Utah ITS/CVO Business Plan

Using Technology to Maximize Highway Safety and Improve Government and Industry Productivity

A Collaborative Plan Prepared By

UDOT GOING THE EXTRA MILE

Department of Transportation

Department of Public Safety

UTAH STATE TAX COMMISSION

Utah State Tax Commission

The Utah Motor Transport Association and

The Federal Highway Administration Office of Motor Carriers Utah Division

December 31, 1997

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0. Executive Summary

The Utah Department of Transportation, Utah State Tax Commission, and Utah Department of Public Safety, in collaboration with the Utah Motor Transport Association and the Federal Highway Administration Office of Motor Carriers Utah Division Office produced this plan to maximize highway safety and increase government and industry productivity through the application of Intelligent Transportation System/Commercial Vehicle Operations (ITS/CVO) technologies to support regulatory and enforcement functions.

Nine ITS/CVO projects are proposed in response to the highest priority needs and most attractive opportunities. The proposed ITS/CVO projects position Utah to accommodate growth in motor carrier activity in the state in an era when state agencies that regulate motor carriers and enforce motor carrier laws are unlikely to grow. With the staging of the 2002 Winter Olympics in Salt Lake City and major upgrades to Interstate 15, the proposed ITS/CVO projects are essential investments. The projects will provide motor carrier inspectors direct access to safety data and other carrier information, enable motor carriers to use electronic methods for credentials applications and funds transfer, and provide linkages between systems and data maintained by different state agencies so that these agencies can support each other and serve the motor carrier industry more effectively. An ITS/CVO Implementation Steering Committee will ensure that implementation stays on track and will promote ITS/CVO applications with state agencies and the motor carrier industry.

The costs, funding, desired outcome, and benefits for these projects are described in this plan. Experience in other states suggests the cost to design the proposed systems is on the order of $1 million and implementation costs fall in the $3-5 million range. Funding sources for the proposed projects vary depending on the nature of the project. Sources are suggested in each of the project descriptions. Safety assurance projects and some electronic screening projects (e.g., laptop computers) are eligible for funding under the Motor Carrier Safety Assistance Program (MCSAP) grant. Several projects fall under the FHWA Office of Motor Carriers Commercial Vehicle Information Systems and Networks (CVISN) program and are eligible for 50% percent matching funds to support planning and implementation. Other programs will require funding through state appropriations and, in some cases, private sector funding (e.g., user interface for electronic credentialing, transponders for vehicles enrolled in the premier carrier program).

The return on investment will accrue to Utah's residents, motor carriers that operate in Utah, and agencies that administer motor carrier regulation and enforce motor carrier laws. ITS/CVO projects will reduce crashes involving commercial vehicles by identifying and eliminating unsafe vehicles and drivers. Motor carriers will benefit from reduced administrative cost and increased transport productivity. State agencies will benefit from better access to information needed to support regulatory and enforcement decisions. Part of the benefit is reduced administrative cost but, equally important, agencies responsible for roadside enforcement can ensure that motor carriers operating in Utah are properly registered and paying their fare share of fuel taxes and registration fees.

This plan positions Utah to obtain additional funding for detailed ITS/CVO planning where functions, technology, resources, schedules, and management will be defined more completely. But for ITS/CVO deployment to be successful, Utah's political leadership, agency management, and industry representatives must give the plan their full support and participation.

1. Overview

The Utah Department of Transportation, Utah State Tax Commission, and Utah Department of Public Safety, in collaboration with the Utah Motor Transport Association and the Federal Highway Administration Office of Motor Carriers Utah Division Office produced this plan to maximizing highway safety and increase government and industry productivity through the application of Intelligent Transportation System/Commercial Vehicle Operations (ITS/CVO) technologies to support regulatory and enforcement functions. A Steering Committee of senior agency executives guided the planning process by setting Utah's CVO mission as follows:

*Maximize **highway safety** and the **productivity** of motor carriers and government through **cooperative efforts** among agencies, industry, and the public, **using interoperable and user friendly technologies** to streamline regulatory and enforcement functions which enable **free flow of commercial vehicles** and promote **efficient and compliant motor carrier operations.***

The Steering Committee augmented this mission statement with a series of guiding principles, goals and objectives that guided development of the ITS/CVO business plan.

A Working Group consisting of agency and motor carrier representatives developed the plan through a series of interagency workshops where they characterized Utah's current CVO regulatory and enforcement environment, identified and prioritized needs and opportunities, and developed high level statements of potential ITS/CVO projects in response to these needs and opportunities. The Steering Committee reviewed and accepted these projects for further definition and development.

The list of 13 projects is provided in the two tables below. The first nine projects fall into the national ITS/CVO program areas of Safety Assurance (SA), Credentials Administration (CA), and Electronic Screening (ES). The second table lists four additional projects designated as Mainstreaming Structure (MS) and are designed to ensure that the ITS/CVO implementation process transitions from a special program into a normal part of the state transportation appropriations process, along with other infrastructure, maintenance, and operational needs.

The projects listed below do not span the full range of potential ITS/CVO initiatives but address areas of greatest need and opportunity in the state. Because of several ongoing Utah State Tax Commission initiatives that will affect CVO administrative processes, some projects may be deferred until these projects are completed and resources and personnel are available. Other projects can be implemented immediately and some are already underway.

The cost for implementing all of the projects in the plan will range into the millions of dollars over the next three to five years. However, special funding may be available to the State of Utah through the Federal Highway Administration's Commercial Vehicle Information Systems and Networks (CVISN) deployment incentive funding program. Utah's ability to obtain this funding will depend to a large degree on the State's commitment to implement the projects in this plan. Other funding sources including the Motor Carrier Safety Assistance Plan grants may also be used to support certain elements of the plan. Some of the projects will require substantial outlays of state funding for development, implementation and operation.

Several of the projects require state agencies and the motor carrier industry to work together to agree on solutions that are mutually beneficial and share the cost of implementation and operation. Further, state agencies must continue to work collaboratively, share information, and seek solutions that satisfy multiple agency needs. Toward that end, the plan proposes an CVISN Implementation Steering Committee and an independent ITS/CVO Implementation Coordinator responsible for keeping the momentum going and fostering interagency and public-private cooperation.

#	ITS/CVO Project Description	ITS/CVO Program Area
1	Provide access to SAFER via penbased, laptop, and desktop computers in all offices and locations where motor carrier safety data are needed to make credentialing or permitting decisions or inspection selection decisions.	SA
2	Provide software interface for electronic credentialing of carriers (registration applications, renewals, and deletions; fuel tax filings; and permit applications); accept EFT and credit card payments; provide Internet web site or interface software for electronic credentials applications.	CA
3	Provide physical one-stop shopping sites where a single representative can provide access to all services; establish satellite registration sites with user friendly software.	CA
4	Implement an enterprise data model/data warehouse that links legacy systems through common interface so that data can be shared among multiple agencies.	CA
5	Establish common system for identifying carriers and vehicles across all state agencies	CA
6	Implement electronic identification of vehicles and digitized credentials for commercial vehicle operators	ES
7	Provide enforcement officers with wireless access to CVO data bases from the roadside	ES
8	Provide POEs with simple electronic access to registration, CDL, UDOT routing information, and link to SafetyNet to check carrier information and safety rating.	ES
9	Establish Premier Carrier program (“ISO9000 Clean Bill”) for qualifying carriers, allowing enforcement to be focused on high risk carriers.	ES

#	Mainstreaming Structure	ITS/CVO Program Area
1	Establish CVISN Implementation Steering Committee representing all agencies and industry that meets regularly to set common goals, address interagency issues, and monitor CVISN implementation progress; appoint ITS/CVO Coordinator that reports to Governor’s office and serves as interface between agencies.	MS
2	Establish and monitor policies to ensure consistency between smaller companies and larger ones so that all safe and legal carriers have access to same services.	MS
3	Develop policies for access to, release of, use of, and exchange of carrier, driver, and vehicle information.	MS
4	Adopt and employ good software design and implementation practices that result in effective, efficient, maintainable systems	MS

This plan provides the opportunity for Utah to be a leader in implementing ITS/CVO technologies to maximize highway safety and improve government and industry productivity. *Now is the time to put the plan into action*

2. Introduction

Utah's ITS/CVO Business Plan is designed to guide agencies and organizations with commercial vehicle regulatory and enforcement responsibilities in the state of Utah in deploying and using intelligent transportation system (ITS) technologies and methods to improve highway safety, increase transport productivity, and streamline administrative processes for state agencies and motor carries. This plan was prepared under the FHWA-sponsored Commercial Vehicle Information Systems and Networks (CVISN) Mainstreaming program and complements other plans and initiatives already underway in Utah. The plan was developed through an interagency, public/private collaborative process and takes into account the views and needs of state agencies and industry partners.

The plan includes specific ITS/CVO projects, but, more importantly, it provides a mechanism for ongoing oversight and monitoring to ensure that the plan is executed and that it garners the legislative and agency support needed to obtain necessary funding and to maintain the momentum generated during the planning process. Because of the collaborative process used to develop the plan, work on several projects is already underway, either because of prior initiatives or because planning participants saw opportunities to initiate action immediately.

The plan was prepared and is presented in accordance with guidance provided through the FHWA CVISN Mainstreaming program. Following an overview of the ITS/CVO business planning process, the strategic guidance that directed plan development is provided, including the prioritized set of issues and opportunities identified by studying the Utah's "as is" CVO regulatory and enforcement functions. ITS/CVO projects are described in the Program Summary section followed by a section that shows organizational responsibilities, schedules and funding for the proposed projects.

Taken together, the ITS/CVO projects in this plan move Utah toward national ITS/CVO goals and objectives and ensure conformance with the national CVISN architecture.[1] Each of the national program areas are addressed in this plan and the state is both committed and well-positioned to execute the plan.

3. Overview of the Business Planning Process

Utah's business planning process reflects guidance provided by the Federal Highway Administration Office of Motor Carriers.[2] Utah retained services of a consultant to facilitate the planning process and to prepare planning documents. An ITS/CVO Steering Committee comprised of state and federal agency executives and motor carrier industry representatives provided strategic guidance, oversaw the planning process, and adopted the resulting ITS/CVO Business Plan. A work plan was developed to produce the ITS/CVO Business Plan within the allotted time and resources. The Steering Committee appointed an ITS/CVO Business Planning Working Group to work with the consultant in developing the ITS/CVO Business Plan. Members of the Steering Committee and Working Groups are shown in Tables 1 and 2, respectively.

[1] The CVISN mission, goals, functional architecture, and deployment strategy are provided in the Appendix.

[2] *Guidelines for State ITS/CVO Business Plans, Final Technical Memorandum*, prepared for Federal Highway Administration by Cambridge Systematics, Inc., February 1997.

Table 1. Utah ITS/CVO Business Planning Steering Committee

Steering Committee Member	***Agency or Organization***
Brent Barney	Utah State Tax Commission
J. D. Heaton	Utah State Tax Commission/Customer Service Div.
Bart Blackstock	Dept. of Public Safety/Drivers License Division
Capt. Claron Brenchley	Dept. of Public Safety/Utah Highway Patrol
Gorden Peterson	Office of Planning & Budget
Dave Free	Motor Carrier Advisory Board
Dave Creer	Utah Motor Transport Association
Bob Kelleher	FHWA/OMC Utah Division
Norm Lindgren	UDOT/Motor Carrier Division
Dave Kinnecom	UDOT ITS Coordinator
Glenn Goodrich	UDOT/Motor Carrier Division
David Alder	UDOT/Motor Carrier Safety
Sharon Holland	UDOT/ISS and ITS/CVO Business Planning Project Coordinator

Table 2. Utah ITS/CVO Business Planning Working Group

Workng Group Members	***Agency/Office/Organization***
Sharon Holland	UDOT/Information Systems Services
Richard Clasby	UDOT/Ports of Entry
Carrie Silcox	UDOT/Motor Carrier Safety
Wayne Palmer	Dept. of Public Safety/Drivers License Division
Elise Arseneau	Dept. of Public Safety/Information Systems
Sharon Harward	Dept. of Public Safety/Drivers License Division
Lt. York Schulz	Dept. of Public Safety/Utah Highway Patrol
Sgt. Randy West	Dept. of Public Safety/Utah Highway Patrol
Donna Martin	Utah State Tax Commission
Marilyn Chastain	Utah State Tax Commission
Martin Knopp	FHWA/ITS Specialists
Bob Kelleher	FHWA/OMC UT Division
David Creer	Utah Motor Transport Association
Boyd Warnick	Utah Motor Transport Association
ex officio members:	
TBD	Budget Analyst (legislative)
TBD	Budget Analyst (governor's office)
TBD	Information Technology Services representative

During its August 28, 1997 meeting, the Steering Committee approved the work plan illustrated in Figure 1 and defined in Table 3. The Working Group used the strategic guidance established by the Steering Committee and an understanding of current processes and systems to identify issues and opportunities that point toward candidate ITS/CVO projects. Candidate projects were reviewed by the Steering Committee and the most promising projects were developed in greater detail and included in the ITS/CVO Business Plan.

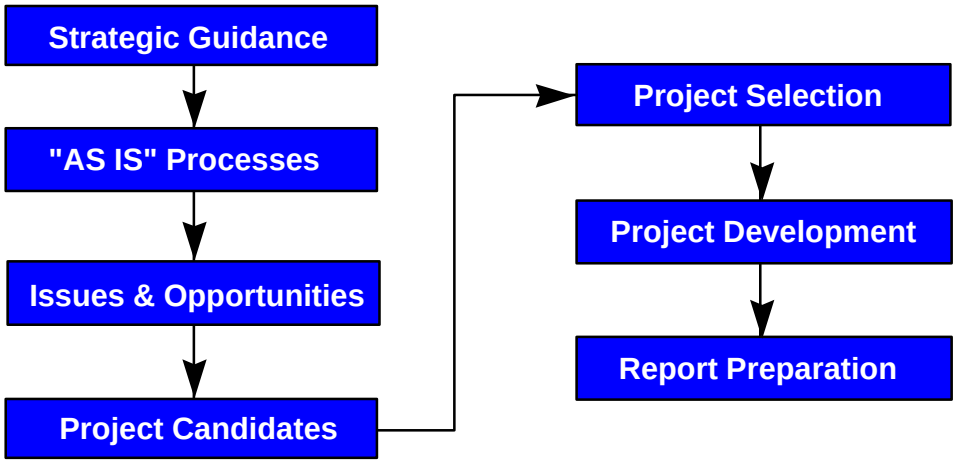

Figure 1. Overview of Utah ITS/CVO Business Planning Process

Table 3. Work Plan for Developing Utah ITS/CVO Business Plan

#	*Task*	*Task Elements*	*Task Product*	*Target Date*
1	Steering Committee Meeting I	Strategic guidance Work plan review Working group selection	Planning Guidance Report	8/28 (mtg) 8/29 (rept)
2	Agency/ Industry Interviews	"As Is" process maps Plans and projects Problems, opportunities, and issues	"As Is" Report	9/9-11 (interviews) 9/19 (rept)
3	Business Planning Workshop I	National/regional initiatives CVO mission, guiding principles, goals, objectives Current methods & systems Cross-cutting problems & opportunities Preliminary project list	Workshop Documentation	9/23-24 (wkshp) 10/3 (rept)
4	High Level Project Descriptions	Project objective(s) and rationale Location (as appropriate) Desired outcomes and anticipated benefits; Participating organizations	Project Descriptions and Benefits	10/6
5	Steering Committee Meeting II	Potential projects Select/prioritize projects Plan status review	Steering Committee Project Guidance	10/14 (mtg) 10/17 (rept)
6	Detailed Project Descriptions (Selected Projects)	Technical Approach; Project sequencing Project linkages Integration requirements Resource estimates	Detailed Project Descriptions for Selected Projects	10/31
7	Business Planning Workshop II	Project plan review & revise Funding sources Project responsibilities Schedule and milestones	Project Implementation Plans	11/5-6 (wkshp) 11/7 (rept)
8	Draft Business Plan Report	Draft report preparation	Draft Business Plan	11/14
9	Steering Cmte Meeting III	Draft Plan Review	Review comments	11/14 (mtg)
10	Final Business Plan Report	Final Report preparation	Final Business Plan	12/12 (mtg)

4. Description of the State

4.1 Introduction to the State of Utah and the CVO environment

The State of Utah has more than 6,000 miles of Federal and State highways, which serve the needs of more than 11,000 identified commercial motor carriers and motor coach companies. However, recent legislative action changed the definition of a commercial motor carrier to include smaller commercial vehicles under the same safety regulations as larger vehicles. This change may have doubled the number of carriers who now fall under certain State regulations. This increase puts more strain on the State's ability to educate and assist carriers in complying with regulations, and dramatically increases the load on the State's regulatory and enforcement agencies to monitor and enforce those regulations for the motor carrier/motor coach industry. The state must now find more efficient and comprehensive ways of supporting this vital part of the state's economy.

With the award of the 2002 Winter Olympics to Salt Lake City, the state has embarked on an unprecedented upgrade of its infrastructure throughout the Salt Lake Metropolitan Area to meet the anticipated needs that will result from this event and to accommodate the rapid growth in the region. The main north-south interstate highway running through this area is I-15. Built in the 1960's, it was designed to accommodate a population of 1 million, and is now trying to serve more than 2 million people. This $1.6 billion project uses a "design/build contracting" process that will provide for completion in four-and-one-half years. The project, which relies largely on state funding, will rebuild 16.5 miles of highway and, in addition to the highway itself, will provide:

- Advanced Traffic Management Systems (ATMS) and Advanced Traveler Information Systems (ATIS) such as traffic signal coordination, variable message signs, ramp metering, incident detection video cameras, and a traffic control center
- Improved water drainage systems
- State-of-the-art lighting along the corridor
- Treatments to beautify bridges and retaining walls
- Modern landscape design

These major improvements in highways in the Salt Lake Valley are causing temporary disruptions in traffic flow in this area. Additionally, the number of commercial vehicles on the highway system around Salt Lake City is increasing. Utah transportation officials believe, although no actual data are available to confirm this, that a large number of the newly registered commercial vehicles are on the road specifically to support I-15 construction and are largely intra-state carriers from small (<5 power units) companies. Many are probably recently organized, and they may not be aware of all the laws and regulations they must follow or where to learn about them. This situation emphasizes the need for "one-stop shopping" locations at ports of entry and other state offices where a commercial operator can register vehicle(s) and obtain information and forms, so that the business is properly registered and is in compliance with the laws of the state.

Utah is uniquely positioned as the crossroads of the west with the Salt Lake Valley at the center of the crossroads. The state's major population centers and transportation corridors (Figure 2- left) follow the state's terrain (Figure 2 - right). Major Interstate Highways intersect in Salt Lake City and provide major east-west and north-south routes across the state (Figure 3). Utah is one state away from both Mexico and Canada (Figure 4). The growing international trade with both Canada and Mexico will increase Utah's importance as a

regional distribution center and international crossroads. This increase in international trade increases the importance of CVO regulation and enforcement, including increasing numbers of non-English speaking CVO drivers, vehicles registered in Mexico or Canada, and vehicles that must be inspected to ensure that they are in compliance with Federal Motor Carrier Safety Regulations.

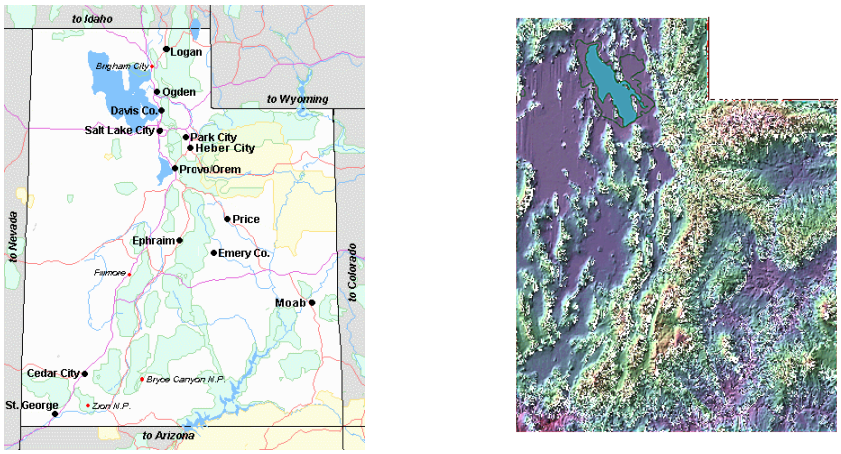

Figure 2. Utah's major population centers and transportation corridors (left) follow Utah's primary geographic features (right).

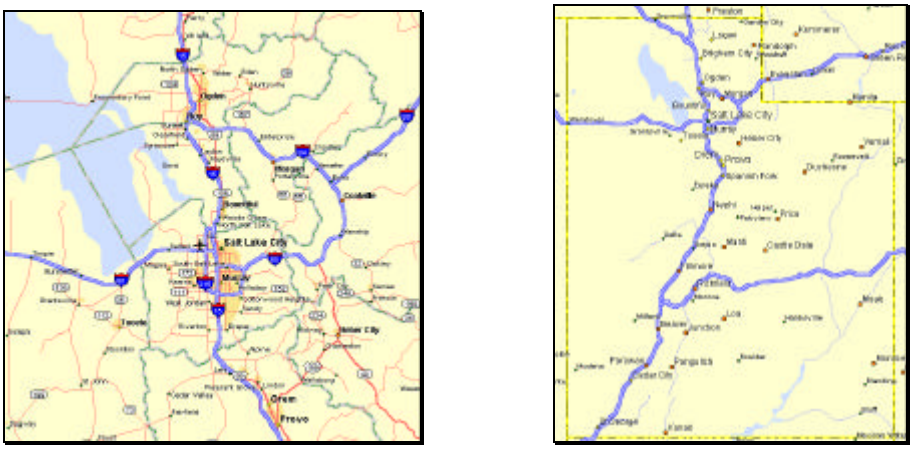

Figure 3. Interstate highway system in the Salt Lake Valley and throughout Utah

The Utah Department of Transportation (UDOT) operates eight ports of entry (POEs) on major highways leading into Utah. UDOT uses static scales and weigh-in-motion (WIM) scales to weigh more than 97% of the vehicles passing through these ports. Quarterly data[3] from April through June 1997 show that of more than 1,099,000 vehicles processed, 1025 (.09%) were issued citations for being either oversize or overweight. This indicates that virtually all vehicles that cross UDOT scales at these POEs are operating in compliance with Utah's weight limitation laws. Of course, non-complying vehicles may be operating in Utah but traveling at times and along routes where they are less likely to encounter CVO enforcement activities. The proportion of vehicles processed by each of the eight fixed site POEs is shown in Figure 5. Note that four ports, Perry, Wendover, Echo, and St. George, account for more than 87% of all the trucks processed. The St. George POE is unique in that it serves both Utah and Arizona and is staffed by both Utah and Arizona personnel.

[3] Data extracted from Quarterly Data sheets provided by the Ports of Entry Section of the Division of Motor Carriers.

This cooperative effort between the two states is an excellent example of how jurisdictions can work together in ways that benefit both the industry (one stop for both states) and state agencies (reduction in capital investment and operating and maintenance cost).

Data from the period 1984 to 1994[4] show the increase in motor vehicle activity in the state, as the miles traveled almost doubled from 2.22 million miles to 4.34 million miles. At the same time, these data indicate that the fatality rate (expressed as fatalities per million miles) have dropped by 50% from about four to less than two fatalities per million miles traveled. UDOT attributes this to better law enforcement activities and more attention to commercial vehicle operations. Figure 6 shows the miles traveled, in millions, versus the number of fatalities per million miles traveled.

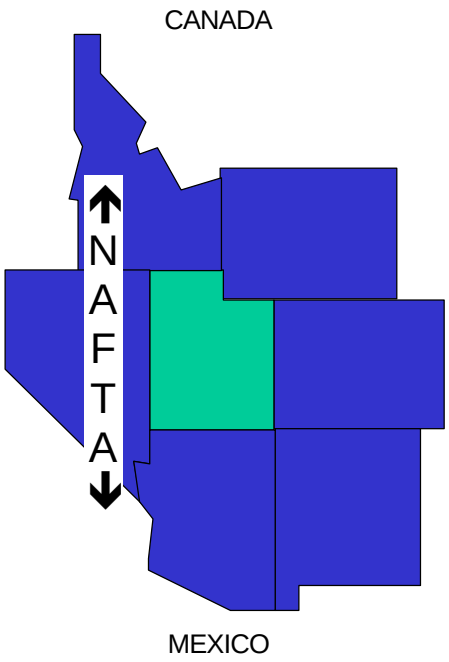

Figure 4. Utah is one state away from both Mexico and Canada

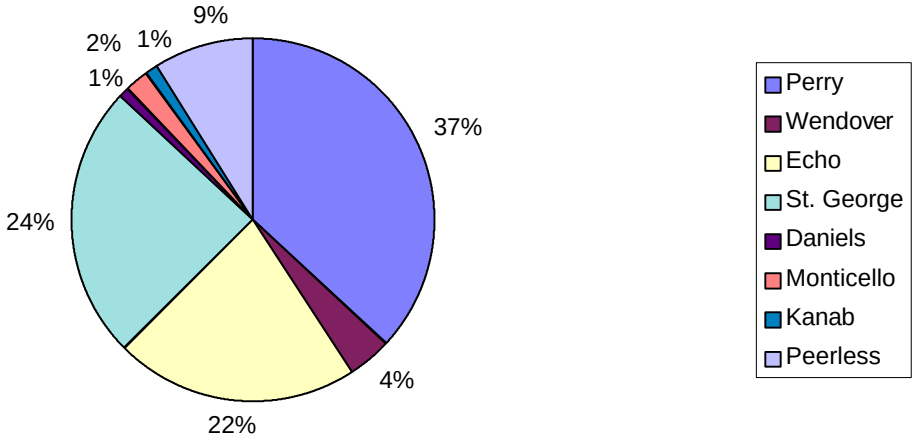

Figure 5. CVO Volume at Utah's Ports of Entry

[4] Extracted from a July 31,1995 letter from UDOT to the Office of Motor Carriers, FHWA.

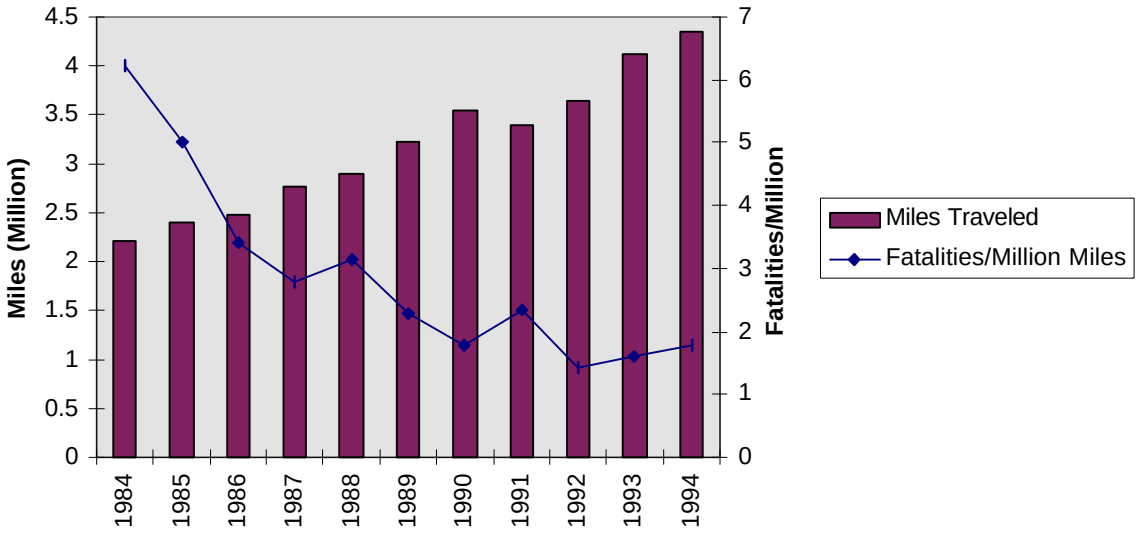

Figure 6. CVO Miles Traveled and Fatality Rates

Utah's motor carrier enforcement agencies and the state's motor carrier industry can take great pride in this tremendous improvement in motor carrier safety, and they would like to see this trend continue. Advances in technology and the ability to screen vehicles as they enter the state will allow the state to continue to ensure that trucks operating on Utah's highways are safe and legal. With the increasing numbers of motor carriers operating in the state, Utah's use of ITS/CVO technologies will play a significant role in accomplishing this goal.

The State of Utah falls into two overlapping trucksheds as defined by FHWA and is a key member of the Western CVO Mainstreaming Region.[5] This places Utah squarely in a leadership role for ITS/CVO applications, a role that demands clear vision and forward thinking.

4.2 Current State CVO Program

Responsibility for Commercial Vehicle Operations in the state of Utah falls primarily in three state departments: the Department of Transportation (UDOT), the Department of Public Safety (DPS), and the Utah Tax Commission. Organization charts showing major elements of these three agencies are provide in Figures 7, 8, and 9. In each department, multiple offices have CVO responsibilities; offices with the most significant CVO responsibilities are shaded in each of the charts.

UDOT is responsible for preserving the state's transportation infrastructure and ensuring that motor vehicles are in safe operating condition. The DPS Driver's License Division oversees driver's licensing responsibility, while the Utah Highway Patrol enforces highway safety laws and maintains a staff of certified commercial motor vehicle safety inspections who conduct roadside safety audits on commercial vehicles that operate in Utah. The Utah State Tax Commission's primary responsibility is in the area of credentialing and licensing of carriers and collecting revenues associated with operating motor vehicles in Utah.

[5] In August 1997, the trucksheds that formed the Western and Northwestern Mainstreaming Regions formally merged to form a single eleven state Western CVO Mainstreaming Region including AK, WA, ID, MT, OR, WY, CA, CO, UT, AZ, and NM.

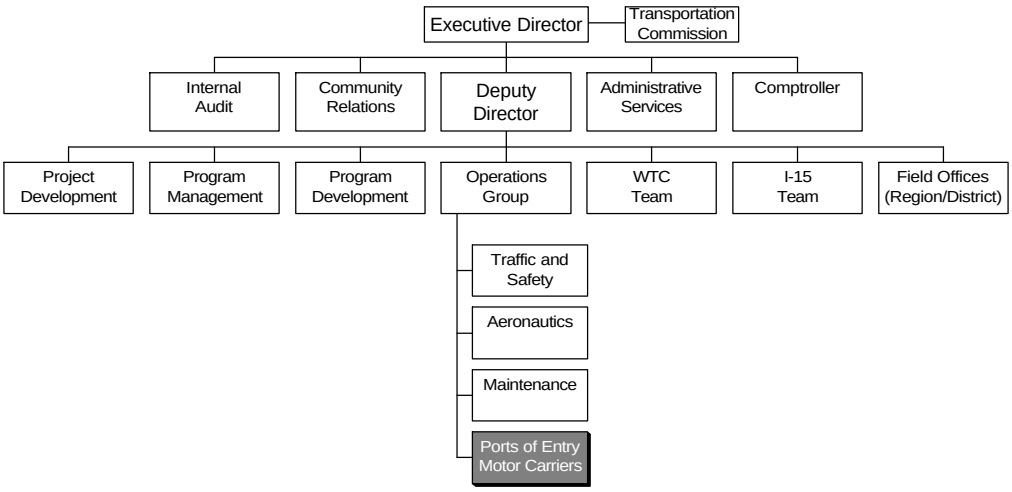

Figure 7. UDOT Headquarters Organization

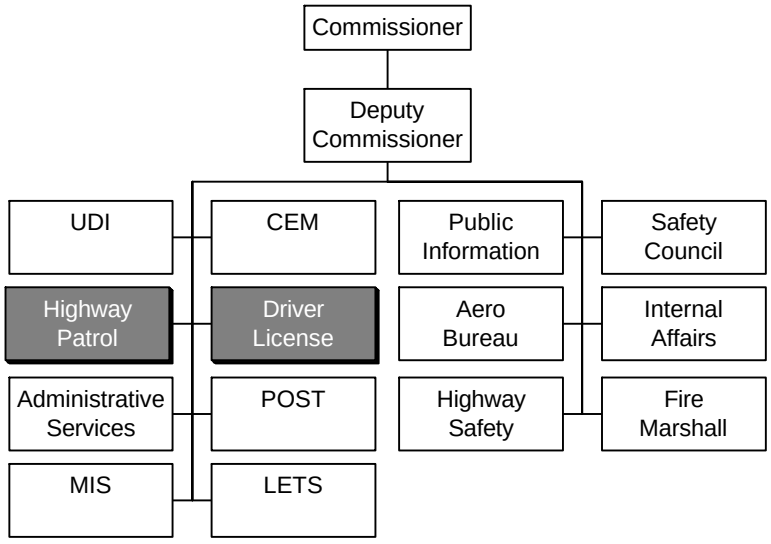

Figure 8. Utah Department of Public Safety

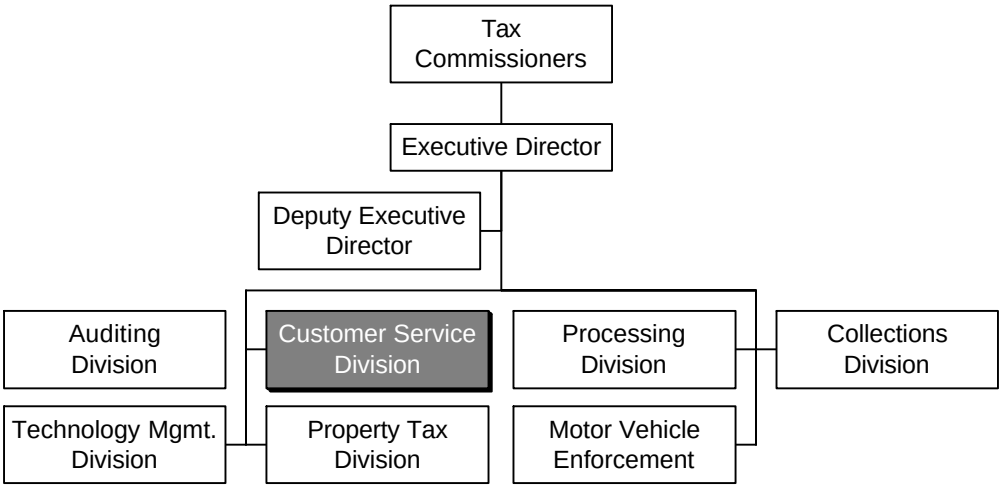

Figure 9. Utah State Tax Commission

UDOT's Port of Entry Division is responsible for identifying overweight and oversize vehicles and for routing and issuing OS/OW permits to non-divisible loads that exceed size and weight restrictions. UDOT's Motor Carrier Division is responsible for the state's Motor Carrier Safety Assistance Program (MCSAP) and executes this responsibility primarily by placing inspectors at POEs and by funding Utah Highway Patrol to conduct roadside safety inspections.

UDOT uses Weigh-in-Motion (WIM) devices at two of the biggest POEs, Perry and St. George, with plans to put in mainline sorting systems at Wendover and Echo. (As shown in Figure 5 above, these four ports account for more than 87% of the commercial traffic that pass through Utah POEs.) These devices allow enforcement officers to screen vehicles without stopping them and allow vehicles that are in weight compliance to proceed without further delay. Those vehicles that exceed threshold weight limits are directed to static scales for more accurate measurement. Portable WIMs are planned for use throughout the state on routes without Ports of Entry. UDOT is also considering the use of a high speed WIM device as an alternative to building a Port of Entry on I-70 near the Colorado border. Vehicles that exceed the high speed device weight threshold would be directed to a prepared site where they will be weighed using portable scales. Automatic Vehicle Identification (AVI) devices are in use at the Perry and St. George POEs for mainline screening to identify vehicles and electronically check credentials without stopping the vehicle.

UDOT's Motor Carrier Division also administers Utah's Motor Carrier Safety Assistance Program (MCSAP) and, in partnership with the Utah Highway Patrol's MCSAP inspectors, performs safety inspections on commercial vehicles operating on Utah's highways. The Motor Carrier Division also conducts compliance reviews at motor carriers' terminal facilities in Utah and is a partner with the UHP in developing and implementing the State's performance-based motor carrier safety plan. The Motor Carrier Division receives safety inspection reports, accident reports, and other motor carrier compliance data from POE and roadside inspectors and enters these data into the state's SafetNet system which transmits these reports to FHWA's Motor Carrier Management Information System (MCMIS), a national data base of safety and other operating data for interstate motor carriers.

The Utah Highway Patrol focuses primarily on CVO in two major areas: roadside safety and compliance checks and their newly established performance-based/results oriented Motor Carrier Safety Assistance Plan. Roadside safety inspections are conducted primarily by their 34 Commercial Vehicle Safety Alliance (CVSA) certified safety inspectors, most of whom also have portable scales for overweight checks, if that is appropriate. Fourteen ASPEN pen-based computers are available for these inspectors, but UHP's preference is to provide laptop computers for their inspectors. Laptop computers enable inspectors to transmit inspection results directly to headquarters and communicate with authoritative sources for checking licenses and permits so that do not rely on radio transmissions and inquiries.

Utah uses Cellular Digital Packet Data (CDPD) wireless data transmission extensively with laptop computers, and is building out a CDPD Server network in cooperation with local governments. In addition, Utah is in the early stages of implementing 800 Mhz wireless communication technology infrastructure within the public safety sectors of state and local government.

The Utah Highway Patrol has been installing mobile computers in patrol cars for the past year, as resources allow. Currently, mobile computers are in all cars in Weber, Davis, and Salt Lake counties. In addition, approximately 15 motor carrier troopers' vehicles have mobile computers for a total of about 115 computers in use at present. After the first 42 computers were placed in Davis and Weber Counties, Utah sponsored a study done by a

consultant at the University of Utah to determine manpower savings associated with mobile computing. The study indicated that the mobile computers give troopers 38% more time in which they are unobligated. As a result of this study and feedback from troopers involved in the program, Utah will continue with this project as funds will allow.

The performance-based pilot Motor Carrier Safety Plan focuses on the prevention of driver fatigue related accidents. A pilot program is underway along the western section of Interstate 80, between Wendover and Salt Lake City. The pilot program was initiated in FY97, and results are not yet in to see the effects of a concerted effort to educate drivers and make them aware that hours of service will be checked regularly. UHP expected to see an initial increase in the number of drivers placed out of service for hours of operation violations, but ultimately they hope to see a reduction in CMV crashes.

The Utah Highway Patrol, in collaboration with UDOT's Motor Carrier Division, executes Utah's hazardous materials credentialing and incident response programs. The Utah Highway Patrol maintains an HAZMAT unit that is trained to respond to incidents that involve hazardous materials.

The third state agency that deals with commercial motor vehicles is the Utah State Tax Commission. The Tax Commission administers CVO programs in three different areas: it collects personal property tax on commercial vehicles; it issues operating credentials to Utah based motor carriers for intrastate and interstate travel pursuant to Utah being a member of the International Registration Plan (IRP); and it collects taxes from intrastate motor carriers and collects and distributes fuel taxes from interstate motor carriers pursuant to Utah being a member of the International Fuel Tax Agreement (IFTA) .

The Tax Commission is currently implementing information systems improvements through the UTAX project, designed "to improve the Commission's efficiency and effectiveness; assist the Commission in transferring technology solutions. . . .[6] This project will improve the ability of Tax Commission divisions to exchange data electronically, but it does not address needs for exchanging data with other state agencies such as UDOT and UHP. Utah participates in the IRP. Fuel tax information is maintained through the International Fuel Tax Agreement (IFTA) program.

4.3 Economic and Political Considerations

The major economic and political considerations that will affect CVO activities are the staging of the 2002 Winter Olympics and the major upgrade of the Interstate Highway system, primarily I-15, in the Salt Lake Valley. The 2002 Olympics will place Utah, and especially the Salt Lake Valley, in the forefront of the world's attention for months before during and after the Olympics. As mentioned earlier, the I-15 Project will rebuild almost 16 miles of highway and its interchanges. In addition to this project, Utah's Legacy Highway project is a thirty year plan to build a new north-south multilane highway west of I-15. The first phase will be the West Davis segment, a thirteen mile $300-400 million project, which will be completed by the Year 2001. This road will serve as an alternate for a large number of trucks now traveling on I-15. Future construction will extend the Legacy Highway south to Nephi and north to Brigham City, relieving traffic on I-15, and providing a more efficient truck corridor which bypasses Utah's most heavily populated areas.

The Salt Lake City International Airport is one of the fastest growing airports in the country, and a hub for Delta Airlines. From 1986 and 1996, the number of passengers increased 111 percent, compared to 34 percent nationally. Growth forecasts are as follows:

[6] Utah State Tax Commission and UTAX Project Profile, Utah Tax Commission Website.

- Number of passengers will increase from 21.2 million in 1996 to 44.1 million in 2015.
- Takeoffs and landings will grow from 379,209 in 1996 to 636,600 in 2015.
- Total air cargo will grow from 183,071 tons in 1996 to 730,700 tons in 2015.

The Salt Lake City International Airport has developed a twenty year plan which will result in a three unit terminal and up to seven attached concourses. The plan includes an enlarged parking area, new and reconstructed runways, new access roadways, a new cargo area, an elevated light rail system, and underground moving sidewalks. By the end of the twenty year project, the airport will have 100 jet and 34 commuter parking positions.

In addition to the highway and air transportation, Utah is a major railroad center. From its beginnings as the meeting point for the first transcontinental railroad, Utah has emerged as a national center for rail transportation.

The expanded airport, together with the new I-15 Interstate through the Salt Lake area and the 13 mile Legacy Highway west of I-15 will provide for Utah's future intermodal transportation needs.

5. Strategic Overview

The Utah ITS/CVO Business Planning Steering Committee has provided high level guidance to ensure that the ITS/CVO business plan achieves global objectives that reflect agency and industry priorities and are consistent with national and international standards and systems. The Steering Committee convened on August 28, 1997 to review and approve the work plan, appoint the ITS/CVO Business Planning Work Group and establish the Utah ITS/CVO Mission and Guiding Principles. The approved work plan and Working Group membership are provided in Section 2 above; the mission and guiding principles that helped the Working Group identify issues and opportunities and formulate appropriate projects are presented here.

The Steering Committee established the Utah CVO mission statement and guiding principles after reviewing and discussing ITS/CVO and Commercial Vehicle Information Systems and Networks (CVISN) concepts and initiatives. This information provided the backdrop for developing strategic guidance that cuts across functional and organizational boundaries to address industry, agency, and public concerns about highway safety and industry and government productivity.

5.1 Mission Statement

An organization's mission statement tells the organization and others what the organization's primary business is -- what it hopes to accomplish through the programs, projects, activities and resources it manages. The CVO mission statement is unusual because it goes beyond the span of control of any single organization. In essence, it indicates the commitment of industry and government to work together toward common objectives that require cooperation and collaboration across agencies and organizations and between public and private sector partners.

The Utah CVO Mission Statement was developed by the Steering Committee through a collaborative process during which representatives from industry and state and federal agencies identified critical elements to be addressed in the ITS/CVO business plan. The Committee reviewed CVO-related mission and vision statements from other states, regional programs, and national initiatives. The Committee developed the Utah CVO Mission

Statement by listing the critical elements to be included in the mission statement and then combining them in a way that communicates this mission accurately and succinctly. The critical elements of the mission statement are highlighted in bold letters :

*Maximize **highway safety** and the **productivity** of motor carriers and government through **cooperative efforts** among agencies, industry, and the public, **using interoperable and user friendly technologies** to streamline regulatory and enforcement functions which enable **free flow of commercial vehicles** and promote **efficient and compliant motor carrier operations.***

5.2 Guiding Principles

Guiding principles provide the ground rules for developing projects and plans that will enable the CVO mission to be accomplished. Current and proposed projects will be tested against these principles before being included in Utah's ITS/CVO Business Plan. The Steering Committee reviewed guiding principles set for the national ITS/CVO program as well as guiding principles adopted by other states in their planning processes. The Committee adopted some of these principles, revised others, and added additional principles so the resulting set reflects the views and needs of Utah's CVO community. The guiding principles are as follows:

Guiding Principle 1. Use an approach balancing organizational changes and appropriate ITS/CVO technology to achieve efficiency and effectiveness for motor carriers, drivers, governments, and other CVO stakeholders.

Guiding Principle 2. Streamline the CVO registration and tax process for carriers and government through information technology-improved practices and procedures.

Guiding Principle 3. Focus roadside operations on eliminating unsafe and illegal carriers, drivers, and vehicles without reducing the productivity and efficiency of safe and legal drivers.

Guiding Principle 4. Evaluate new technology applications against regulatory choices that incorporate low-technology and non-technology options to ensure that applications are cost effective for both government and industry.

Guiding Principle 5. Use data exchange methods among systems that will ensure data integrity and prevent unauthorized access.

Guiding Principle 6. Adopt architecture that will accommodate proven technologies and existing or planned systems whenever possible.

Guiding Principle 7. Align technology applications with appropriate standards (state, national, international) after feasibility has been demonstrated.

Guiding Principle 8. Support CVO roadside operational programs with timely, current, accurate, and verifiable electronic information.

Guiding Principle 9. Make it possible to allow properly equipped vehicles to operate with paperless credentials.

Guiding Principle 10. Use a performance-based safety evaluation system for all carriers based on best available information and common criteria.

Guiding Principle 11. Use CVISN architecture with open standards for electronic information exchange among state units, commercial vehicle operators, and other authorized parties.

Guiding Principle 12. Conduct inspections and audits in a manner that will provide incentives for motor carriers and drivers to improve poor performance.

Guiding Principle 13. Work to implement compatible policies and architecture and interoperable systems in all jurisdictions.

5.3 Goals and Objectives

The Utah ITS/CVO goals and objectives are drawn from the national ITS/CVO goals and objectives in three areas and a fourth goal and related objectives are added to ensure effective implementation of ITS/CVO projects. The goals and objectives are as follows:

5.3.1 Safety Assurance (SA)

Goal: *Improve highway safety by focusing enforcement resources on high-risk carriers, drivers, and vehicles*

Related Objectives:

1. Improve deskside and roadside access to safety information
2. Improve safety inspection and review processes
3. Enhance ability to monitor the enroute safety status of the vehicle and driver

5.3.2 Credentials Administration and Fuel Tax Filing(CA)

Goal: *Streamline credentials and tax administration*

Related Objectives:

1. Enable electronic credentialing and tax filing through appropriate media (e.g., dial up, Internet) including electronic funds transfer (EFT)
2. Enhance interagency and interstate data and funds exchange
3. Provide credentials information to authorized officials

5.3.3 Electronic Screening (ES)

Goal: *Improve the screening of vehicles by roadside enforcement operations*

Related Objectives:

1. Identify carriers, drivers, and vehicles operating unsafely or illegally
2. Reduce the frequency and duration of stops for safe and legal carriers
3. Increase reliance on mobile enforcement

5.3.4 Mainstreaming Structure (MS)

Goal: *Organize and manage the implementation of Utah's ITS/CVO Business Plan so that it is an integral part of normal activities*

Related Objectives:

1. Better use of agency resources
2. Integration of ITS/CVO projects into state and metropolitan programs
3. Monitoring of program by an unbiased third party

5.4 Issues and Opportunities

At a workshop held in late September 1997, representatives from the Utah State Tax Commission, UDOT, and the Utah DPS, together with representatives from the Federal Highway Administration Office of Motor Carriers Utah Division Office and the Utah Motor Transport Association, described their activities and interactions with other agencies and organizations. The group developed a list of 67 functions that are related to CVO activities in the state. This list of CVO functions is provided in Table 4. These 67 functions were grouped into categories based on similarity of the functions, regardless of the organization responsible for performing the function. Table 5 shows these functions sorted into these functional categories.

Table 4. CVO Functions Performed by Utah's Regulatory and Enforcement Agencies

#	*CVO Function*	#	*CVO Function*
1	Roadside Inspections	35	Bypass Compliant Vehicles
2	Carrier Safety Audits	36	ID High Risk Carriers
3	Issue Credentials (IRP) (Register Vehicles)	37	Driver Training
4	HAZMAT	38	Certify Driver Trainers & Programs
5	Incident Response & Management	39	Roadside Crash Prevention Program
6	Weigh Commercial Vehicles	40	Analyze Inspection & Accident Data
7	Issue Permits	41	Qualify & Issue IRP, IFTA, & User accounts
8	Timely & Accurate Inspection Data Reporting	42	Provide Printed Materials
9	Make Timely & Accurate Inspection & Accident Data Available	43	Verify Credentials
10	Maintain Driver Histories	44	Collect delinquent Taxes
11	Issue CDL	45	Maintain Operating Statistics
12	Drug & Alcohol Testing	46	Detect Driver Fatigue & check HOS Compliance
13	Qualify the Driver	47	Eliminated
14	Oversize Enforcement	48	Verify Driver ID
15	Educate Carriers	49	Provide Trainers on a local & national level
16	Audit IRP, IFTA, & Special Functions	50	Network with Other Agencies
17	Administrative Rulemaking	51	Screen Vehicles and Drivers for Inspection
18	Provide Roadway Information	52	Issue Liens & Attach Assets
19	OOS Verification	53	Impound Vehicles
20	Route OS/OW Vehicles	54	Check Livestock Health & Ownership Documents
21	Write Citations & Warnings	55	Transfer Funds POE-Tax-others
22	Detect Vehicle Defects	56	Credential Drivers for other Jurisdiction
23	Communication with Other States	57	Build Weighing Facilities
24	Take Action Against Bad Drivers	58	Write/Review Proposed Legislation
25	Restrict Drivers	59	Issue Temporary Registration
26	Enforce Traffic & Criminal Laws	60	Identify Intrastate Carriers
27	Accident Investigation	61	Enforce Proper Vehicle Registration
28	Conduct Civil Forfeiture Proceedings and Administrative Hearings	62	Revoke IRP, IFTA & User Accounts
29	Qualify Proper Vehicle Registration	63	Dyed Fuel Management
30	tax Collection (Property, Sales, Fuel)	64	HAZMAT Credentialing
31	Verify Insurance	65	Maintain Structure Information
32	Outreach Programs to Gov't & Industry	66	Maintain Accident Statistics
33	Enforce Credentials	67	Annual Safety Inspection
34	Issue Trip Permits in lieu of Permanent Credentials	68	Relay Information

After developing the list of CVO functions, participants identified 47 different offices/ agencies/ organizations that affect or are affected by the 67 CVO functions. Twenty of the organizations were within either UDOT, DPS, or Utah Tax Commission offices. Table 6 lists the organizations identified by the working group as having CVO responsibilities.

Next, participants developed a matrix showing which offices have responsibilities within each of the functional areas, including the exact nature of the responsibility. This activity served to illustrate where multiple offices or agencies had joint responsibility for the same or related functions.

Table 5. List of CVO functions by major functional groupings.

Compliance & Verification	***Inspection & Enforcement***
2 Carrier Safety Audits	1 Roadside Inspections
12 Drug & Alcohol Testing	6 Weigh Commercial Vehicles
16 Audit IRP, IFTA, & Special Functions	8 Timely & Accurate Inspection Data Reporting
28 Conduct Civil Forfeiture Proceedings and Administrative Hearings	14 Oversize Enforcement
36 ID High Risk Carriers	19 OOS Verification
40 Analyze Inspection & Accident Data	21 Write Citations & Warnings
Credentialing	22 Detect Vehicle Defects
3 Issue Credentials (IRP) (Register Vehicles)	24 Take Action Against Bad Drivers
7 Issue Permits	26 Enforce Traffic & Criminal Laws
11 Issue CDL	33 Enforce Credentials
13 Qualify the Driver	35 Bypass Compliant Vehicles
20 Route OS/OW Vehicles	43 Verify Credentials
23 Communication with Other States	46 Detect Driver Fatigue & check HOS Compliance
25 Restrict Drivers	51 Screen Vehicles and Drivers for Inspection
29 Qualify Proper Vehicle Registration	53 Impound Vehicles
31 Verify Insurance	54 Check Livestock Health & Ownership Documents
34 Issue Trip Permits in lieu of Permanent Credentials	61 Enforce Proper Vehicle Registration
41 Qualify & Issue IRP, IFTA, & User accounts	62 Revoke IRP, IFTA & User Accounts
48 Verify Driver ID	63 Dyed Fuel Management
56 Credential Drivers for other Jurisdiction	67 Annual Safety Inspection
59 Issue Temporary Registration	***Legislative/Administrative***
64 HAZMAT Credentialing	17 Administrative Rulemaking
Data	57 Build Weighing Facilities
9 Make Timely & Accurate Inspection & Accident Data Available	58 Write/Review Proposed Legislation
10 Maintain Driver Histories	***Funds Management***
45 Maintain Operating Statistics	30 tax Collection (Property, Sales, Fuel)
60 Identify Intrastate Carriers	44 Collect delinquent Taxes
65 Maintain Structure Information	52 Issue Liens & Attach Assets
66 Maintain Accident Statistics	55 Transfer Funds POE-Tax-others
68 Relay Information	***Incident Management & Response***
Education & Outreach	4 HAZMAT
15 Educate Carriers	5 Incident Response & Mgmnt
18 Provide Roadway Information	27 Accident Investigation
32 Outreach Programs to Gov't & Industry	
37 Driver Training	
38 Certify Driver Trainers & Programs	
39 Roadside Crash Prevention Program	
42 Provide Printed Materials	
49 Provide Trainers on a local & national level	
50 Network with Other Agencies	

Table 6. Agencies and organizations with CVO responsibilities.

#	Office/Organization	Parent Agency
1	Traffic Ops	UDOT
2	MCD/MCS	UDOT
3	MCD/POE	UDOT
4	Other	UDOT
5	UHP/MCS/MCSAP/UTIP	DPS
6	Hazmat	DPS
7	Safety Inspection	DPS
8	Dispatch	DPS
9	DLD/Admin	DPS
10	DLD/Driver Ser	DPS
11	DLD/Records	DPS
12	CEM	DPS
13	Collection	USTC
14	Technology Mgmt	USTC
15	Customer Service	USTC
16	MVED	USTC
17	Processing	USTC
18	Administration	USTC
19	Property Tax	USTC
20	Auditing	USTC
21	USIRS	Other Gov't
22	Utah Attny Gen	Other Gov't
23	US District & Circuit Courts	Other Gov't
24	Other States	Other Gov't
25	FHWA/OMC Field	Other Gov't
26	FHWA/Fed Aid	Other Gov't
27	FHWA/OMC HQs	Other Gov't
28	City/County Enf	Other Gov't
29	City/County Gov'ts	Other Gov't
30	Utah Dept of Commerce	Other Gov't
31	Dispatch	Other Gov't
47	Utah Dept Agriculture	Other Gov't
32	Shippers/Consign	Private
33	Insurance CO	Private
34	Motor Carr Ad BD	Private
35	AAMVA	Private
36	AAMVANET	Private
37	IRP,Inc	Private
38	IFTA, Inc	Private
39	Special Int Group	Private
40	Motor Carriers	Private
41	UMTA	Private
42	Drivers	Private
43	Indust Assoc	Private
44	UMTA Safety Coun	Private
45	Chem Trek	Private
46	HAZMAT Cleanup	Private

After developing the matrix of agencies and functions, working group members assessed with whom and in what manner each office interacted with other state offices in performing or supporting CVO functions. The group also indicated agencies beyond those within the three primary agencies that received or provide information to support CVO processes. Three outside groups proved to be the most likely candidates for interaction: other states, AAMVANet, and the motor carriers. The result of this exercise was captured on a conference room wall where the functions/organization matrix was constructed so that potential interactions were clearly visible.

The group also indicated the methods used to exchange information in support of CVO regulatory and enforcement functions. This information was captured by connecting various function/organization combinations together using different colors of yarn to indicate the nature of the communication or information exchange. Green yarn was used to indicate real-time access to on-line data bases; yellow yarn indicated electronic data exchange but in a batch or media exchange mode; red yarn indicated exchange of information using paper forms, facsimile transmission, telephone calls or person contacts. Figure 10 illustrates how these diagrams were constructed. These diagrams provided the context and the catalyst for the working group to develop candidate projects and opportunities for Utah's ITS/CVO Business Plan.

This diagram is not a complete and accurate depiction of all of the communication links within and out of the state. Rather, it provides a visual reference for participants to use while searching for improvement opportunities. During the course of the workshop, attendees exchanged ideas and information about their activities with staff from other agencies and began finding ways to improve the data exchange between agencies through this interchange of issues and ideas. These interactions opened lines of communication between agencies, but significant opportunities for improving ITS/CVO processes remain.

Figure 10. ITS/CVO Working Group assesses information exchange between CVO functions and organizations

These opportunities are best illustrated by examining the "yarn diagrams" produced through the assessment of information exchange methods. Figure 11 shows information flows that are supported by real-time, on-line electronic information exchange. The organization and function numbers shown in the rows and columns correspond to those assigned in Tables 4 and 6. Note that much of the real-time information flow is within a single agency (e.g., information exchange within the UDOT's Ports of Entry Division to support issuing and verifying OS/OW permits) and between a state agency and an outside entity that maintains a clearinghouse (e.g., DPS/DLD access to the Commercial Driver's License Information System, CDLIS, to verify driver's credentials prior to issuing or renewing commercial driver's licenses). While some agencies have excellent information systems supporting their internal activities, relatively few systems support real-time electronic access to information across agency boundaries.

This fact is clearly illustrated in Figure 12 where yellow and red lines indicated information flows that are supported by either batch electronic information exchange (e.g., periodic downloads or exchange of storage media) or use of paper reports, telephone calls, radio transmissions, or facsimile to exchange information. While these methods are common in many organizations, they often lead to inaccurate, unreliable, and missing information at the time accurate information is needed to make enforcement or credentialing decisions. These methods also lead to high administrative costs for both the state agencies that use them and motor carriers and other organizations that interact with them. For example, many of the red lines originate with the motor carriers even though many motor carriers maintain computer-based vehicle records. Unfortunately, most state agencies are not equipped and staffed to exchange information electronically with motor carriers so that carriers continue to manually update registration records that are maintained electronically by both the state and the motor carrier.

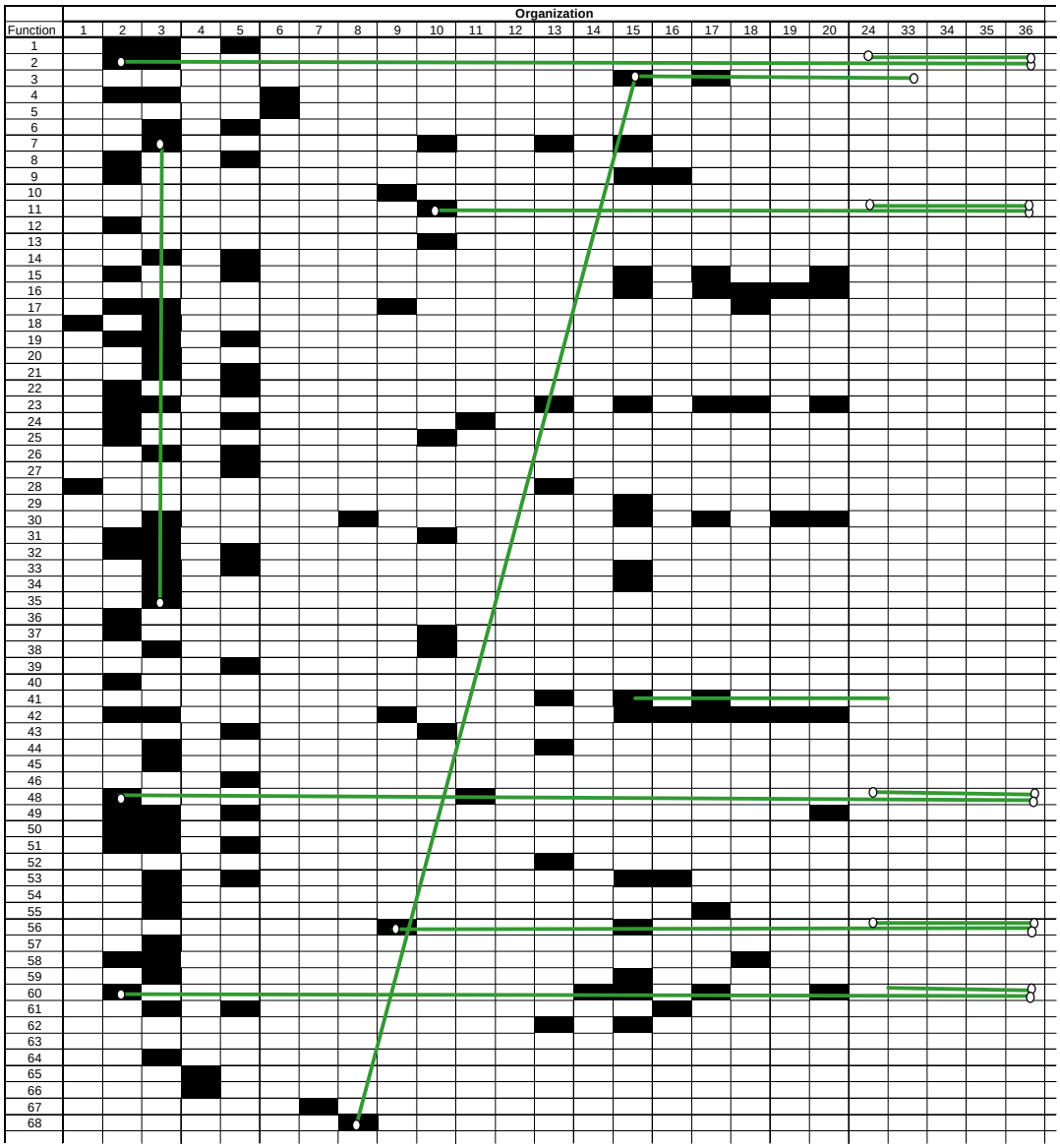

Figure 11. Information exchange supported by electronic real-time, on-line information exchange

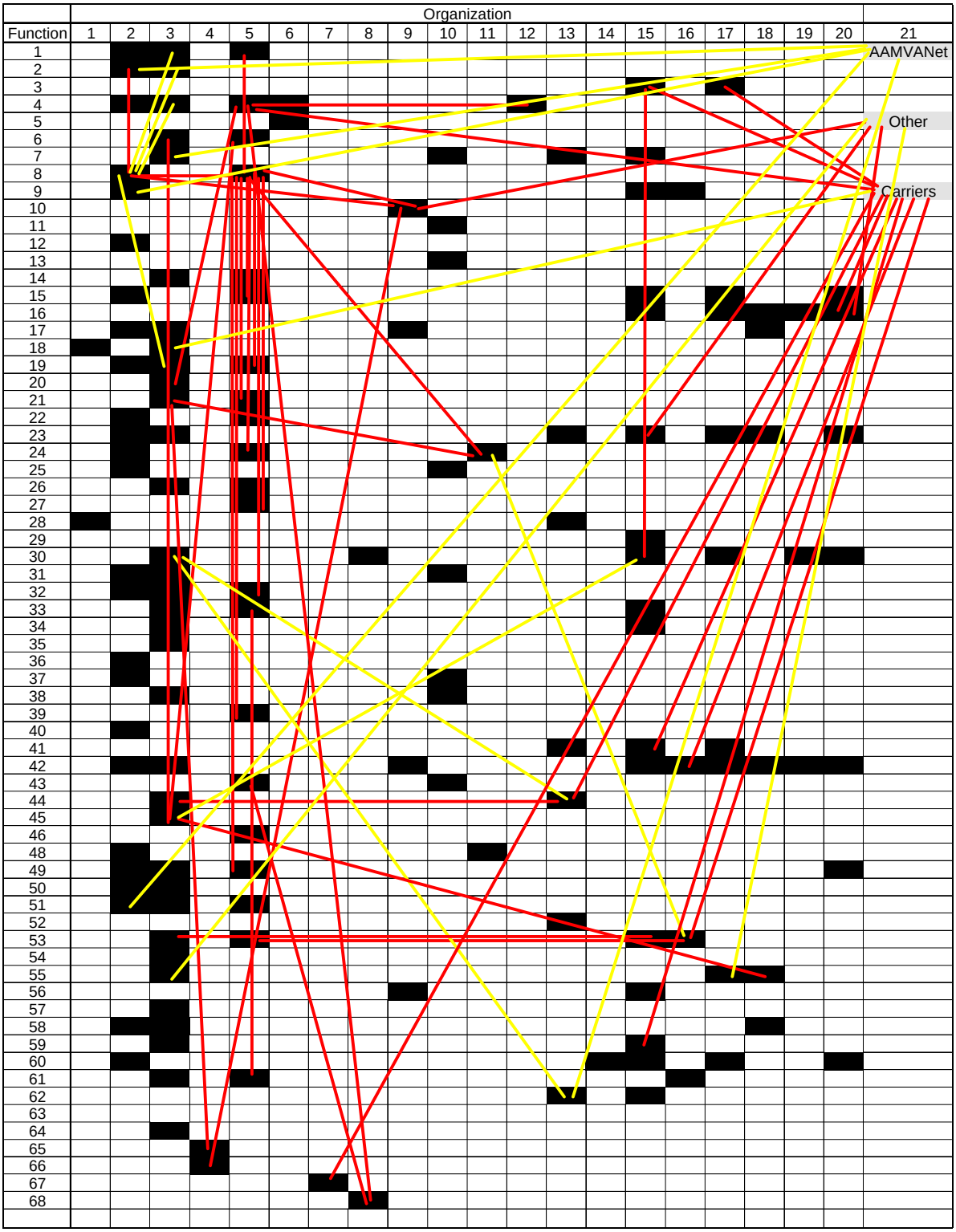

Figure 12. Batch electronic (yellow) and manual (red) information exchange between functions and organzations.

During the September 1997 workshop the Working Group used the diagrams shown in figures 11 and 12 to develop a list of issues and opportunities that could be addressed through the ITS/CVO Business Plan. Using the functional communication link diagram as a

starting point and working in two team (Red and Blue teams), workshop attendees developed ideas and projects to address information exchange problems identified through the yarn diagram. The list of ideas generated are shown in Table 7.

Table 7. Issues and opportunities concerning CVO information exchange

RED TEAM IDEAS

#	*Issue or Opportunity*
R1	Universal Access to Databases Through Shared or Linked System
R2	Common Identifier (for Commercial Vehicles and/or Carriers)
R3	Regular Productive Meetings (Interagency and Industry)
R4	Wireless Communications from Roadside to Databases
R5	Electronic Identification of Vehicles
R6	Universal Forms w/Electronic Access to Credentials (Available to the Public)
R7	Satellite IRP Registration - User Friendly
R8	One-Stop Shopping w/ at least One Physical One-Stop
R9	ISO9000 Clean Bill for Carriers (Premier Carrier Concept)
R10	Further Development of GLUE (UDOT Internal Software Under Development)
R11	SAFER in All Offices
R12	Digitized Credentials

BLUE TEAM IDEAS

#	*Issue or Opportunity*
B1	Accept Electronic Funds Transfer and Credit Card Payments
B2	Tax Commission Could use POE System to Issue Trip and Fuel Permits
B3	Use Electronic Technologies to Simplify and Reduce Paperwork
B4	A Common Goal or Mission Must Be Identified Between Agencies
B5	Steering and Working Committees Representing All Agencies and Industry Should Meet Periodically
B6	Consistency Between Smaller Companies and Larger Ones
B7	Allow Motor Carriers Access to Data that Concerns them. (Driver Records, Motor Vehicle Data, Safety Ratings.) Make it secure, but easily accessible.
B8	Provide Software to Carriers Which Allows Them to Apply for Credentials Electronically
B9	Electronic Forms/Filing Rather Than Manual
B10	Information Accurate & Timely
B11	Eliminate Redundant Data Entry & Paper Handling
B12	Provide Transparent Access to Driver License & Registration at POE No Mainframe Sign-on)
B13	Provide a Link Between SafetyNet and POE for Carrier Info and Systems Rating
B14	Standardize Identifying Numbers between Agencies; UDOT #, F.E.I.N., DL #, SSN
B15	ITS System Must Have a Tracking Device to Prevent Abuse. (Transponder.)
B16	Smart Card Technology for CDL Only
B17	Protection against Unauthorized Access
B18	Coordination Between Agencies' databases
B19	Systems Should be User-friendly, and Simple
B20	Simplification of Recording Information
B21	More Electronic Transfer to Each Other's Databases
B22	Need to Develop Policies for Release to Public of Information Accessible by Other Agencies
B23	One-Stop Shopping - Central Location for All Functions
B24	Data Manipulation for Agencies to Allow Reporting Capability
B25	Any Stakeholder Agency Can Provide Access to All Services
B26	Internet Web Site That Allows Carriers to Apply for & Renew Credentials, File Tax Returns, etc.
B27	POE should Have Online Access to Registration, Drivers License Info, UDOT Routing Info, etc.

After reviewing the ideas of each group, duplicate ideas were identified, and remaining ideas were sorted into groups that represented potential projects and those that serve as guidance for all projects. Following that grouping, the working group assigned priority to these issues and opportunities through a voting process. Table 8 shows the composite list of issues and opportunities and the priority (votes) assigned to each. Note that all items are retained even

though not all received votes. As will be seen, several of the items are closely related and a single project can address several issues and opportunities.

Table 8. Prioritized ITS/CVO issues and opportunities

#	*Issue or Opportunity*	*Vote*
R1	Universal Access to Databases Through Shared or Linked System	7
R4	Wireless Communications from Roadside to Databases	7
B5	Steering and Working Committees Representing All Agencies and Industry Should Meet Periodically	7
B7	Allow Motor Carriers Access to Data that Concerns them. (Driver Records, Motor Vehicle Data, Safety Ratings.) Make it secure, but easily accessible.	6
B26	Internet Web Site That Allows Carriers to Apply for & Renew Credentials, File Tax Returns, etc.	6
R8.	One-Stop Shopping w/ at least One Physical One-Stop	5
R2	Common Identifier (for Commercial Vehicles and/or Carriers)	2
R5.	Electronic Identification of Vehicles	1
R6	Universal Forms w/Electronic Access to Credentials (Available to the Public)	1
R9.	ISO9000 Clean Bill for Carriers (Premier Carrier Concept)	1
B1	Accept Electronic Funds Transfer and Credit Card Payments	1
B6	Consistency Between Smaller Companies and Larger Ones	1
B21	More Electronic Transfer to Each Other's Databases	1
B24	Data Manipulation for Agencies to Allow Reporting Capability	1
B27	POE should Have Online Access to Registration, Drivers License Info, UDOT Routing Info, etc.	1
R7.	Satellite IRP Registration - User Friendly	0
R11	SAFER in All Offices	0
R12	Digitized Credentials	0
B2	Tax Commission Could use POE System to Issue Trip and Fuel Permits	0
B8	Provide Software to Carriers Which Allows Them to Apply for Credentials Electronically	0
B12	Provide Transparent Access to Driver License & Registration at POE No Mainframe Sign-on)	0
B13	Provide a Link Between SafetyNet and POE for Carrier Info and Systems Rating	0
B14	Standardize Identifying Numbers between Agencies; UDOT #, F.E.I.N., DL #, SSN	0
B22	Need to Develop Policies for Release to Public of Information Accessible by Other Agencies	0
B25	Any Stakeholder Agency Can Provide Access to All Services	0

6. Program Summary

6.1 Business Plan Structure

The national ITS/CVO framework was used to organize the issues and opportunities that emerged from business planning workshops into feasible projects that could move Utah forward toward deployment of the CVISN architecture and advance ITS/CVO throughout state agencies. This framework, shown in Figure 13, ensures that Utah's ITS/CVO business plan is consistent with national goals and is addressing areas of concern throughout the region and across the nation. Three of the four areas are addressed specifically in the resulting project list; the "carrier operations" element is addressed implicitly in some of the projects in that they enable carriers to improve administrative processes. In addition, Utah is implementing major ITS initiatives through other programs that will provided Advanced

Traffic Management Systems (ATMS) and Advanced Traveler Information Systems (ATIS), which will serve the motor carrier community as well as the traveling public.[7]

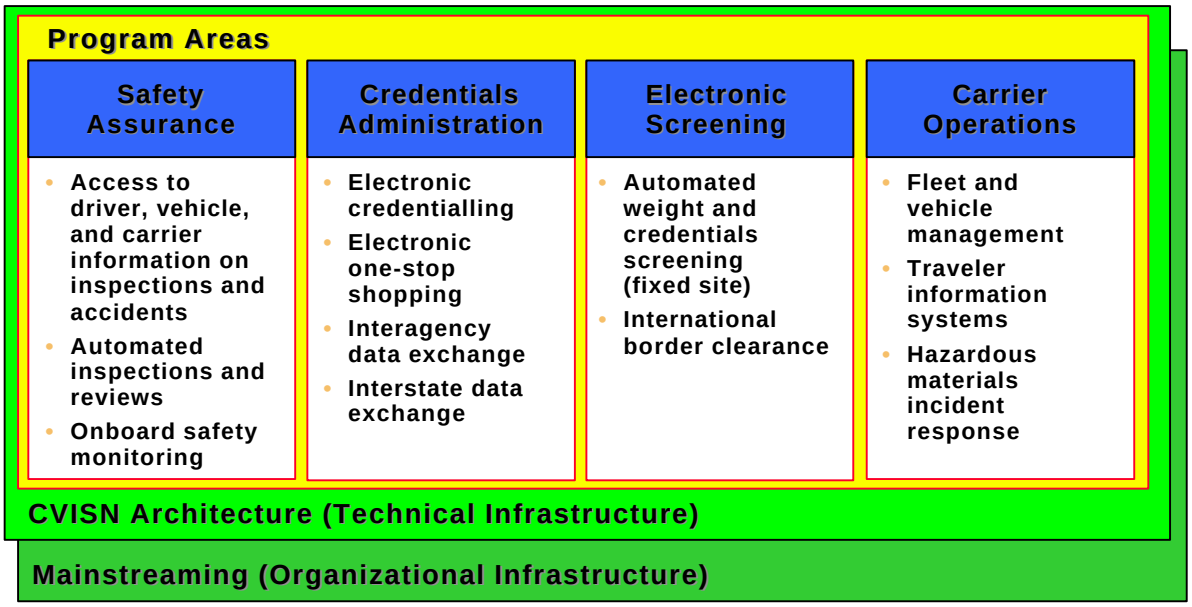

Figure 13. National ITS/CVO Framework

The top six issues and opportunities all received five or more votes from the working group and, collectively, they suggest a broad set of projects that address the needs of almost all stakeholders in the commercial vehicle activities of the state. Two of the top three, the common database and the steering and working committees, address the need for better, more accurate, more efficient communications and cooperation among state agencies. The working group identified this need as one of the most pressing needs.

In addressing the third idea, the working group acknowledged that their current system for communicating with roadside enforcement officers can lead to errors and requires entering the same information multiple times for multiple agencies. A project designed to improve electronic communications with the roadside would most directly affect the UHP, but other agencies would realize benefits as well from more streamlined and efficient communications with the roadside.

The fourth, fifth, and sixth ideas indicate an understanding that today's system is not "user-friendly" and needs to be revised with the customer in mind. Motor carriers need to access, review, and, as needed, correct information from state agencies. Current systems require motor carriers to physically visit a number of different agencies at different locations -- a time consuming and costly process for the motor carriers. Credentialing through electronic interfaces including the Internet offer an alternative that will expedite processing by state agencies. In all likelihood, larger carriers would take advantage of electronic credentialing, leaving more time for state agencies to help smaller carriers who may be less likely to take advantage of electronic credentialing and automated payment approaches.

[7] UDOT has develop a Utah ITS Plan that addresses the full range of ITS applications for improving mobility and reducing congestion. The Plan describes Automated Traffic Managment Systems (ATMS), Advanced Traveler Information Systems (ATIS), a state-of -the-art traffic control center, and a network of in-road and video sensors to measure traffic flows. Many of the planned ITS applications are part of the I-15 improvement in the Salt Lake Valley but they extend to other parts of the state.

Table 9 shows how the issues and opportunities map into the national framework areas. Note the "group" relates to national ITS/CVO areas: SA = Safety Assurance, CA = Credentials Administration, and ES = Electronic Screening. The "MS" group is a set of Mainstreaming Structure needs and guidelines that will ensure effective implementation of the projects after the planning process is completed. Note also that the CA group is split into two sections, one dealing primarily with carrier needs and another dealing primarily with interagency concerns.

Table 9. Mapping of issues and opportunities into national ITS/CVO framework

Group	Votes	#	Need or Opportunity (Potential Project)
SA	6	B07	Allow Motor Carriers Access to Data that Concerns them. (Driver Records, Motor Vehicle Data, Safety Ratings.) Make it secure, but easily accessible.
SA	0	R11	SAFER in All Offices
CA	6	B26	Internet Web Site That Allows Carriers to Apply for & Renew Credentials, File Tax Returns, etc.
CA	5	R08	One-Stop Shopping w/ at least One Physical One-Stop
CA	1	B01	Accept Electronic Funds Transfer and Credit Card Payments
CA	1	R06	Universal Forms w/Electronic Access to Credentials (Available to the Public)
CA	0	B08	Provide Software to Carriers Which Allows Them to Apply for Credentials Electronically
CA	0	R07	Satellite IRP Registration - User Friendly
CA	0	B25	Any Stakeholder Agency Can Provide Access to All Services
CA	7	R01	Universal Access to Databases Through Shared or Linked System
CA	2	R02	Common Identifier (for Commercial Vehicles and/or Carriers)
CA	1	B21	More Electronic Transfer to Each Other's Databases
CA	1	B24	Data Manipulation for Agencies to Allow Reporting Capability
CA	0	B02	Tax Commission Could use POE System to Issue Trip and Fuel Permits
CA	0	B14	Standardize Identifying Numbers between Agencies; UDOT #, F.E.I.N., DL #, SSN
ES	7	R04	Wireless Communications from Roadside to Databases
ES	1	B27	POE should Have Online Access to Registration, Drivers License Info, UDOT Routing Info, etc.
ES	1	R05	Electronic Identification of Vehicles
ES	1	R09	ISO9000 Clean Bill for Carriers (Premier Carrier Concept)
ES	0	B12	Provide Transparent Access to Driver License & Registration at POE (No Mainframe Sign-on)
ES	0	B13	Provide a Link Between SafetyNet and POE for Carrier Info and Systems Rating
ES	0	R12	Digitized Credentials
MS	7	B05	Steering and Working Committees Representing All Agencies and Industry Should Meet Periodically
MS	1	B06	Consistency Between Smaller Companies and Larger Ones
MS	0	B22	Need to Develop Policies for Release to Public of Information Accessible by Other Agencies
MS	Guide	B03	Use Electronic Technologies to Simplify and Reduce Paperwork
MS	Guide	B04	A Common Goal or Mission Must Be Identified Between Agencies
MS	Guide	B10	Information Accurate & Timely
MS	Guide	B11	Eliminate Redundant Data Entry & Paper Handling
MS	Guide	B17	Protection against Unauthorized Access
MS	Guide	B19	Systems Should be User-friendly, and Simple
MS	Guide	B20	Simplification of Recording Information

Based on priorities assigned by the working group and subsequent endorsement by the Steering Committee, a set of nine projects were formulated to address the identified needs and opportunities. These projects are shown in Table 10. A second list of projects was formulated to address management and implementation issues that must be addressed to ensure effective implementation of the ITS/CVO plan. These mainstreaming prerequisites are shown in Table 11. A second workshop was convened to develop more detailed descriptions of these projects and to complete cost estimates for the business plan. The final detailed description of these projects and a consensus ranking of them is provided in the following section.

Table 10. ITS/CVO Projects

#	Project Description	ITS/CVO Program Area	Needs & Opportunities Addressed
1	Provide access to SAFER via penbased, laptop, and desktop computers in all offices and locations where motor carrier safety data are needed to make credentialing or permitting decisions or inspection selection decisions.	SA	B07, R11
2	Provide electronic credentialing interface for carriers for registration applications, renewals, and deletions; fuel tax filings; and permit applications; accept EFT and credit card payments; provide Internet web site or interface software for electronic credentials applications.	CA	B26, B06, R08, B01
3	Provide physical one-stop shopping sites where a single representative can provide access to all services; establish satellite registration sites with user friendly software.	CA	R08, R07, B25
4	Implement an enterprise data model/data warehouse that links legacy systems through common interface so that data can be shared among multiple agencies.	CA	R01, B21, B24, B02
5	Establish common system for identifying carriers and vehicles across all state agencies	CA	R02, B14
6	Implement electronic identification of vehicles and digitized credentials for commercial vehicle operators	ES	R05, R12
7	Provide enforcement officers with wireless access to CVO data bases from the roadside	ES	R04
8	Provide POEs with simple electronic access to registration, CDL, UDOT routing information, and link to SafetyNet to check carrier information and safety rating.	ES	B27, B12, B13
9	Establish Premier Carrier program (“ISO9000 Clean Bill”) for qualifying carriers, allowing enforcement to be focused on high risk carriers.	ES	R09

Table 11. ITS/CVO mainstreaming prerequisites

#	Mainstreaming Prerequisites	ITS/CVO Program Area	Needs & Opportunities Addressed
1	Establish CVISN Implementation Steering Committee representing all agencies and industry that meets regularly to set common goals, address interagency issues, and monitor CVISN implementation progress; appoint ITS/CVO Coordinator that reports to Governor's office and serves as interface between agencies.	MS	B04, B05
2	Establish and monitor policies to ensure consistency between smaller companies and larger ones so that all safe and legal carriers have access to same services.	MS	B06, B19
3	Develop policies for access to, release of, use of, and exchange of carrier, driver, and vehicle information.	MS	B22, B17
4	Adopt and employ good software design and implementation practices that result in effective, efficient, maintainable systems	MS	B03, B10, B11, B20

6.2 Description of Projects

6.2.1 Detailed Project Description Outline

Each of the projects identified for the ITS/CVO Business plan is described using the format shown below. Project descriptions were developed by working group members and serve to guide project management and implementation. The project descriptions are presented in the major ITS/CVO areas consistent with the national ITS/CVO framework.

Table 12. Project Description Format

Project Title:
Project Description: *What is this project and why is it needed?*
Goals & Objectives: *Why conduct this project? How does it contribute to the overall goals and objectives of the state ITS/CVO program?*
Desired Outcome: *What is the intended results of this project? What services will it provide?*
Project Location: *Where will this project take place?*
Technical Approach: *How will the services be delivered?*
Organization & Management: *Who is responsible for delivering these services and managing this project? Who is the lead Agency and what other agencies must be involved?*
Schedule and Milestones: *When will this project be completed or how long will it take once started?*
Funding Approach: How much funding is required? Who is responsible for funding this project?
Key Issues/Concerns: *Are there any other issues that might impact on this project?*

6.2.2 Safety Assurance Project

6.2.2.1 Access To SAFER System

Project Title: ACCESS TO SAFER SYTEM
Project Description: Provide access to SAFER via penbased, laptop, and desktop computers in all offices and locations where motor carrier safety data are needed to make credentialing or permitting decisions or inspection selection decisions.
Goals & Objectives: • Improve highway safety by identifying and eliminating carriers not complying with established safety regulations. (SA1) • Increase and improve ability to identify non-complying carriers and/or drivers. (SA3, ES 1 &2)
Desired Outcome: • Assist carriers in correcting weaknesses within their own operations. • Eliminate the need for "good" carriers to stop at inspections sites except for random selection. • Encourage Carriers and Insurance companies to utilize the system to monitor status.
Project Location: • Port of entry sites. • Point of stop inspections. • UDOT/MCS
Technical Approach: 1. Purchase laptop computers capable of running Cellular Digital Packet Data (CDPD) technology. 2. Subscribe to SAFER for each projected location. 3. Purchase CDPD software and build out the CDPD server infrastructure to accommodate roadside inspectors and inspectors at POEs 4. Train officers/agents in use of SAFER 5. Locate SAFER on same PC as POE system & integrate interface.
Organization & Management: • Lead Agency – UDOT Motor Carrier Safety. • Supporting agencies - UDOT Port of Entry Division, DPS/UHP, USTC
Schedule and Milestones: • Obtain funding • Procure Hardware • Install software • Train inspectors/agents • 6 months after implementation, evaluate problem areas.
Funding Approach: • MCSAP & special Federal funding • Implementation money required - approximately $100,000 for computers w/CDPD • Approximately $50,000 per year to maintain operability.
Key Issues/Concerns: None identified at present

6.2.3 Credentials Administration Projects

6.2.3.1 Electronic Credentialing

Project Title: ELECTRONIC CREDENTIALING
Project Description: Provide software interface for electronic credentialing of carriers (registration applications, renewals, and deletions; fuel tax filings; and permit applications); accept EFT and credit card payments; provide Internet web site or interface software for electronic credentials applications.
Goals & Objectives: • Enable electronic credentialing and tax filing (CA 1) • Enhance interagency and interstate data and funds exchange (CA 2) • Provide credentials information to authorized officials (CA 3)
Desired Outcome: • Reduce administrative costs for agencies and carriers. • Provide a more error-free data base • Provide a more effective enforcement • Provide more timely issuance of credentials • Support one-stop shopping
Project Location: • State with responsibilities for registering commercial vehicles or collecting use fees • Motor carriers • Third parties that assist motor carriers in registration and use fee payments
Technical Approach: 1. Meet with stakeholders to define needs 2. Design system (hardware, software, security) 3. Build agency interfaces. 4. Test 5. Pilot with targeted carriers 6. Implement (organizational change & technology)
Organization & Management: • Lead agency - Tax Commission • Agency partners - Public Safety (CDL, BCI), UDOT (POE, MCS), Dept of Commerce (register DBA)
Schedule and Milestones: • Requirements definition - July ’98 • Request funding - August ‘98
Funding Approach: • CVISN Initiative Deployment Funding • Administrative savings • IFTA Tax project already being tested on web site (22 pilot states are participating)
Key Issues/Concerns: 1. Electronic signature 2. Data privacy (electronic funds transfer) 3. Some carriers may want batch interface to their fleet/driver management systems 4. Operational responsibility (who maintains web site, etc.)

6.2.3.2 One-Stop Shopping

Project Title: ONE-STOP SHOPPING

Project Description:

Provide physical one-stop shopping sites with access to all services; establish satellite registration sites with user friendly software.

Goals & Objectives:

- Enable electronic credentialing and tax filing (CA 1)
- Enhance interagency and interstate data and funds exchange (CA 2)
- Provide credentials information to authorized officials (CA 3)

Desired Outcome:

Reduce administrative and time costs for carriers

Project Location:

- One strategic location in Salt Lake Valley
- Mobile sites, satellite sites as appropriate

Technical Approach:

1. Meet with motor carriers to understand needs and preferred ways to do business with the state.
2. Develop an interagency plan for providing coordinated services. Consider alternative delivery mechanisms - portable, mobile, fixed, periodic.
3. Visit other states that have already implemented one-stop shopping.
4. Identify funding.
5. Develop software
6. Acquire hardware
7. Advertise & deploy
8. Use as vehicle to deploy electronic credentialing

Organization & Management:

- Lead agency - Tax Commission
- Agency partners - UDOT (POE,MCS), DPS (DLD), Dept of Commerce (DBA), IRS (dyed & clear fuel)

Schedule and Milestones:

- Approve concept
- Identify & secure physical location
- Equip location
- Contact other states
- Ribbon cutting

Funding Approach:

Link to electronic credentialing

Key Issues/Concerns:

- Provide a service that really works
- Sharing resources

6.2.3.3 Data Sharing Between Agencies

Project Title: DATA SHARING BETWEEN AGENCIES

Project Description:

Implement an enterprise data model/data warehouse that links legacy systems through a common interface so that data can be shared among multiple agencies.

Goals & Objectives:

- Enhance interagency and interstate data and funds exchange (CA 2)
- Provide credentials information to authorized officials (CA 3)
- Identify carriers, drivers, and vehicles operating unsafely or illegally (ES 1)
- Reduce the frequency and duration of stops for safe and legal carriers (ES 2)
- Improve deskside and roadside access to safety information (SA 1)
- Improve safety inspection and review processes (SA 1)
- Better use of agency resources (MS 1)

Desired Outcome:

- Reduce admin costs for agencies and carriers.
- Provide timely, relevant information to authorized individuals (Agencies & carriers)
- Support electronic credential checking and one-stop shopping

Project Location:

Within state agencies, using state wide-area network.

Technical Approach:

1. Define information needs among agencies and carrier industry.
2. Develop data access policies (privacy, need-to-know)
3. Develop functional architecture.
4. Develop acquisition strategy.
5. Build links between systems, including operating interfaces.

Organization & Management:

- Lead Agency - UDOT (MCD)
- Agency Partners - Tax Commission (Fuel Tax, Vehicle Registration), DPS (DLD, UHP), Law Enforcement Agencies, ITS (Information Technology Services)

Schedule and Milestones:

TBD

Funding Approach:

State Appropriations Funding

Key Issues/Concerns:

- UTAX project schedule - program runs through 2002. Need to get requirements worked into project.
- Data access policies

6.2.3.4 Common Carrier Identification

Project Title: COMMON CARRIER IDENTIFICATION

Project Description:

Establish common system for identifying carriers and vehicles across all state agencies. Already initiated with intrastate carriers.

Goals & Objectives:

- Implement USDOT numbering system to all intra- and interstate carriers
- Simplify the monitoring of intrastate carriers
- Improve and assure proper inspection process per vehicle
- Link to FEIN

Desired Outcome:

Create a system for intrastate carriers that is already in place for interstate carriers.

Project Location:

Office of Motor Carrier Safety

Technical Approach:

1. Identify intrastate carriers
2. Assign a number from USDOT (MCMIS)
3. Integrate with or provide access to information for other agencies (DMV, Tax Commission, UHP, POE, & other states)
4. Must provide internal linkages that map a unique on-vehicle identification to carrier and owner records (e.g. transponder and plate)

Organization & Management:

- Lead Agency - UDOT MCD
- Other partners - DMV, Tax Commission, UDOT (POE), UHP

Schedule and Milestones -

Currently underway assigning USDOT numbers to intrastate carriers.

Funding Approach:

- MCSAP funds - FTE ~ $25,000
- AMVANet time $.33/hit, with 10,000 hits per year

Key Issues/Concerns:

Integration possibilities with other agencies.

6.2.4 Electronic Screening Projects

6.2.4.1 Encapsulated Personal Identification/Data

Project Title: ENCAPSULATED PERSONAL ID/DATA
Project Description: Implement digitized credentials for commercial vehicle operators
Goals & Objectives: • Capture all personal identifiers, digitized plate and biological identifiers, to identify drivers. • Provides positive identification for roadside stops. • Helps reduce fraud in carrier operations, and facilitates interchange of information with other state agencies.
Desired Outcome: • Speed up process of enforcement and licensing between states. • Eliminate a non-qualified driver from obtaining a license in other states. • Operators can have license sent to them when they have lost their license or had it stolen. • Reduce driver and carrier down time due to driver unavailability.
Project Location: CDL issuance offices
Technical Approach: 1. Obtain vendor who can produce digitized documents. 2. Program digitized documents 3. Issue documents through CDL offices 4. Make data accessible to other agencies
Organization & Management: • Lead agency - DPS (DLD) • Other partners - UHP, DMV
Schedule and Milestones: • Complete within 18 to 24 months after funding • ID Vendor • Purchase equipment and put in place • Train state employees in use of equipment
Funding Approach: • $1.5 Million would be need for equipment, storage, and processing • State funding
Key Issues/Concerns: • Obtaining state legislature approval of funding • Would have to compete for funds with I-15 project

6.2.4.2 Wireless Roadside Access to CVO Data Bases[8]

Project Title: WIRELESS ROADSIDE ACCESS TO CVO DATA BASES
Project Description: Provide enforcement officers with wireless access to CVO data bases from the roadside to focus enforcement resources on high risk carriers and provide complete, timely, and accurate data to roadside enforcement personnel.
Goals & Objectives: • Improve roadside access to safety information. • Identify carriers, drivers, and vehicles operating unsafely or illegally. • Reduce frequency and duration of stops for safe and legal carriers (customer service) • Increase reliance on mobile enforcement by providing roadside access to CVO data.
Desired Outcome: • Immediate access to safety and credentialing data for roadside enforcement personnel. • Accurate safety data at roadside. • Enforcement efforts are focused on illegal and/or unsafe carriers, allowing safe and/or legal carriers to operate with less regulatory scrutiny. • Deploy enforcement resources where and when problems are anticipated.
Project Location: POEs and non-fixed roadside inspection stations
Technical Approach: 1. Obtain laptop computers equipped with cellular modems. 2. Establish access to SAFER, the existing POE system, the Internet, NCIC, CDLS, SAFESTAT, and ISS. 3. Obtain Cellular Digital Packet Data or aircards to support wireless communications
Organization & Management: • Lead Agency - DPS/UHP • Other partners - UDOT (POE,OMC), DPS (DLD, CIB), Tax Commission, FHWA
Schedule and Milestones: • Laptops already on order, awaiting MCSAP funding • Upon delivery, install software - Summer '98 • Install equipment in vehicles - Fall '98 • Operational - Calendar year '99
Funding Approach: • $130,000 - Laptops (MCSAP) • $225,000 - CDPD & related costs (state funds) • $17,000 - annual communications costs (state funds)
Key Issues/Concerns: • Possible loss of or lack of funding • Status of ISTEA Re-authorization

[8] The Utah Highway Patrol has been installing mobile computers in patrol cars for the past year, as resources allow. Currently, mobile computers are in all cars in Weber, Davis, and Salt Lake counties. In addition, approximately 15 motor carrier troopers' vehicles have mobile computers for a total of about 115 computers in use at present. After the first 42 computers were placed in Davis and Weber Counties, Utah sponsored a study done by a consultant at the University of Utah to determine manpower savings associated with mobile computing. The study indicated that the mobile computers give troopers 38% more time in which they are **unobligated.**. As a result of this study and feedback from troopers involved in the program, Utah will continue with this project as funds allow.

6.2.4.3 Port of Entry Electronic Access

Project Title: POE ELECTRONIC ACCESS

Project Description:

Provide POEs with simple electronic access to registration, CDL, UDOT routing information, and link to SAFER/SafetyNet to check carrier information and safety rating.

Goals & Objectives:

- User friendly access to data bases.
- Single password access to data bases.
- Link to driver's license database, SafetyNet, CDLIS
- Design routing program using existing structures data base information.
- Current, timely, & accurate access to delinquent or revoked tax information (fuel & registration)

Desired Outcome:

- Immediate access to Driver's License, Tax, UDOT structures and SafetyNet information
- Accurate & timely credentialing info at the POE's.
- Enforcement efforts are focused on illegal drivers/carriers.
- Legal carriers are given by-pass authorization via transponders.

Project Location:

- Eight POEs
- UDOT Hqs
- Mobile Enforcement Units

Technical Approach:

1. Define required information and links.
2. Establish access and security policies.
3. Coordinate data acquisition between agencies.
4. Build connections between agencies.

Organization & Management:

- Lead agency - UDOT (POE/OMC)
- Other partners - UDOT (Structures - GAD), DPS (CDL), Tax Commission (IFTA & IRP clearing houses).

Schedule and Milestones:

- Initiate project - July '98
- Identify & coordinate with applicable agencies - Dec '98
- Design discussions throughout FY98
- Completion - 1999

Funding Approach:

Build into existing programs using CVISN and/or state funds (soft & hard match)

Key Issues/Concerns:

- Coordination between agencies.
- Data access policies.
- Common identifiers between systems.
- Other prioritized projects.

6.2.4.4 Establish Premier Carrier Program

Project Title: ESTABLISH PREMIER CARRIER PROGRAM

Project Description:

Establish Premier Carrier program ("ISO9000 Clean Bill") for qualifying carriers, allowing enforcement to be focused on high risk carriers.

Goals & Objectives:

- Identify safe and legal carriers for POE bypass authorization.
- Focus enforcement of high risk carriers.
- Better use of existing resources.
- Voluntary participation by carriers.

Desired Outcome:

- Carrier safety & crendentialing information is downloaded to POE AVI readers.
- Compliant carriers are processed through POEs with minimal delay.
- Answer the needs of safe/compliant carriers without jeopardizing safety.

Project Location:

UDOT/POE/OMC

Technical Approach:

1. Deploy system.
2. Identify distribution process for electronic identification devices
3. Establish working committee to establish issuance criteria, application process, and electronic identification device distribution and replacement process.

Organization & Management:

- Lead agency - UDOT (POE, OMC)
- Other partners - Motor Carriers (volunteers)

Schedule and Milestones:

- Establish bypass criteria - FY97/98
- Determine random selection criteria - FY 97/98
- Establish an application process based on volunteer participation - FY 97/98

Funding Approach:

- CVISN
- State funds (Existing POE system)
- Carrier participation (transponders)

Key Issues/Concerns:

- Driver is an unknown factor
- Cooperative agreement between enforcement and carriers on random selection process
- Enforcement of Premier status (i.e., suspension of privileges)

6.2.5 Mainstreaming Structure Projects

6.2.5.1 CVISN Implementation Steering Committee

Project Title: CVISN IMPLEMENTATION STEERING COMMITTEE
Project Description: Establish CVISN Implementation Steering Committee representing all agencies and industry that meets regularly to set common goals, address interagency issues, monitor CVISN implementation progress, periodically update ITS/CVO Plan, and promote ITS/CVO applications with internal (state) and external (industry and public) constituencies; appoint ITS/CVO Coordinator that reports to Governor's office and serves as interface between agencies.
Goals & Objectives: • Identify a coordination point with Governor to represent Steering Committee • Identify mechanism through which the coordinator position will be created, or appointed, or to whom CVO responsibility will be given. • Identify membership & form of Group
Desired Outcome: • Direct report to and from Governor's office • Vibrant, active Steering Committee • Have an independently coordinated Steering Committee • Promote information sharing and outreach to agencies and industry • Ensure periodic review and update of plan
Project Location: To be determined.
Technical Approach: 1. Continue to meet as a committee after Business Plan is written 2. Identify duties and responsibilities of coordinator 3. Approach Governor's office through Motor Carriers Advisory Board representative.
Organization & Management: • Coordinator and Committee • Governor-appointed Steering Committee
Schedule and Milestones: • Existing Committee continues to meet during transition from planning to implementation • Present ITS/CVO Business Plan to Motor Carrier Advisory Board in January '98 to get support for Steering Committee and Coordinator position
Funding Approach: • Temporary assignment (2-3 years) using CVISN funding and state match • State Funding • CVISN Program Manager - Independent
Key Issues/Concerns: • Maintaining Momentum • Support from all agencies • Meaningful agendas for committee • Unlikely that an entirely new position can be created

6.2.5.2 Equity Among Commercial Carriers

Project Title: EQUITY AMONG COMMERCIAL CARRIERS
Project Description: Establish and monitor policies to ensure consistency between smaller companies and larger ones so that all safe and legal carriers have access to same services.
Goals & Objectives: • No disparity in economic effects and administrative burden due to state-sponsored ITS/CVO initiatives between larger and smaller carriers • Universal access to state-sponsored ITS/CVO services regardless of carrier size and geographic location
Desired Outcome: • Broad acceptance of ITS/CVO initiatives and adoption of ITS/CVO technologies and methods by carriers of all sizes, locations, and cargo types. • General agreement within motor carrier community that ITS/CVO initiatives are fair and equitable for carriers of all sizes and specialties.
Project Location: N/A
Technical Approach: • Name Governor's Motor Carrier Advisory Board or other entity as review board • Establish equity review process for ITS/CVO initiatives • Implement review process
Organization & Management: • Lead Agency – UDOT/MCD • Support Agencies/Organizations – DPS/UHP, USTA, UMTA, Motor Transport Advisory Board
Schedule and Milestones: • Process established by February 1998 • ITS/CVO Plan reviewed for equity concerns by May 1998
Funding Approach: • Minimal additional funding required to support this effort
Key Issues/Concerns: • Identifying and clarifying equity concerns of small carriers (especially those not represented by carrier organizations)

6.2.5.3 Data Management System

Project Title: DATA MANAGEMENT SYSTEM
Project Description: Develop policies for access to, release of, use of, and exchange of carrier, driver, and vehicle information.
Goals & Objectives: • Identify carriers, drivers, and vehicles operating unsafely or illegally (ES 1) • Provide credentials information to authorized officials (CA 3)
Desired Outcome: • Assure compliance with state and federal statutes • Avoid unintentional disclosure and therefore, lawsuits • Provide carriers and drivers with information relevant to them
Project Location: All information systems that support CVO regulatory and enforcement functions
Technical Approach: 1. Identify what can be legally disclosed 2. Identify pertinent information stakeholders would like to see 3. Present in layman's terms 4. Provide user friendly screens 5. Incident team to deal with disclosures 6. Training agencies/carriers 7. Test 8. Implement
Organization & Management: • Lead agency - ITS or Attorney General • Other partners - IRS, FHWA, Drivers License Division, Bureau of Criminal Investigation (BCI), Utah State Tax Commission, UDOT (Ports of Entry, Motor Carrier Safety), state archives
Schedule and Milestones: • Get all agencies and statutes to the table - 12/97 • Develop means for extraction and means (media - phone, fax, PIN, etc.) of disclosure - 7/98 • Monitor system and update for changes in law
Funding Approach: State
Key Issues/Concerns: • Inadvertent disclosure • Government Records Access Management Act (GRAMA)

6.2.5.4 Software Design Practices

Project Title: SOFTWARE DESIGN PRACTICES
Project Description: Adopt and employ good software design and implementation practices that result in effective, efficient, maintainable systems.
Goals & Objectives: Use applicable National standards
Desired Outcome: • Simple, user-friendly systems that contain timely, accurate data • Implement data security and integrity • Easily maintained and upgraded • Open systems, easily integrated applications and data bases
Project Location: Appropriate lead agency
Technical Approach: 1. Maintain contact with users 2. Establish an integrity review body (users & developers) to set & maintain standards for data security, programming, data bases, communication, and documentation
Organization & Management: • Data Security - Records Officer • Programming (naming & formating) - Agency/Windows standards • Database (naming & formatting) - Lead agency DBA • Communications - ITS • Documentation - Agency standards
Schedule and Milestones: TBD
Funding Approach: TBD
Key Issues/Concerns: • Conflicting data formats • Obtaining agreement on requirements

7. Organization and Management Approach

7.1 Lead Agencies

The projects described above each require participation and cooperation from several agencies and organizations. However, for the plan to be effective, a single office must assume responsibility for additional planning and coordination and for identifying and programming resources for use in completing each of the projects. The descriptions show the agencies responsible for organization and management of each of the projects. These responsibilities are summarized below in Table 13. Note that each of the agencies with major CVO responsibilities is designated as the lead agencies for one or more of the projects and that every agency supports multiple projects.

Table 13. Summary of agency responsibilities for ITS/CVO plan implementation.

		Agency Responsibilities						
Ref. # (from section 5.2)	***ITS/CVO Project Short Title***	***UDOT MCD***	***UDOT MCS***	***UDOT POE***	***USTC***	***DPS UHP***	***DPS DLD***	***Other Supt Agencies***
SA 5.2.2.1	Access to SAFER		Lead	Supt	Supt	Supt		
CA 5.2.3.1	Electronic Credentials		Supt	Supt	Lead		Supt	DoC
CA 5.2.3.2	One-Stop Shopping		Supt	Supt	Lead			DoC, IRS
CA 5.2.3.3	Data Sharing Between Agencies	Lead			Supt	Supt	Supt	ITS, law enforcement agencies
CA 5.2.3.4	Common Carrier ID	Lead		Supt	Supt	Supt		DMV
ES 5.2.4.1	Encapsulated Personal ID/Data					Supt	Lead	DMV
ES 5.2.4.2	Wireless Roadside Access to CVO Data	Supt		Supt	Supt	Lead	Supt	CIB, FHWA
ES 5.2.4.3	POE Electronic Access	Co-Lead		Co-Lead	Supt		Supt	UDOT/GAD
ES 5.2.4.4	Premier Carrier Program	Co-Lead		Co-Lead				Motor Carriers
MS 5.2.5.1	Implementation Steering Committee	Supt	Supt	Supt	Supt	Supt	Supt	Governor's Office (lead)
MS 5.2.5.2	Equity Among MC	Lead			Supt	Supt		UMTA, MCAB
MS 5.2.5.3	Data Management System		Supt	Supt	Supt		Supt	ITS or Attorney General (lead); BCI, FHWA, IRS
MS 5.2.5.4	Software Design Practices	Supt	Supt	Supt	Supt	Supt	Supt	Various agencies

Lead indicates agency has primary responsibility for the project; *Supt* indicates agency provide support to lead agency(ies).

7.2 Scheduling and Milestones

The schedule for implementing the projects described in section 5.2 depends on a number of agency, state, and national factors. Currently, the Utah State Tax Commission is engaged in developing and implementing major new tax systems and re-engineering its business processes. In addition, the Tax Commission will be implementing new IRP and IFTA systems during 1998. Implementation of these tax programs is important to the Governor and Utah's Legislature as well as the state's citizens and the Tax Commission, as the state's ability to collect revenue and administer taxes effectively for the citizens of Utah hinges on these projects. Finally, the Tax Commission must insure that all systems are year 2000 compliant. As a result of these project and other operational needs, Tax Commission resources are fully obligated until new tax systems have been implemented and the year 2000 issues have been resolved.

In addition to these initiatives, the Tax Commission's new Motor Vehicle system is in the process of being planned and implemented over the next two years. It will be a vital part of any ITS/CVO applications since motor vehicle information is a key data link for all agencies. Consequently, ITS/CVO systems that use motor vehicle data should be planned and developed in collaboration with this Tax Commission initiative so that duplication of effort and system incompatibilities are avoided.

Table 14 shows a five year implementation schedule that takes into account these ongoing initiatives, avoiding premature development of systems that have major interfaces with Tax Commission development efforts. Some of the projects may be implemented in phases, first addressing data access and sharing needs that can be accommodated within the current information infrastructure and later linking with systems to be implemented over the next two to three years. However, agencies that will require access to registration and fuel tax data as part of their regulatory and enforcement responsibility should coordinate with the Tax Commission to ensure that new Tax Commission systems can meet their regulatory and enforcement information needs.

Table 14. ITS/CVO Project Implementation Schedule

		Implementation Schedule				
Ref. # (from section 5.2)	***ITS/CVO Project Short Title***	***FY98***	***FY99***	***FY00***	***FY01***	***FY02***
SA 5.2.2.1	Access to SAFER					
CA 5.2.3.1	Electronic Credentials					
CA 5.2.3.2	One-Stop Shopping	Phase I			Phase II	
CA 5.2.3.3	Data Sharing Between Agencies					
CA 5.2.3.4	Common Carrier ID					
ES 5.2.4.1	Encapsulated Personal ID/Data					
ES 5.2.4.2	Wireless Roadside Access to CVO Data	Phase I			Phase II	
ES 5.2.4.3	POE Electronic Access	Phase I			Phase II	
ES 5.2.4.4	Premier Carrier Program					

		Implementation Schedule				
Ref. # (from section 5.2)	***ITS/CVO Project Short Title***	***FY98***	***FY99***	***FY00***	***FY01***	***FY02***
MS 5.2.5.1	Implementation Steering Committee					
MS 5.2.5.2	Equity Among MC					
MS 5.2.5.3	Data Management System					
MS 5.2.5.4	Software Design Practices					

7.3 Costs, Funding, and Return on Investments

The costs, funding, and desired outcome for each of the projects is provided in the detailed descriptions. Costs for several major projects are not provided because further project definition and development is required to provide sufficient information to substantiate development and implementation costs. Several of the projects require on-line access to data maintained by multiple agencies to support regulatory and enforcement actions. Experience in other states suggests the cost to design such systems (i.e., interfaces between existing and planned systems) is on the order of $1 million and implementation costs fall in the $3-5 million range.

The funding sources for the proposed projects vary depending on the nature of the project. Sources are suggested in each of the project descriptions. Safety assurance projects and some electronic screening projects (e.g., laptop computers) are eligible for funding under the MCSAP grant. Other programs will be funded through state appropriations and, in some cases, private sector funding (e.g., user interface for electronic credentialing, transponders for vehicles enrolled in the premier carrier program). Other programs may be eligible for funding through other federal programs or special grants (e.g., CVISN planning and deployment funding).

The return on investment for these projects will accrue to the citizens of the State of Utah, the motor carriers that operate on Utah's highways and the agencies that administer federal and Utah motor carrier regulation and enforce motor carrier laws. While difficult to predict or measure precisely, ITS/CVO projects will improve highway safety by reducing crashes involving commercial vehicles by identifying and eliminating unsafe vehicles and drivers. Motor carriers will benefit from reduced administrative cost and increased transport productivity. Studies by the American Trucking Association Foundation and others have consistently shown positive returns to motor carriers in both areas when ITS/CVO technologies used to simplify credentials administration and support electronic screening. State agencies will benefit from better access to information needed to support regulatory and enforcement decisions. Part of the benefit is reduced administrative cost. Equally important, agencies responsible for roadside enforcement can ensure that motor carriers operating in Utah are properly registered and paying their fare share of fuel taxes and registration fees.

Equally important, the proposed ITS/CVO projects will position Utah to accommodate the inevitable growth in motor carrier activity in the state. As noted earlier, commercial vehicle miles traveled has nearly doubled in the last decade and this trend is likely to continue. Coupled with the general economic and population growth in Utah and, in particular, the Salt Lake Valley, the proposed ITS/CVO projects are essential investments, especially when growth in the size of state government agencies is unlikely. Without these investments,

agencies will need to substantially increase staff resources to maintain effective services to motor carriers that operate in Utah.

8. Contact Names

Utah State ITS/CVO Business Planning Steering Committee Members:

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9. Appendix

10. List of Acronyms

AAMVA	American Association of Motor Vehicle Administrators
ATIS	Advanced Traveler Information System
ATMS	Advanced Traffic Management System
AVI	Automatic Vehicle Identification
BCI	Bureau of Criminal Investigations
CA	Credentials Administration
CDL	Commercial Drivers License
CDLIS	Commercial Drivers License Information System
CDPD	Cellular Digital Packet Data
CMV	Commercial Motor Vehicle
CVISN	Commercial Vehicle Information Systems and Networks
CVO	Commercial Vehicle Operations
CVSA	Commercial Vehicle Safety Alliance
DBA	Doing Business As
DLD	Drivers License Division
DPS	Department of Public Safety
EDI	Electronic Data Interchange
EFT	Electronic Funds Transfer
ES	Electronic Screening
FEIN	Federal Employer Identification Number
FHWA	Federal Highway Administration
GRAMA	Government Records Access Management Act
HAZMAT	Hazardous Material(s)
HOS	Hours Of Service
IFTA	International Fuel Tax Agreement
IRS	Internal Revenue Service
ISO	International Standards Organization
ITS	Intelligent Transportation Systems *or* Information Technology Services
ITS/CVO	Intelligent Transportation Systems/ Commercial Vehicle Operations
MCD	Motor Carrier Division
MCMIS	Motor Carrier Management Information System
MCS	Motor Carrier Safety
MCSAP	Motor Carrier Safety Assistance Program
MS	Mainstreaming Structure
MVD	Motor Vehicle Division
MVED	Motor Vehicle Enforcement Division
NAFTA	North American Free Trade Act
OMC	Office of Motor Carriers
OOS	Out Of Service
OS/OW	Oversize/Overweight
PC	Personal Computer
POE	Port(s) of Entry
SA	Safety Assurance
SAFER	Safety And Fitness Electronic Records (System)
SSN	Social Security Number
UDOT	Utah Department of Transportation
UHP	Utah Highway Patrol
UMTA	Utah Motor Transport Association
USTC	Utah State Tax Commission
WIM	Weigh-In-Motion

IRP International Registration Plan