside systems (software and hardware) to process similar information automatically and efficiently to support roadside operations such as electronic screening and inspection selection.

Metrics should be identified so that changes can be assessed to determine if real improvements in access to data from the roadside were realized.

Outside of this capability, the notion of providing information collected at the roadside to nontraditional recipients also emerged as a possible idea. Specifically, to support security information needs, it might be worthwhile to send "exception" data from roadside operations to homeland security systems or users. Please see the **Carrier Access to Safety Data** capability report (reference 3) for ideas about notifying the carrier when an inspection, crash, or violation is reported for an associated vehicle or driver.

5 Potential Solution Alternatives

Potential solution options for the **Roadside Access to Data** capability include:

- Recommended Option 1: Improve data available via current systems and migrate to a Web-based solution
- Recommended Option 2: Capture best practices for access to and display of information from the roadside.

These options do not deliver the same capabilities and are not mutually exclusive. Each should be evaluated by potential implementers. What is now called Option 1 started as two separate options: one focused on making SAFER and ASPEN serve the roadside personnel better, and a second option that involved using Web services (or some future equivalent) to create a common look and feel to support roadside activities through a Web portal. In the April working group telecon, the group asked that those two options be combined to show a more seamless migration path from today's systems to a future browser-based solution. For each solution option, the architecture and possible impacts on federal, state, and industry systems/business processes are summarized. When asked to choose between Options 1 and 2, the group indicated that both options are extremely important and recommended both.

5.1 Recommended Option 1: Improve data available via current systems and migrate to a Web-based solution

SAFER was conceived to serve a multitude of purposes, including electronic screening at the roadside. ASPEN supports roadside inspections. To meet this capability's requirements, this option suggests a continuum of improvement that includes these basic steps:

- Enhance SAFER to add to the set of information available through snapshots.
- Enhance ASPEN (or equivalent) to extend its functionality beyond inspections and take advantage of additional data available via snapshots.
- Migrate towards a solution that involves accessing infrastructure data via commercially-available tools. If implemented today, this might involve using Web services to make infrastructure data available to the roadside via Web browsers.
- Use proven sensor and communications technology to enhance roadside activities and access performance and status information electronically from the vehicle or driver.

Specific data required by roadside personnel would be added to the carrier, vehicle, and driver snapshots as needed. Subscription criteria and fulfillment processes would be re-evaluated to streamline the process of updating roadside systems with the data needed by roadside personnel. Query/response mechanisms would be modified to allow real-time queries from ASPEN or its equivalent via SAFER to authoritative sources of record. Law enforcement systems holding sensitive or restricted data could still be accessed as they are today. Roadside users would access all services through a single sign-on. ASPEN algorithms would take advantage of new information to help with roadside processes, and would integrate new data fields in user-friendly displays. ASPEN or its equivalent could be extended to support recording crash data.

Today many systems are used by roadside personnel to review, collect, and report data about inspections, crashes, citations, etc. In this option, the next step would involve a migration towards a solution in which all roadside data review, collection, and reporting functions would be assessed as a whole, and a unified approach would be developed to make the user interfaces have a common look and feel. The emphasis would be on making the processes user-friendly, robust, and efficient.

The enhanced roadside data review, collection, and reporting system would establish and implement a standard for program-issued data queries and responses. The approach might first involve extending the ASPEN program or some equivalent to provide additional functions to support activities other than inspections.

If moving directly to a Web-based solution using today's technologies, FMCSA would probably use Web services and a Web portal. The standard would include formats, protocols, quality checks, and error handling. The roadside data review, collection, and reporting system would leverage the existing infrastructure to retrieve data (e.g., basic census data) to pre-populate fields

in data collection reports. Instead of storing information according to the process that collects it, information will be organized in the infrastructure according to how the information is used. The system would also establish and implement a standard for routine submittal and retrieval of information. That standard would also include formats, protocols, quality checks, and error handling as part of the standard. The approach for improving roadside data review, collection, and reporting would include plans to evolve applications used at the roadside to take advantage of services provided by the COMPASS initiative and emerging technology improvements (e.g., wireless communications). All needed applications would be incorporated onto a single roadside user platform. The system would support more efficient and secure approaches for information sharing.

As data are entered or received, the system would perform standard error checks (format, context, values within range, etc.) before integrating the data with other information. Validation rules would be applied when data are entered, before it is stored in a database. When a user is entering data on a form, pick lists would be provided whenever possible to minimize typing errors as well as multiple representations for the same data element. Additionally, efforts would be made to validate incoming data against other existing databases. For instance, the identity of a driver would be checked against biometric data from the state's driver licensing system or a law enforcement system. Standard identifiers, names, and other census information would be used in the matching process. Possible information errors would be flagged, and the system would help the roadside personnel try to correct them before submitting the report.

For reporting crashes, the roadside data collection and reporting system would be designed to allow reporting of information not typically required by FMCSA such as environmental factors, pre-crash variables, etc., so that requirements for all stakeholders needing information about commercial vehicle crashes can be met.

Wireless communications could be used to interface with on-board systems and to monitor vehicle and driver performance. Information gleaned (e.g., conditions of brakes, tires, lights, steering, suspension, exhaust; fault codes; container seal status; driver log; electronic manifest; etc.) could be used both in the screening process to select a vehicle and/or driver for inspection and in the inspection process itself. Figure 5-1 illustrates the high-level architecture for the end state for this option.

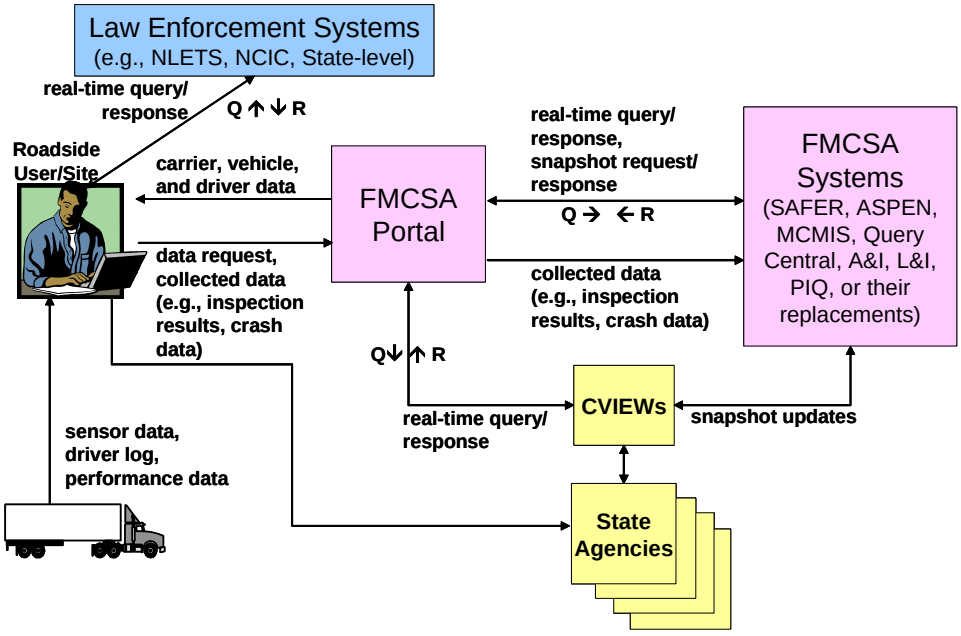

Figure 5-1. Recommended Option 1: Migrate to Web-based solution

Under this option, ASPEN and SAFER would be the federal systems most affected initially. To facilitate additional real-time queries for FMCSA-held data, SAFER would interface with Query Central. SAFER would interface with state systems via CVIEW for real-time queries for state-held data. Data currently missing from SAFER snapshots would be pushed to SAFER by whatever system is the authoritative source. States would be encouraged to keep SAFER snapshots up to date so that their own roadside systems have access to the best information possible. ASPEN and other roadside systems would be changed to use the enhanced SAFER snapshots.

Eventually, other systems used at the roadside would be affected [e.g., Past Inspection Query (PIQ), crash reporting, citation reporting]. The functions would be integrated and accessed via a single user interface, shown as the FMCSA portal. Some federal systems that provide information to roadside users would be modified to standardize the query/response process and to incorporate data format and content standards. SAFER might be merged with MCMIS into a data warehouse that serves real-time users, including those at the roadside. If a Web-based approach is adopted, the existing ASPEN and other roadside systems would eventually be retired and be replaced by browser-based tools. Common interfaces to vehicle systems would be established.

For this solution to result in significantly improved access to infrastructure data for roadside personnel, it must streamline processes for roadside activities rather than adding layers to information access. In addition, states must supply information to support roadside activities. Incomplete state-supplied information in snapshots would continue the status quo rather than realizing the capability intended.

5.2 Recommended Option 2: Capture best practices for access to and display of information from the roadside

In Draft 1 of this report, this option was focused on collecting best practices for displaying information to roadside personnel. Based on comments received, the option has been expanded to also include how to access infrastructure information.

Roadside personnel in different jurisdictions perform very similar functions. In this option, effort focuses on reviewing how different jurisdictions gather and present information to their roadside personnel and identifying best practices. The study will examine the experiences of states and industry in activities that use different means to link infrastructure data to the roadside such as SmartCop (used in Florida), Connecticut's Mobile Data Terminal, and New Hampshire's Project 54. The study will also explore innovative approaches used to enhance identification, screening, inspection, and crash reporting, including wireless inspection experiments and the Traffic and Criminal Software (TraCS), which was initially developed by Iowa under the National Model for the Statewide Application of Data Collection and Management Technology to Improve Highway Safety project. In addition, the study will collect information about how information is presented to the roadside officer, both in mobile units and fixed units. We may discover that there are no good solutions in place for some aspects of information integration for roadside personnel; such results will suggest where further research and experimentation is required. This option should culminate in a compendium of sample screens, communications approaches, and recommended designs for roadside systems. Please see the **Virtual Roadside Sites** capability report for potentially related efforts.

6 Cost-Benefit Analysis

The following table provides a high-level cost-benefit analysis for each solution option identified in the previous chapter. These options do not deliver the same capabilities and are not mutually exclusive. Each should be evaluated separately by potential implementers. The cost figures are rough estimates provided by working group members.

- Low means less than $100K
- High means more than $1M
- Medium is everything in between.

The costs for Option 2 are related to the study proposed, not the associated deployment once the study has been completed.

Option	Pro	Con	Cost
1 (Improve data available; migrate to a Web-based solution)	All: Better informed roadside personnel and systems. Builds directly on existing systems. Robust solution focused on meeting users' needs. Federal: Integrated solution. State: --- Industry: ---	All: Initially, still different tools for different functions. Time to implement and deploy an integrated solution nationwide will be non-trivial. Federal: Possible impact of larger volume of data being handled by SAFER or equivalent. State: For best performance, would require secure Internet access for all roadside personnel. Possible impact of sending larger volume of data to SAFER or equivalent. Industry: Potential security or privacy issues for drivers or carriers if the state can easily monitor the carrier's performance.	Federal: High for development. Operations costs will be shared with states. State: Will vary depending on existing connectivity between CVIEW and state authoritative source systems; probably Medium. Operations costs will be shared with federal systems. Industry: No significant cost expected.
2 (Capture best practices)	All: Common understanding of best practices for roadside access to data. Resource center for capturing and researching lessons learned. Federal: --- State: --- Industry: ---	All: Federal: --- State: --- Industry: ---	Federal: Low Medium (~ $250K). State: Low. Industry: No significant cost expected.

7 Business Case

Currently, roadside personnel must log into several different systems to access the information they need to do their jobs. They must page through many screens to review data. In some cases, officers forego using information that might be available because it is so cumbersome to retrieve it. That means that in some cases, action isn't always taken when it should be, and that can impact safety. Many data entry operations are very manual. Crash data is prone to errors.

Improving access to infrastructure data at the roadside is expected to automate and improve safety and security monitoring, screening, inspection, and crash reporting. With more streamlined and focused operations, participation in e-screening and other smart roadside programs may increase.

With several years of automated roadside operations under their belts, CVISN states are primed to focus on high-value improvements in the Roadside Access to Data capability. States have taken different approaches to meet their own needs at the roadside. Technologies have advanced, and wireless access is more readily available than it was only a few years ago. Data management capabilities (e.g., SAFER snapshots) have advanced, making some information more readily available at the roadside. FMCSA is moving towards enterprise-wide solutions for better information sharing and integrated tools via the COMPASS initiative. It is appropriate at this time to engage state and federal strategists, planners, designers, and information users to arrive at the most cost-effective solutions for roadside operations to improve safety, security, and productivity. Collecting and maintaining information on best practices and lessons learned will leverage past expenditures for future planning.

8 Issues

8.1 Institutional Issues

Privacy issues will need to be addressed in some jurisdictions, since roadside personnel may need access to information that is currently protected. Standard common identifiers, data definitions, and open standards for information sharing must be used to automate and streamline access to infrastructure information by roadside personnel. Different jurisdictions focus enforcement resources differently and have chosen different implementation paths for improving access to information.

8.2 Technical Issues

Implementing standards will require widespread change. Communications technologies and information sharing technologies continue to evolve. For roadside officers to take advantage of the solution proposed in Option 1, they will need secure Internet access.

9 Deployment Strategy

In deploying the **Roadside Access to Data** capability, several aspects should be considered:

Improve data quality and integrity:

- Establish a consistent set of data elements that are common across information systems and analysis applications.
- Expand the use of standard identifiers for entities visible at the roadside (carrier, vehicle, driver, cargo, chassis) to link related information.

- Make information collection, access, and use consistent across interstate, foreign, and intrastate operations.
- Capture data electronically as close to the source as possible; once information is available electronically, it should be re-used instead of re-entered manually.
- Expand standard procedures and tools for reviewing, detecting problems in, and correcting errors in publicly-held data.
- Expand the use of on-line tools that provide industry with the ability to challenge and correct their own census, inspection, crash, and citation information.
- Control access to sensitive information.

Work together and share lessons learned:

- Work with stakeholders to define and deploy common data elements and interoperable business processes for all areas of CVISN expansion.
- Establish standardized terminology and common requirements for data collection, access, quality checks, and making corrections.
- Coordinate standards-related activities with appropriate standards development organizations.
- Actively solicit lessons learned from “early adopters” of CVISN and expanded CVISN concepts, and determine how to apply those lessons more broadly.
- Actively engage stakeholders in identifying priorities, proposing solutions, and participating in prototype projects.
- Proactively reach out to stakeholders who may be affected by changes to systems or processes that are under discussion.
- Learn from other ITS activities about solutions applicable to CVO.

Deploy targeted solutions incrementally:

- Select information-sharing options based on users’ needs and available technology (e.g., proactive data-provider “data push” versus user-initiated “data query”).
- Prototype proposed solutions and link to existing capabilities.
- Consider small-scale solutions that can be expanded or serve as models for national deployment.
- Build in metrics to assess real improvements (e.g., time to receive response to query).
- Provide access to on-line analysis tools.
- Provide an approach that allows states to improve the quality of data sent to aggregation sources while continuing to maintain interaction with other state systems that may insist upon “lower quality” or “nonstandard” data.

Use appropriate technology to improve operations:

- Equip commercial vehicles with standard DSRC and other technologies, enabling a multitude of safety, security and productivity applications.
- Deploy interoperable technologies to support CVISN and other related CVO activities.
- As products become available, consider 5.9 GHz DSRC as an enabling technology for roadside-to-vehicle, vehicle-to-roadside, and vehicle-to-vehicle data exchange.
- Equip cargo containers and trailers with standard electronic security devices (ESDs).
- Expand the use and capabilities of portable and remote sensors to monitor environmental, facility, road and vehicle conditions and provide data to interested stakeholders.
- Apply new and emerging wireless capabilities [e.g., Bluetooth, Wireless Fidelity (Wi-Fi), Global Systems for Mobile Communications (GSM)] and onboard technologies to improve on-road and roadside operations and reduce costs.

The working group recommends a series of three activities related to the Roadside Access to Data capability. The first activity involves gathering best practices and lessons learned. The second activity focuses on expanding the information available at the roadside. The third activity starts the migration to Web-based tools at the roadside.

9.1 Best Practices and Lessons Learned

Many states have investigated methods for accessing infrastructure information and displaying it to roadside personnel to assist in roadside operations. Some of those experiences have been reported in documents easily accessible by other states, but many have not. The working group recommends that a concerted effort be made to collect lessons learned and document best practices for roadside access to data, integrated displays of information to roadside users, and other tools to facilitate roadside operations. The effort should include identifying existing materials, reviewing those materials and checking with authors for updates, identifying successes that are not yet documented, documenting lessons learned as needed, documenting best practices as needed, and organizing all the material into an on-line compendium of tips, sample screens, communications approaches, and recommended designs for roadside systems. The effort should also include outreach to make the existence of the site known across the stakeholder spectrum and maintenance support to allow for regular updates. Please see the description of Option 2 in Section 5.2 for a few specific examples of projects that should be reviewed in this effort. Commercial Vehicle Safety Alliance (CVSA) and Kentucky expressed interest in participating in this activity.

9.2 Expanded Roadside Information Prototype

The working group identified information needed at the roadside. Not all the information is currently available in all states. This activity would focus on identifying and defining specific additional data elements; establishing standard structures, formats, meanings, and usage plans for the data; integrating the data with existing roadside tools and displays; and prototyping the enhanced information sharing and usage in a few states at a few sites. This effort should be coordinated with related activities recommended by the Driver Information Sharing and Expanded E-Credentialing Working Groups. Different methods for sharing and using the data may be explored if suggested by the best practices activity described earlier. CVSA and Idaho expressed interest in participating in this activity.

9.3 Roadside Web-Based Tools Prototype

Building on the first two activities, this activity moves the notion of enhancing roadside functions forward by reviewing all roadside activities performed by both mobile and fixed units and prototyping integrated Web-based tools to support those personnel. Both the front-end user interfaces and the back-end data management systems should be evaluated as part of this effort. Stakeholders from across all levels of government, researchers, industry representatives, and service providers should be engaged in the prototype activity. The goal is to move towards the end state described in Option 1. This effort should be coordinated with the COMPASS initiative. CVSA expressed interest in participating in this activity. CVISN states that are active in the monthly CVISN program manager telecons should be invited to participate as well.

10 References

1. JHU/APL, *Expanded CVISN Driver Information Sharing Capability Report: Driver Snapshots*, SSD-PL-05-0194, June 2005.

2. JHU/APL, *Expanded CVISN Driver Information Sharing Capability Report: Access to Driver Data*, SSD-PL-05-0195, June 2005.

3. JHU/APL, *Expanded CVISN Enhanced Safety Information Sharing Capability Report: Carrier Access to Safety Data*, SSD-PL-05-0197, June 2005.

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