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State Business and Program Plan for CVISN

Revised: September 21, 2000

Prelude to Missouri Business Plan and Program Plan for CVISN

The following two documents represent Missouri's efforts in Commercial Vehicle Information Systems and Networks (CVISN) formerly known and many times referred to as Intelligent Transportation Systems for Commercial Vehicle Operations (ITS/CVO).

The state Business Plan introduces the history of ITS/CVO projects in Missouri; the current CVO environment which describes the standing committee, the enforcement and industry participation; the strategic direction; project goals and objectives and a description of each project.

The Program Plan presents the detail review and planning of the projects that are or will be implemented in Missouri and intended to be supportive documentation to the State Business Plan. The Program Plan will go into detail about the Program Requirements and Design; organization charts of the state agencies involved and the state CVISN organization chart; a detail work breakdown structure of the projects, when the started, expected completion, amount completed and who the tasks are assigned; the procurement strategies and program processes.

The documents that follow were developed by the following state agencies that are involved in CVISN:

- Missouri Department of Transportation-Motor Carrier Services Unit
- Department of Revenue-Highway Reciprocity Commission
- Department of Economic Development-Division of Motor Carrier and Railroad Safety
- Missouri State Highway Patrol, Commercial Vehicle Enforcement Division.

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State Business Plan for ITS/EVO

Revised: September 14, 2000

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1.0 Executive Summary

Missouri has a long history of commitment to safety of the motoring public on the highways of this state. Missouri is also committed to implement a regulatory environment that ensures safety without undue cost to the motor carrier industry. The state of Missouri is unique in its geographical location with four major interstates running through the state. Each of the major interstates has a fairly high percentage of motor carrier traffic to total daily traffic. Under current procedures, all trucks must stop at weigh facilities when scales are open. As state resources become more critical, the regulatory environment must be evaluated along with the need to facilitate the movement of goods over our highways. This business plan is intended to assist this state in improving its commercial vehicle operation regulation, guide the deployment and installation of intelligent transportation systems and to implement these systems in an efficient and cost effective manner.

This document will detail the history of Missouri's commercial vehicle operation activities; completed state projects; its outreach program; the current commercial vehicle operation environment; the description of the intelligent transportation standing committee, description of Missouri's enforcement process; private and industry participation, the strategic direction of commercial vehicle operations in this state, the standing committee's mission statement; goals and objectives; as well as a description of current and future projects for implementation of intelligent transportation systems.

The goals of this plan supports this state's commitment, mission and efforts in developing ways to apply intelligent transportation technology that leads to a safer, more efficient and cost-effective commercial vehicle operations in the state of Missouri. These goals are to:

- ◆ Ensure the safe and legal operation of both interstate and intrastate commercial vehicles operating within and through the state of Missouri.
- ◆ Improve the effectiveness of the commercial vehicle roadside program.
- ◆ Improve the effectiveness of the commercial vehicle program information.
- ◆ Administer and enforce the laws relating to all commercial motor vehicle registration with efficiency and fairness.
- ◆ Create projects that are consistent and compatible with the Commercial Vehicle Information Systems and Networks architecture and its deployment.

Missouri began looking at institutional barriers to commercial vehicle operations in 1992 with a formal report completed in 1993. At the national level during the same time period, programs were being developed in the commercial vehicle arena to reduce congestion, reduce motor carrier costs, improve highway safety and streamline credential administration. The Commercial Vehicle Information Systems and Networks initiative began to develop an infrastructure to interchange information electronically between public agencies, motor carriers and other parties through a standard system making use of new technologies. Other initiatives and programs have been

implemented to improve inspections, safety information, provide weather information and manage the flow of traffic. Some of these same concerns and needs at the state level have caused this state to implement or propose similar initiatives and programs.

This state has an opportunity to begin to reach its goals and objectives. This opportunity is manifested with the following completed projects or activities.

- ◆ A commercial vehicle operation standing committee made up of state regulatory staff with the Department of Transportation as the lead agency and with active participation from the motor carrier industry and the Missouri Division, Office of Motor Carriers, Federal Highway Administration.
- ◆ Missouri and Kansas participated in an Intelligent Transportation System Institutional Issues Study.
- ◆ Participation in a Midwest Electronic One-Stop Shop Program in 1995.
- ◆ Attendance by the standing committee for three training sessions and three workshops developed by the US DOT and facilitated by John Hopkins University Applied Physics Laboratory.
- ◆ The state operates and maintains 19 continuous vehicle count and classification sites at the roadside of which 11 sites also use weigh-in-motion detection equipment.
- ◆ The state has in place several hundred miles of fiber optic cable network on state highway right-of-way. This fiber network will provide the state an avenue to transmit data at speeds necessary for electronic clearance of commercial vehicles traveling on the highway at highway speeds without having to exit the highway system.
- ◆ The state has safety strategies in place to target high-risk carriers.
- ◆ Missouri vehicle inspection data is uploaded into the national inspection data system.
- ◆ Software has been installed to look at national inspection data at the roadside.
- ◆ Missouri has participated in an electronic credential pilot program and an operational test for verification of fuel requirements between participating states.
- ◆ A very active outreach program to assist the motor carrier industry.

With these projects in place, this state is on the edge of implementing new available technologies in the intelligent transportation system for commercial vehicle operations. The ability to implement new technologies depends on the availability of funding. It is hoped that the state of Missouri will be selected for future special federal funding to speed implementation. Until that time, this state will continue to develop and install computer programs and systems, set up a test site for credential, size and weight verification, implement processes electronically and share information between agencies and other states as state funding and resources are available.

The state feels that it has ambitious projects in the works or planned over the next three or four years. These projects include:

- ◆ Increase the number of computers with inspection and inspection selection software at the roadside weigh facilities.
- ◆ Develop and install a wireless, mobile, enforcement data system to generate electronic driver/vehicle reports, accident reports and other officer reports that will be entered in a local area network. This system would allow for wireless verification of vehicle registration, credentials, commercial driver licenses status and other information.

- ◆ Implement a multi-state permitting program for oversize/overweight vehicles.
- ◆ Develop and implement a system to dispatch enforcement for non-compliant drivers that fail to pull into weigh facility when signaled to enter.
- ◆ Implement electronic filing of all regulatory credential requirements.
- ◆ Implement credential, weight and size verification at mainline speeds without having to exit the highway system at three weigh facilities on major interstate highways.
- ◆ Interface with a central repository for fuel and license credentials and payment of fees.
- ◆ The creation of a multi-agency task force for simplifying motor carrier compliance and application process.
- ◆ Project to co-locate active and passive/back-scatter transponder technologies to identify and process commercial vehicles along the mainline.
- ◆ Development of a new legacy system for the International Registration Plan (IRP) and the International Fuel Tax Agreement (IFTA).
- ◆ The issuance of US DOT census numbers for for-hire intrastate motor carriers.
- ◆ The implementation of a paperless office system for registration of for-hire motor carriers.
- ◆ Modifications of the current oversize/overweight permit system.
- ◆ Submission of Missouri's Top Level Design CVISN Plan to the US DOT.
- ◆ MoDOT is lead agency in a multi-jurisdictional ITS/CVO planning study for the NAFTA Corridor.

Outcome:

The state of Missouri believes that participation in intelligent transportation system for commercial vehicle operations will help the state achieve management and productivity goals. By Implementation Order, COMAP 95-01, signed on March 22, 1995, the Governor of the State, Mel Carnahan, established an Excellence in Customer Service Oversight Team to provide leadership in implementing efforts to make state government more customer focused. The ITS/CVO initiative is an area where Missouri can improve service to our customers. On July 12, 1996, the Governor also indicated by letter to Rodney Slater, Administrator, Federal Highway Administration, that he supports Missouri's deployment of the Commercial Vehicle Information Systems and Networks program which will allow motor carriers and regulatory agencies to exchange information and conduct business electronically. A Memorandum of Agreement was developed and signed by the all department directors involved in ITS/CVO and by the Governor in February 1999.

This business plan is a living document that will be evaluated and modified formally every two years and informally as needed. The state will continue to promote intelligent transportation systems through it outreach program and participation in a regional consortium of states. Additional motor carrier and state training will be needed as well as continued communication between industry and private concerns about ITS/CVO programs. The future will hold many challenges and exciting changes. Everyday, new technologies are developed that will make implementation of programs such as these easier and cheaper to implement. The industry supports changes that allow them to equally compete with each other in a cost efficient manner without sacrificing safety.

2.0 Introduction

Enactment of the Motor Carrier Act of 1980 and the Bus Regulatory Reform Act of 1982, caused motor carrier entry into the national transportation market to change dramatically. For-hire motor carriers prohibited from this market were able to afford and timely enter this previously forbidden, or difficult to penetrate, industry. The number of motor carriers dramatically increased in response to the change in federal law. As a result, the financial stability of the companies was not regulated; therefore, safety became a serious concern. Between 1980 and 1993, the number of vehicles operating in and through our state increased over 100%. Currently, approximately 57,000 for hire truck and bus motor carriers and over 500,000 trucks (includes intrastate, interstate exempt and regulated interstate) are authorized to operate in and through Missouri.

This tremendous growth requires Missouri to look at all aspects of regulation and enforcement of commercial vehicle operations and the safety concerns for the citizens of this state. Safety of the motoring public is a major concern of this state. Financial responsibility of the motor carrier, maintenance of equipment in a safe manner, qualified drivers and safe motor carrier operations on Missouri's highways are of key importance. One safety concern is the problem occurring in Missouri while in the vicinity of a fixed interstate weigh station. The volumes of commercial vehicles are so great that at times trucks are backed out to the driving lane on the interstate. When traffic backs up to a dangerous level the station shuts down and commercial traffic by passes the weigh station unchecked in order to relieve congestion. Traffic volumes at the busiest weigh scales carry approximately 8,500 trucks or more each day.

The nature of carrier transportation in general has changed from a state specific focus to a national or even an international one. Missouri became a member of the International Registration Plan (**IRP**) in 1973 and the International Fuel Tax Agreement (**IFTA**) in 1990. The Inter-modal Surface Transportation Efficiency Act (**ISTEA**) required all states to become participating members of these two programs by September 30, 1996. These agreements have led to further improvements in communication and record keeping between and among states.

Technology must be incorporated in the assessment of the needs of the growing commercial transportation industry as well as State and Federal needs for compliance of regulations and collection of revenues. Missouri has made significant infrastructure investments in the communication and computer technology to improve the safety and efficiency of commercial vehicle operations. Missouri's vision is that through implementation of an electronic screening program at the weigh stations, vehicles will have safety status, credentials and weight checked electronically at mainline speeds. Commercial vehicles that are safe with all electronic credentials in order and an acceptable out-of-service and accident history rating will not be required to stop at weigh stations.

Current levels of enforcement and regulation compliance can only be maintained if all state agencies in Missouri begin to work smarter and better. The State of Missouri is committed to improving management and productivity and to provide more service for tax dollars spent. One aspect of improving management and productivity is the commitment of Missouri's governor to provide more service for tax dollars by focusing on customer satisfaction. The governor

established an Excellence in Customer Service Oversight Team to assure that state departments implement this customer focus initiated by Implementation Order, COMAP 95-01, signed on March 22, 1995. The regulation and enforcement of commercial vehicle operations has been identified as an area where Missouri's government can improve its service to customers.

Missouri has put forth considerable effort in the area of Intelligent Transportation Systems (**ITS**) far beyond the Commercial Vehicle Operations (**CVO**) area. Missouri is committed to expansion of its Motorist Assist Program (freeway service patrol) with the establishment of a cellular call-in system, a roadway reference marking system, an improved communication system between state and local jurisdictions and operation assistance for a Traffic Information Center. The state is also developing a plan to implement a weather network that would collect and disseminate weather information and road surface and subsurface conditions from a statewide system. This CVO plan is just a component of Missouri's overall ITS plan.

This business plan was developed by the state's ITS/CVO Standing Committee to guide it to deployment of ITS technology. This plan will outline the participation of the state agencies and industry in the deployment efforts, the current regulatory environment, the description of state enforcement processes, completed ITS/CVO projects, the strategic direction of Missouri's commercial vehicle operation activities and its approach to implementing and managing these projects.

2.1 Background of Missouri's ITS/CVO Activity

An Intelligent Transportation System will encircle our entire nation's transportation system. As technology progresses these advancements will be applied to the transportation infrastructure. These new technologies will save time, monies and demands that are being placed on this nation's infrastructure. ITS will guide our legislative bodies to help address our aging transportation network. ITS applications for commercial vehicle operations will encompass electronic clearance, automated safety inspection systems, onboard safety monitoring systems, automated credential verification, managing fleet operations and quick response to hazardous materials incidents.

States play a critical part in the design and deployment of the national intelligent transportation system. In the current era of questioning and justifying state and federal activity and the large amount of monies needed to invest in new technology, states are cautious to embrace ITS without knowing how much it will cost and what savings the states can expect. Missouri has been actively working toward implementation of ITS and has a number of ITS projects in the wings and additional ITS projects specifically earmarked for commercial vehicle operations.

2.1.a History of Missouri's CVO Activity

In 1993, the states of Missouri and Kansas participated in an Intelligent Transportation System institutional issues study to determine what state barriers existed between state agencies within its own state and between other states. This study looked at state and federal regulatory requirements and processes within each agency. From this review, Cambridge Systematics Inc. with WHM Transportation Engineering Inc., issued the "Kansas-Missouri ITS Institutional Issues Study," in December 1994. Missouri, unlike many other states, had very few institutional barriers. Regulatory agencies and the Highway Patrol have shared data for a great number of years for enforcement purposes. An area of regulation data not shared related to the oversize and overweight permits.

Missouri felt that an additional study was needed to determine a strategic direction for implementing electronic screening of commercial vehicles. The Iowa Transportation Center at Iowa State University was contracted to look at existing conditions, electronic screening architecture, and a comparison of alternatives for implementation and guidance for electronic screening implementation. This study considered commercial vehicles traveling on the Oklahoma and Kansas turnpikes because they often traveled in Missouri as well. This joint travel could possibly afford an opportunity by Missouri to bundle electronic screening with electronic toll collection. Missouri was looking for a strategic direction that would minimize the financial investment and technical risk of implementing electronic screening.

In 1995, Missouri was invited to participate in an operational field test called the Midwest Electronic One Stop Shop Program (**MEOSS**). This program would test the feasibility of electronic data transmission to states from the motor carrier's place of business for compliance with the International Fuel Tax Agreement (**IFTA**), the International Registration Plan (**IRP**), the Single State Registration System (**SSRS**) and the oversize/overweight (**OS/OW**) permits.

Software would be developed that would allow the state agencies and the motor carrier to electronically communicate with each other to request and receive motor carrier credentials.

In 1996, Missouri submitted an application for Commercial Vehicle Information Systems and Networks (CVISN) Model Deployment Program in Support of Intelligent Transportation Systems for Commercial Vehicle Operations. Within this application process, the state began formalizing its ITS/CVO program. Each state agency prepared a Business Plan with action items, estimated cost and proposed funding sources along with Goals and Objectives. This was the first formal ITS/CVO Business Plan for the state of Missouri. Although Missouri's application was considered one of the best, Missouri was not afforded federal funding at that time.

In 1997, the state of Missouri applied for additional funding through a mainstreaming program. Missouri was approved to become the Lead State in the FHWA Region 7 and 8 Mainstreaming initiative. In the role of Lead State, Missouri promotes FHWA's goal of nationwide deployment of ITS/CVO technology by the year 2005. Missouri would also lead a regional initiative to plan and prepare a regional business plan for ITS/CVO. It is the intent of this state to continue beyond this mainstreaming funding to promote and assist other states in implementation of ITS.

In addition, Missouri is closely monitoring other operational tests such as Advantage I-75, Oregon Greenlight, MAPS and the Commercial Vehicle Information Systems Network and commercial offerings such as Help, Inc., the Kansas Toll Pass and the Oklahoma Toll Pass Authorities.

Missouri Department of Transportation is lead agency of a group of states and Provinces, to develop a planning study to implement and integrate Intelligent Transportation Systems (ITS) for Commercial Vehicle Operations (CVO) through the Highway corridor comprising Interstates 29, 35, 80 and 94, which stretch from Canada to Mexico.

This project under the National Corridor Planning and Development Program (NCPD) will study the feasibility for multiple corridor states and federal trade processing systems to integrate business processes, standardize information, and develop shared and interoperable information systems and technologies. The study will specifically focus on those aspects that directly affect the movement of interregional and international commerce across the North America International Trade Corridors' highways.

Other agencies involved in the international effort with Missouri are the Departments of Transportation in Texas, Oklahoma, Kansas, Iowa, South Dakota, North Dakota and Minnesota. Also, included is the Canadian province of Manitoba, the North America Superhighway Coalition, the Canadian Transit Company and the Detroit International Bridge Company.

2.1.b. Completed State ITS/CVO Projects

Safety Assurance:

Missouri has integrated safety strategies to target high-risk carriers. By decreasing the high-risk motor carriers, the safety of other commercial drivers and the general public should be greatly improved. The Commercial Vehicle Enforcement Section of the Highway Patrol has purchased a

new SAFETYNET Local Area Network (LAN) system. Through the Motor Carrier Safety Assistance Program 100/200-site project, Missouri has upgraded all the interstate weigh station fixed sites with new desktop computers linked to the SAFETYNET LAN system. The LAN system enables the inspectors at remote locations, through a WINDOWS application access to the following systems:

- **SAFETYNET**, an automated system that collects commercial inspection and crash data to determine motor carrier safety fitness.
 - **Micro Census**, a subsystem of SAFETYNET, this system is a database of Missouri carriers that gives the number of inspections, safety ratings and commodities transported. This database is updated weekly.
 - **Carrier search**, a subsystem of SAFETYNET, this system is a database of all Missouri interstate carriers. This database gives the legal name and address of the carrier, US DOT census number and the carriers' status.
 - **Motor Carrier Regulation Information System (MCREGIS)**, a computer program, furnished to enforcement agencies to access safety and hazardous material regulations.
 - **Inspection Selection System (ISS)**, a system that looks at interstate inspection database which is used as an indicator to determine if a carrier is to be inspected and why.
 - The **Safety and Fitness Electronic Records System (SAFER)**, is a snapshot of carrier safety fitness and a data mailbox allowing enforcement personnel and motor carriers instant access to inspection fitness.
 - **Missouri SAFESTAT Selection System** that looks at intrastate inspection data which is used as an indicator to determine if a carrier is to be inspected and why.

The state of Missouri has five agencies involved in the Motor Carrier Safety Assistance Program (MCSAP). Four of these agencies are participating in the driver/vehicle inspection program and are equipped with computers using the ASPEN inspection software and MCREGIS. The ASPEN software is used to upload inspection data to SAFETYNET. The Highway Patrol has 62 portable or pen-based computers and 27 personal computers with ASPEN inspection software. All 35 fixed inspection sites and 22 portable scales have computer equipment with ASPEN software. The Kansas City Police Department has 5 laptop computers and 1 personal computer and a MCSAP section under the St. Louis Police Department also has 5 laptop computers and 1 personal computer with ASPEN software. ASPEN software is also loaded on 25 laptops used by Motor Carrier and Railroad Safety. The pen-based computers used by the Highway Patrol are also loaded with the Inspection Selection System.

Inspections are downloaded on a daily basis to the SAFETYNET LAN server. The availability of safety information at roadside will support Missouri's safety strategy that will focus on high-risk carriers.

In addition, the Highway Patrol and Motor Carrier and Railroad Safety have developed and implemented a program to target high-risk intrastate motor carriers which mirrors the FHWA's SAFESTAT program. The state and federal SAFESTAT programs select carriers for compliance reviews based on high crash activity, high out-of-service vehicle violations and high out-of-service driver violations. Both of these programs are in their infant stage.

Missouri's system has been in existence since May 16, 1997. The Missouri Safestat program measures three Safety Evaluation Areas:

- crash data,
- driver inspection data, and
- vehicle inspection data.

Attached, as **Appendix A**, is the detail on how the crash data measurement in the first safety evaluation area is determined. The crash data omits carriers having no accidents.

Each of these three safety evaluation areas is weighted for an overall measurement to target certain motor carriers. The Missouri Safestat list is updated every six months. This system will be used in conjunction with electronic screening to help determine which vehicles will be required to stop at scale facilities for safety checks.

Missouri is also increasing the safety of commercial drivers by upgrading the weigh facilities. The state has built two new facilities on I-70 at Foristell, Missouri. These stations have longer ramps and weigh in motion on the off ramps. A larger and improved inspection facility was also built. The facility is hooked into fiber optics for quick access to data. The facility is equipped with computers using the ASPEN inspection software.

Credentials Administration:

This state is intent on changing current programs and services to improve procedures and systems for managing carrier rules and regulations. This intent on change can be seen by Missouri's participation in test programs for electronic receipt of data, multi-state permitting and the sharing of data between states.

Missouri is one of four states that participated in an operational test for the State On-line Enforcement Network (**STOLEN**) project. The staff at the Highway Reciprocity Commission began participation in **STOLEN** in July 1996. Missouri is now a fully participating state in this system. The stolen system is an online system through the NLETS network that allows commercial vehicle enforcement officers to readily check IFTA carriers from the four participating states to verify that these carriers are valid and not in a "revoked" status. It is hoped that other IFTA states will participate to further validate the use of this system.

Missouri participated in the Midwest Electronic One-Stop Shop pilot program. This pilot program did not evolve the way Missouri anticipated. Missouri participated fully in the pilot hoping that we could incorporate the resulting software into full implementation. The Single State Registration System section of this program worked well but the International Registration Program, the International Fuel Tax and the Oversize/Overweight parts of the program were seen to be too cumbersome and required more work than current systems in place. Carriers and state agencies did not see the resource benefits of using the system as designed, incurring the cost of maintaining a dedicated phone line for transmission, etc. Therefore, the program in Missouri's eyes failed to produce the results it desired. Missouri is committed to continuing the concept of electronic filing and will continue to march down the road to this goal. Motor Carrier and Railroad Safety will continue to pursue electronic filing by bits and pieces implementing payment receipts electronically, filing insurance electronically and other methods of receiving data

electronically. The state of Missouri is also interested in finding other software that will provide this type of credential application.

Electronic Screening:

This state is also committed to any program or services that will facilitate the verification of credentials and size and weight requirements at the roadside whether at fixed or portable weigh facilities. This commitment can be seen by the number of systems accessible by enforcement staff and the amount of equipment currently in place in this state.

Mo. Department of Transportation presently owns, operates and maintains 19 continuous vehicle count and classification Strategic Highway Research Program (**SHRP**) sites on highways in Missouri. Vehicles are counted and classified in all directions at these sites. Eleven of these sites utilize weigh-in-motion to determine axle and gross weights of vehicles classified as commercial. Continuous counts are used to obtain axle correction factors used in the design and re-design of the roadway. Axle weights are used in pavement design to determine equivalent 18,000-pound single axle loads. SHRP sites are computer controlled and download data to the Mo. Department of Transportation's Office of Transportation Management Systems (OTMS) daily through fiber optic cable or telephone lines. Monthly summary printouts from SHRP sites are used by Highway Patrol weigh station's Commercial Vehicle Enforcement supervisors to monitor time intervals of high motor carrier traffic volumes so manpower and hours of operation schedules can be adjusted to meet commercial vehicle peak volumes.

Other:

A number of other activities shows Missouri's commitment to the industry and its leadership role in commercial vehicle operations. Missouri is an active member of the National Conference of State Transportation Specialists (**NCSTS**). Missouri's activities at NCSTS include taking a leadership role in a subcommittee providing comments and suggestions to the **FMCSA** in relationship to the requirements of the Interstate Commerce Commission Transfer Act (**ICCTA**) of 1995. ICCTA proposes to replace the SSRS program, the DOT identification number system, the current interstate registration system, and the financial responsibility information system with a single, on-line federal system. Missouri is also a member of the American Association of Motor Vehicle Administrators (**AAMVA**) and the American Association of State Highway and Transportation Officials (**AASHTO**).

Industry also plays an important part in commercial vehicle operations programs both nationally and at the state level. In cooperation with the Mo. Department of Transportation, Digital Teleport, Inc., a private company, has installed approximately 1700 hundred miles of fiber optic cable in the highway rights of way throughout the state. The entire communications infrastructure will link the Highway Patrol's mainframe computer to the fixed weigh stations, rest areas and SHRP sites. The fiber optic network will provide the avenue required to process data transmission at the speeds necessary for electronic clearance of commercial vehicles traveling at mainline highway speeds, to provide assistance at rest areas and to provide weather and traffic information.

A summary of completed state ITS/CVO projects is shown in Figure 2.2 and how those completed projects relate to the elements of CVISN Deployment. This figure will show that a lot of the commercial vehicle operation activity in Missouri has been in the area of safety information exchange and credential administration with little in the area of electronic screening.

2.1.c. Outreach Programs

All Missouri agencies that participate in the ITS/CVO have in the past and continue to be actively involved in the outreach process. Yearly, these agencies either collectively or individually attend seminars to provide regulatory information to a variety of commercial carriers and/or association that are involved in the transportation of goods and services in and through the state. These outreach programs include but are not limited to: Fairs and Festivals Associations; Mo. Dump Truck Association; Land Improvement Contractors Association; Missouri Motor Carriers Association Information Seminars; Safety Seminars and Safety Council meetings; Missouri Truck Driver Championship; Liquefied Petroleum Gas Association; Petroleum Marketers Association; IRP and IFTA annual meetings and quarterly Highway Reciprocity meetings.

The state has focused one area of its outreach program in key Missouri cities over the past several years for Consortia/Third Part Administrators for compliance with federal law for Drug and Alcohol Testing. Missouri has also focused outreach efforts to selected motor carriers for a total overview of the federal rules and regulations.

During Missouri's participation in the Midwest Electronic One Stop Shop project, the state sought out carriers that would be interested in the operational test of the software package. Four carriers were brought on board as participants: Terminal Consolidation, United Van Lines, Opie's Transport, Inc. and Contract Freighters, Inc. Two organizations that we are fortunate to be involved with are the Joplin and Springfield Diplomat Club. This group of commercial carriers meets monthly in the southwest corner of the state inviting speakers to address concerns from the carrier perspective and for informational purposes. This format will be used to address the expectations and enhance awareness of ITS/CVO applications. Missouri has been extremely fortunate in the support that Contract Freighters, Inc. has provided in the past. We will continue to rely on carriers such as this as a path for support and to assist the state in providing outreach to other carriers.

In April of 1999, representatives of the ITS/CVO Standing Committee visited several motor carriers in the Springfield/Joplin area to discuss the Committee's objectives for electronic screening and solicitation of the carriers' desires as it relates those goals. The Standing Committee was well received by these carriers and they provided feedback to support the electronic screening objectives.

2.2 Current CVO Environment

It is important to look at the structure of the state agencies involved with the regulation of commercial vehicle operations, their functions and responsibilities, how the enforcement process works within this state and how four of the state agencies have formed an ITS/CVO standing committee to implement ITS/CVO programs.

2.2.a. Description of ITS/CVO Standing Committee Participants and State Responsibilities

Standing Committee:

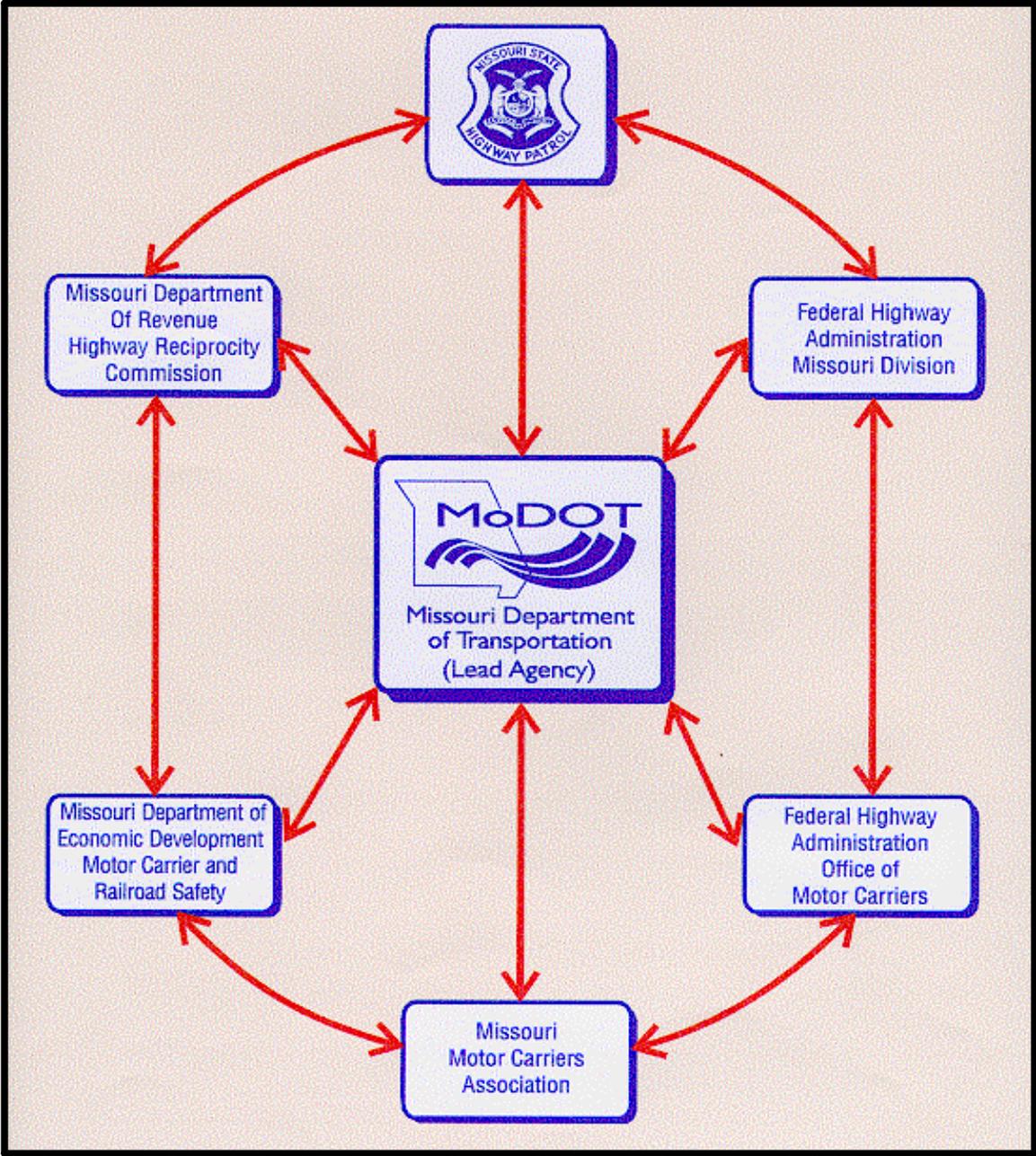
During the time of the institutional studies and Missouri's beginning participation in the Midwest Electronic One-Stop Shop Program, members of each Missouri State agency involved in motor carrier regulation and enforcement as well as representatives from the motor carrier association and the regional FMCSA (the former Federal Highway Administration, began regularly meeting and planning commercial vehicle operation activities. This group decided to formalize its on-going activity into an ITS/CVO Standing Committee. The Mo. Department of Transportation became the lead agency in coordinating the intelligent transportation system program of motor carrier operations primarily because of other ITS programs being developed and implemented by this agency for areas not covered by commercial vehicle operations.

The standing committee has nine members in total with representation from four state agencies involved in ITS/CVO activities, industry and federal agencies. Missouri believes that it is quite unique in its ability to work with industry and the federal government. It is also blessed with great cooperation from the industry and with members of Federal Highway Administration and Federal Motor Carrier Safety Administration. This committee receives active participation from both industry and federal agencies. The working relationship between these partners in ITS/CVO activities can be seen in **Figure 2.2**.

Information technology employees from each state agency support this committee as non-members. These individuals provide technological computer assistance for current systems, design of new systems, hardware and other areas.

If any member of the committee leaves state, federal or industry service, a replacement member is designated for this committee. No service time limitation is placed on any member of this committee. No special funding is provided to any member for service on this committee.

Figure 2.2 Agency Relationship Supporting Commercial Vehicle Operation Services



The committee members are as follows:

Vacant, Administrator, Motor Carrier Services, Missouri Department of Transportation

Captain Dwight Hartung, Director, Commercial Vehicle Enforcement Division, Missouri State Highway Patrol

Rick Moore, Deputy Director, Missouri Department of Revenue, Highway Reciprocity Commission

Mr. Ben Goodin, Transportation Enforcement Program Administrator, Missouri Department of Economic Development, Division of Motor Carrier and Railroad Safety

Mike Nighbert, Federal Motor Carrier Safety Administration

Ross Nichols, Missouri Motor Carriers Association

Mr. Bill Stone, Technical Support Engineer, Missouri Department of Transportation

Mr. Gary Steinmetz, Assistant Director, Commercial Vehicle Enforcement, Missouri State Highway Patrol

Ms. Barbara Hague, Transportation Compliance and Audit Program Administrator, Missouri Department of Economic Development, Division of Motor Carrier and Railroad Safety

Standing committee meetings are held at Mo. Department of Transportation at least once each quarter. An additional meeting is held each year in conjunction with FMCSA's ITS Coordination Team meeting. Meetings of the standing committee are held informally with a majority consensus of the committee being reached on all issues. Individuals or small working groups are often designated by the standing committee to work on specific projects. Drafted projects are reviewed, approved, disapproved or revised by the full committee. Recommendations of the standing committee are taken to the agency's directors and/or department heads before any contract or commitment is made on behalf of a state agency. Any contracts or agreements are formally approved and signed by the lead agency.

Description of Agencies' Responsible for CVO:

The primary responsibility for motor carrier regulation, credentialing and enforcement is shared by five agencies in the state of Missouri. These agencies operate in different departments with differing overall goals and responsibilities. In addition, two police departments (St. Louis Police Department, Kansas City Police Department) are part of the state's Motor Carrier Safety Assistance Program (**McSAP**) and are also involved in CVO activity. These agencies' roles are described as follows.

Department of Transportation - Henry Hungerbeeler, Director

The Missouri Department of Transportation operates under a decentralized organization of 10 geographical districts with a General Headquarters in Jefferson City. The General

Headquarters provides two main functions: 1) policy development and 2) quality assurance. The Highway and Transportation Commission is the governing body of the department and is composed of six appointed members with staggered terms of six years each. No more than three commissioners may be of the same political party. The commission appoints the director, chief engineer, chief counsel and secretary.

OS/OW Section - The Department of Transportation is responsible for management of the oversize/overweight (OS/OW) permits program in the state of Missouri. The maximum legal width, length and weight without a permit varies according to the type of vehicle and/or highways traveled. Carriers wishing to operate a vehicle that exceeds Missouri dimensional or weight limits must obtain an OS/OW permit for that vehicle. Carriers moving loads exceeding 152,000 pounds gross vehicle weight may be subject to bridge analysis, which are conducted by the Mo. Department of Transportation.

Missouri's Motor Carrier Services Unit of the Department of Transportation's Support Center is located in Jefferson City. This center issued 162,371 permits in 1999. This amounted to an 11.6% increase over the past four years. The permit system is designed to enter information from telephone applications on various screens and to ultimately issue a permit that is uniform statewide. The system automatically removes the proper permit fee from escrow accounts previously set up by motor carriers; issues a permit number; and automatically faxes the permit to pre-determined destinations, i.e., truck stops, loading areas, field offices, etc. Electronic application is also available for customers with escrow accounts by means of a modem and personal computer through toll-free phone lines. These applications are then evaluated by General Headquarters agents and approved or disapproved accordingly. The electronic application process is designed to replace the telephone application and the electronic process is offered as an alternative. The permit application evaluation process is primarily manual in that roadway and structure analysis is reviewed for each application by researching information such as bridge weight capacities, vertical and horizontal clearance measurements and traffic volume on county and state maps. The oversize and overweight temporary movement restrictions created by emergency conditions or highway construction are consulted through a separate electronic system that has been set up on a computer program.

Address: 105 West Capitol Avenue, P. O. Box 270, Jefferson City, Missouri 65102-0270, Telephone No. 573-751-4622, Fax No. 573-751-8267
Web Page Address: <http://www.modot.state.mo.us/>

Department of Revenue - Quentin Wilson, Director

The Missouri Department of Revenue oversees several motor carrier functions including vehicle titling and registration; motor fuel taxes; commercial drivers licensing and the issuance of temporary operating permits. In conjunction with these functions, this agency is responsible for accepting and reviewing applications; issuing credentials

to approved carriers, auditing IRP/IFTA records and other tax information, and collecting taxes and fees when required.

Commercial Driver License – The Missouri Department of Revenue, Drivers License Bureau, is responsible for issuing commercial driver licenses (**CDL**) under the National Commercial Driver License Program. A CDL is required for anyone driving a vehicle weighing or registered for 26,001 or more pounds, transporting hazardous materials or carrying 16 or more people, inclusive of the driver. There are three classes of commercial driver licenses: Class A, Class B and Class C. Drivers are required to pass appropriate written and skills tests. The skills test must be taken in a vehicle representative of the type operated or expected to operate. Additional written tests or endorsements are required to operate double/triple trailers, buses, tankers, vehicles equipped with airbrakes and vehicles carrying hazardous materials. The tests are conducted by the Highway Patrol in various areas around the state.

International Registration Plan - Licensing of interstate commercial motor vehicles is under the Highway Reciprocity Commission. This commission oversees the International Fuel Tax Agreement and the International Registration Plan. This commission is composed of the Governor, Attorney General, Director of Revenue, Director of the Division of Motor Carrier and Railroad Safety, Superintendent of the State Highway Patrol and Chief Engineer of the Department of Transportation. The Commission appoints the Director of the Department. The state of Missouri is a member of the International Registration Plan (**IRP**). The IRP is a base state program for issuing apportioned registration for interstate carriers. The base state collects and distributes registration fees dependent on the states and number of miles traveled subject to audit by the state.

The Highway Reciprocity Commission registered 5,653 carriers, 46,054 power units and 28,893 trailers in 1999. These applications are processed daily, online in a real-time environment on the Missouri State Data Center's mainframe computer. The software is developed, maintained and enhanced in-house by Highway Reciprocity data processing staff. Data is keyed into the IRP system and credentials in the form of cab cards are printed on-site and issued immediately. The cab cards are then given to walk-in customers at time of payment or mailed to the carrier. Staff developed a stand-alone program that executes on a personal computer. This program contains all the IRP forms. Carriers are given this program free of charge as requested.

International Fuel Tax Agreement - Highway Reciprocity also administers the base state International Fuel Tax Agreement (**IFTA**). The IFTA is a plan similar to IRP in which the carrier qualifies in the base jurisdiction for fuel tax licensing. The motor carrier files quarterly reports of mileage and fuel paid in all jurisdictions in the base jurisdiction for fuel tax reporting. A Missouri-based interstate carrier who operates a 26,000 pound vehicle which uses diesel, propane, natural or compressed gas, gasoline or gasohol is normally licensed under IFTA. The IFTA license is valid for a calendar

year. Two decals, at a no fee charge, are issued to the carrier to be placed on each exterior portion of the cab's doors.

The Highway Reciprocity Commission issued 86,624 sets of IFTA decals in 1999. Application and tax return data is manually entered and processed daily on the Missouri State Data Center's mainframe computer. The IFTA license is printed on-site and issued immediately. The IFTA licenses and stickers are then given to walk-in customers or mailed to the carrier.

Trip Permits - Temporary permits in lieu of registration or fuel tax requirements may be purchased from the Commission, from permit services or at weigh stations. These permits are valid for 72 hours. Missouri is also able to issue trip permits for 10 other states as well.

Address: 301 West High Street, Jefferson City, MO 65101
Telephone No. 573-751-4450, Web Page Address: <http://www.services.state.mo.us/dor/>

State Highway Patrol- Weldon L. Wilhoit, Superintendent

Roadside Enforcement - The Highway Patrol through the Commercial Vehicle Enforcement Unit enforces the credentials issued by the agencies listed above and operates all fixed and mobile enforcement weight and inspection facilities. Missouri has 33 stations at interstate and primary road sites and 22 portable units. The Highway Patrol has 181 Commercial Vehicle Enforcement Personnel trained in all aspects of commercial vehicle regulations.

This agency enforces size and weight requirements; IRP, IFTA, SSRS, Intrastate, Interstate Exempt and Oversize/Overdimension permits; all roadside safety and hazardous materials inspections; insurance and registration enforcement. Temporary interstate exempt, IRP and IFTA credentials may be purchased at any weigh facility in the state if the motor carrier does not cross the scales and walks in to purchase the necessary credentials. In the near future, this agency will also administer the dyed fuel program currently administered by the Internal Revenue Service. The dyed fuel program is a testing program designed to determine if fuel, intended for off-road use, is being used in motor vehicle activity over the road.

The mission of the Commercial Vehicle Enforcement Division is the enforcement of state and federal regulations insuring the safe and legal operations of both interstate and intrastate commercial vehicles into and through the state of Missouri.

Address: 1510 East Elm, Jefferson City, Missouri 65102, Telephone No. 573-751-3313,
Web Page Address: <http://www.dps.state.mo.us/dps/mshp/hp.htm>

Department of Natural Resources - Stephen Mahfood, Director

The Department of Natural Resources is made up of five divisions: Division of Energy, Division of Environment Quality, Division of Geology and Land Survey, Division of Administrative Support and Division of State Parks. The Division of Environmental Quality is responsible for administering the solid and hazardous waste management program.

Hazardous Waste Management - The Missouri Department of Natural Resources regulates the registration, filing of financial responsibility and routing of the transportation of hazardous waste. The hazardous waste program protects public health and the environment. The hazardous waste program reviews applications for permits for facilities that treat, store and dispose of hazardous waste to ensure that these facilities conform to environmental laws and regulations. This program also licenses hazardous waste transporters that meet state requirements. Transporters moving hazardous waste into, out of or through the state must be licensed by this agency. These licenses are issued for a one-year period. No temporary licenses are issued. The license fee is determined according to the gross vehicle weight and the number of vehicles in the fleet. Hazardous waste transporters are required to file proof of insurance and if a corporation, certificate of corporate good standing. The driver of the vehicle must carry a manifest and a Missouri Hazardous Waste Transporter License Certificate.

Address: P.O. Box 176, Jefferson City, MO 65102, Telephone No. 573-751-4732, Fax No.573-751-7627, Web Page Address: <http://www.state.mo.us/dnr/homednr.htm>

Department of Economic Development - Quentin Wilson, Director

The Missouri Department of Economic Development executes statutory requirements and department policy in the areas of economic development, regulation of business and financial institutions and professional registration. Various regulatory agencies fall under this department including the Division of Motor Carrier and Railroad Safety.

Operating Authority - The Division of Motor Carrier and Railroad Safety is responsible for regulating common and contract motor carriers transporting property (including hazardous materials) and passengers in the state of Missouri. Motor carriers that fall into one of these categories and conduct intrastate or interstate operations must show that they are financially responsible (proof of insurance) and obtain operating authority from this agency. In addition, motor carriers applying to operate within the state must comply with the federal regulations as it relates to safety. Operating authority may be granted to motor carriers who are registered with the FHWA, as well as to FHWA-exempt carriers.

Motor Carrier and Railroad Safety is responsible for administering the Single State Registration Program (**SSRS**). The audit section is responsible for auditing approximately 2,700 SSRS motor carriers based in Missouri or who have chosen

Missouri as its base state. A majority of the SSRS applications are received by mail. The information is entered into a mainframe system and the credential is downloaded for printing the next working day. If a credential is needed quickly, the information is entered into a personal computer and processed within 5 minutes. In many instances, the SSRS credential is faxed to the motor carrier. A new interstate registrant may have his application processed and credential issued within an hour and a half.

Motor carriers desiring to operate in intrastate commerce are required to show that they are financially responsible (file proof of insurance) and that they are in compliance with federal safety requirements. Household good and passenger carriers are regulated at a more stringent level.

Enforcement - The enforcement section within this agency is responsible for enforcing the state rules and regulations and the Federal Motor Carrier Safety Regulations. This section performs terminal safety compliance reviews, investigates complaints and provides educational assistance to carriers. This agency enforces safety requirements at motor carrier terminals under the Motor Carrier Safety Assistance program. The federal safety regulations have been adopted by the state of Missouri.

Complaints are filed with this agency if a carrier fails to comply with state requirements. Fines of up to \$2,000 per day per violation may be assessed for non-compliance. In the calendar year 1999, 9,593 carrier contacts were made, 689 compliance reviews were performed, 483 investigations were conducted and 131 cases were filed.

Address: 301 West High Street, Jefferson City, MO 65101,
Telephone No. 573-751-4450, Web Page Address: <http://www.services.state.mo.us/dor/>

Saint Louis and Kansas City Police Department

Missouri is unique in its make up and involvement with the local police departments of two of its largest metropolitan areas. Both of these departments enforce size and weight requirements and perform roadside safety and hazardous materials inspections. St. Louis Police Department also performs a few compliance reviews.

2.2.b. Description of Missouri's Enforcement Process

Presently all commercial vehicles registered for more than 18,000 pounds are required to stop at all weigh stations. Once a commercial vehicle enters the weigh station, the vehicle continues to the static scale. The commercial vehicle is then weighed as enforcement personnel visually examine the vehicle, looking for any obvious mechanical defects or violations, which would require closer scrutiny of the vehicle or driver. If it is determined no further attention is required the driver is allowed to

proceed. If additional attention or a more thorough examination is necessary the driver is instructed to park the vehicle and bring in all available driver and vehicle credentials and shipping documents. During this subsequent examination the driver's CDL, medical certificate, registration, IRP and IFTA credentials, Single State Registration, OS/OW permits if applicable, and insurance requirements are checked to determine compliance.

The Missouri Uniform Law Enforcement System (**MULES**) who interacts with the National Law Enforcement Telecommunication System (**NLETS**) allows enforcement personnel to determine the validity of a CDL for a Missouri resident or non-resident. All interstate weigh stations are equipped with computer terminals that can access MULES and NLETS. Through MULES, the Patrol's mainframe computer accesses the records of Missouri Department of Revenue's Driver Records, IFTA and IRP credentials from the Highway Reciprocity Commission, as well as motor carrier files on safety records and financial responsibility at the Missouri Division of Motor Carrier and Railroad Safety.

The vehicle registration is also checked to determine ownership and validity. The driver's record of duty status is examined to determine compliance with hours of service regulations. After examination of driver and carrier credentials the enforcement personnel decide whether to conduct the North American Standard Level I, II, or III inspection. Any request for information relative to oversize/overdimension permits must be directed to the Special Permit Office of the MoDOT via telephone during normal business hours Monday through Friday. Enforcement personnel are authorized to issue Uniform Complaint and Summons for any commercial vehicle violation of state laws, federal motor carrier safety regulations and hazardous materials requirements. Completed inspection reports are manually or electronically forwarded to the Commercial Vehicle Enforcement Division of the Highway Patrol, for entry into SAFETYNET, the FMCSA's automated information system for managing safety data.

Manually initiated computer inquiries are presently being conducted at all interstate weigh stations and at most weigh stations on the primary system. These computer checks are conducted to insure that carriers are in compliance with state and federal regulations and that all revenues due the state have been paid. During the calendar year 1998, there were approximately 3 million computer inquiries into the MULES system checking the validity or status of driver/vehicle licenses and authority to operate through Missouri.

Missouri has an ongoing problem of commercial vehicles by-passing the fixed weigh stations by traveling the secondary highway system in order to escape compliance checks. The main objective of portable units is to monitor commercial vehicle traffic on the secondary and supplementary highway systems. Portable unit teams patrol assigned areas looking for vehicles operating in violation of the state's size and weight laws, registration and fuel tax requirements and commercial vehicles operating

in violation of motor carrier regulations. When a vehicle is selected for examination it is imperative that a safe location be found where enforcement personnel can conduct an inspection of the driver/vehicle. Once the vehicle is stopped, the shipping documents are examined and a determination is made to weigh the vehicle using portable wheel load weighers. The enforcement personnel visually examine the vehicle looking for any obvious mechanical defects or violations, which would require closer scrutiny of the vehicle or driver. If enforcement personnel decide no further attention is required, the driver is allowed to proceed. If enforcement personnel decide that additional attention or a more thorough examination is necessary, the driver is instructed to produce all credentials. Computer inquiries are requested by radio transmission to the district Troop Headquarters or fixed weigh station. The enforcement officer can check all credentials on the road that can be checked at the fixed weigh stations. Communication Officers initiate the computer inquiry into the MULES network advising the portable unit team of the outcome of the request.

The Division of Motor Carrier and Railroad Safety has for a number of years shared enforcement of motor carrier compliance of maintaining proof of insurance with the Highway Patrol. Financial responsibility information can be accessed and monitored at the weigh stations. The Division of Motor Carrier and Railroad Safety began its simplification of interstate motor carrier registration process eight years ago by executing an agreement with seven states to identify interstate motor carriers in a test base state registration program. The intent of this program was to simplify the identification process of interstate carriers for the purpose of verifying whether motor carriers filed and maintained proper insurance. In 1995, this concept was federally mandated and the Single State Registration System (**SSRS**) was initiated along guidelines similar to the test program. New legislation has been passed that will integrate the SSRS state program into a single federal on-line system. It is anticipated that this single system will be implemented at the state level and could identify the motor carrier, issue safety census numbers, collect insurance compliance electronically as well as manually, and share this information with federal and other state agencies.

The Highway Patrol also enforces the issuance of oversize/overweight permit issued by the Mo. Department of Transportation. These permits limit the motor carrier to specific routes within specific timeframes.

2.2.c. Private and Industry Participation

All of the Missouri agencies involved with CVO enforcement and credentialing enjoy a very close working relationship with the Missouri Motor Carriers Association (**MMCA**). Numerous meetings are held with industry representatives and with state staff. MMCA is an ex-officio non-voting member of the Highway Reciprocity Commission. The Commission is comprised of the Governor, Attorney General,

Director of Revenue, Chief Engineer of the MoDOT, Superintendent of the MSHP and Director of the Missouri Division of MCRS.

The state also enjoys a good relationship with the DumpTruck Association and the Owner Operators Association. The state also has a good relationship with the carrier's themselves as well as numerous permit companies who act on the motor carrier's behalf.

The motor carrier and related industries of the state of Missouri strongly support the objectives of the Mainstreaming and CVISN programs. This was demonstrated by the number of carriers that participated in the MEOSS project and carriers that continue to show interest in the electronic screening project for the southwest weigh station. Missouri also has an excellent working relationship with a large-scale manufacturer located in Missouri, who has expressed interest in partnering with the state for Project 5 of this plan. This relationship between carriers and industry continue to be an example of Missouri's commitment to the ITS/CVO process.

Missouri has a history of partnerships between private entities in the ITS/CVO arena. A Missouri company played an integral part in providing some weigh in motion equipment for testing. Another company has been provided highway right-of-way rights in exchange for state use of a fiber optics system being installed next to the major interstate system. Missouri is also discussing another possible partnership in conjunction with the installation of a mainline verification system for commercial motor carrier operations.

This strong commitment by private and motor carrier industry indicates their interest in these types of projects and their ability to work with the state of Missouri in these efforts.

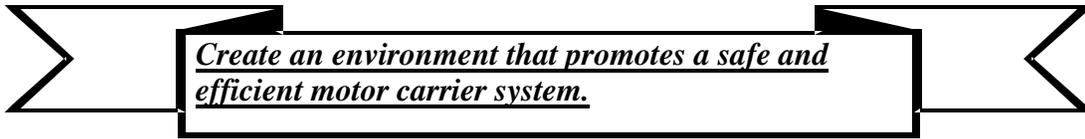
2.3 Strategic Direction for ITS/CVO Activities

Nationally, the intelligent transportation system is guided by four principles: 1) promotion of a national coordinated transportation system; 2) support research and technology transfer; 3) ensure ITS technologies are safe and cost efficient; and 4) create a new industry. Commercial vehicle operation is only one aspect of this overall system. This is true as well in Missouri. This section of the business plan will detail this state's mission statement, its goal and objectives as they relate to commercial vehicle operation.

2.3.a. Mission Statement

A mission statement charts the future direction and establishes a basis for decision making. This statement should be a brief, clear statement of the reason an organization exists. The primary purpose of having a mission statement is to give the members an

understanding of how the activities of an organization are tied into a greater purpose. The mission of the ITS/CVO program in Missouri is as follows:



2.3.b. Integration with State Agencies' Strategic Plans

Strategic planning is formal long range planning. It is defined as “the process by which the guiding members of an organization envision its future and develop the necessary procedures and operations to achieve that future”. This section of the business plan will not attempt to describe the strategic plans of each agencies represented by the standing committee. The standing committee’s vision is to implement CVISN. In order to accomplish that implementation, the projects and programs described in the next section of this business plan details the outcomes of the long-range planning of each agency. The activities detailed in Section 3.0 are supported by state agency planning. The state of Missouri is not a model CVISN state and is not supported by specific federal funding to implement CVISN. Because this implementation is integrated into agencies’ strategic plans, it will take longer to implement CVISN than desired by the standing committee.

3.0 Project and Program Plan Objectives

Missouri’s vision is the full implementation of the commercial vehicle operations program that will allow law compliant commercial vehicles to travel safely and unencumbered in and through the state and provide maximum safety for the motoring public. The ITS/CVO program in Missouri is a partnership between industry and government. The programs presented in this business plan are centered on the need for industry to operate without high costs of compliance and that participation is voluntary. Each of the projects listed within the plan must provide benefits to the industry and the state in order to be considered.

3.1 Goals and Objectives

The goals and objectives of our ITS/CVO program are:

Goal 1. Ensure the safe and legal operation of both interstate and intrastate commercial vehicles operating within and through the state of Missouri.

Objectives:

- a) Decrease the number of legal commercial vehicles required to exit the highway system at fixed weigh stations by 5% by the end of the year 2001.
- b) Improve motoring public safety in and around weigh stations by upgrading 30% of the fixed weigh stations by the year 2005.

Goal 2. Improve the effectiveness of roadside program.

Objectives:

- a) Focus enforcement efforts on carriers with high crash rates and high driver and vehicle out of service rates by focusing 10% of current inspections and compliance reviews on problem carriers in these areas.
- b) Develop and deploy electronic screening of commercial vehicles at mainline speeds at one location by end of year 2001 and additional two locations by the end of the year 2005.
- c) Target enforcement efforts on motor carriers that do not stay in compliance with financial responsibility requirements. Currently 8% of the motor carrier industry operating in Missouri are out of compliance with financial responsibility. Within the next three years, it is intended to reduce this amount by 5%.
- d) Insure compliance with state's fuel tax reporting, credential requirements and oversize/overweight regulations by increasing the number of vehicles checked for these credentials.

Goal 3. Improve the effectiveness of program information.

Objectives:

- a) Improve the timeliness and accuracy of information supplied to the roadside whether online or upon request to support the selection of targeted carriers and enforcement decisions by 15% by the end of the year 2000.
- b) Develop and enhance interoperability of data systems by the year 2001.
- c) Identify, analyze, and evaluate the benefits and impact of an electronic method of obtaining and processing registration credentials and implement electronic exchange of credential information by the year 2001.
- d) Use enhanced technologies and information systems to help exchange data electronically with industry, member jurisdictions, and other related

organizations and to ensure CVISN Level I compliance. Intend to have 10% of the motor carrier industry exchanging data electronically by September 30, 2003.

- e) Interface electronically with the IRP and IFTA Clearinghouses.

Goal 4. Administer and enforce the laws relating to all commercial motor vehicle registration with efficiency and fairness.

Objectives:

- a) Streamline operation to process registration renewals and supplemental applications for commercial vehicles by the year-end 2001.
- b) Use enhanced technologies and information systems to help exchange data electronically with industry, member jurisdictions and other related organizations.
- c) Continue to improve customer relations by keeping up-to-date on all requirements and regulations with member jurisdictions and government agencies by decreasing the regulatory cost of compliance.
- d) Be more flexible and responsive to customer needs.
- e) Continue to nurture public relations by improving customer service levels through the use of electronic communication between state agencies, FMCSA and the motor carrier industry.
- f) Work toward total electronic registration and eliminate unnecessary vehicle credentials by the fiscal year 2005.

Goal 5. Create projects that are consistent and compatible with the CVISN architecture and the deployment of CVISN.

Objectives:

- a) Implement operational concepts and recommended practices expressed in the National Architecture and CVISN Architecture.
- b) Seventy-five percent of all inspection data will be generated electronically using ASPEN and the ISS system by year-end 2000.
- c) Use of standard data definitions to facilitate the exchange of safety and credentials information between states.
- d) Develop compatibility with the IRP and IFTA clearinghouses.
- e) Interoperability of state system.

3.2 Project Descriptions

Below will be a brief description of the CVO projects planned or in progress. A more detail description The document, the Program Plan, Following the description of the projects is a work breakdown structure that shows each phase of the projects and the amount of work completed on that project.

Program Management

This part of the ITS/CVO effort consists of several parts and covers a wide range of activity. Its primary focus is to educate, inform and improve CVO activities with stakeholders in the state and to coordinate Missouri's ITS/CVO activities with activities nationally and with surrounding states. Missouri has actively worked with other states and participated in various studies and pilot programs. We intend to continue in this leadership role by pursuing participation in programs that fit with our existing programs. One new project which Missouri is the lead state is the International Trade Corridor Study. This project will study how to implement and integrate Intelligent Transportation Systems for Commercial Vehicle Operations through the Highway corridor comprising Interstates 29, 35, 80 and 94, which stretch from Canada to Mexico. Missouri has also formed an interagency task force to reduce motor carrier requirements and to instigate a one-stop shop facility. Continued updating and documentation of activities of the standing committee are also needed and are addressed here.

The overall start date, end date and percent completion of projects within this category is shown below as well as a detail list of the projects.

Activity Description	Duration	Start Date	End Date	% Complete
Program Management	998 days	12/07/99	09/30/03	6%

These projects within this category of activity are:

Project 1.1 Planning and Coordination – 100% Completed

- Update state ITS/CVO business plan;
- Identify Items of Business Plan/Program Plan that need to be incorporated into Project Plan;
- Draft of Business Plan to CVO Standing Committee for comment and approval; and
- Finalize Update to Program Plan.

Project 1.2 Stakeholder Showcases & Outreach – 1% Completed

- Developing a mechanism for informing motor carriers, legislators and local courts about the CVISN program;
- Developing a mechanism for informing motor carriers of service delivery plans;
- Visit small group of carriers in the Joplin area to discuss the goals and objectives of the committee;
- Develop Mechanisms for Informing Legislators of Service Delivery Plans
- Develop Mechanisms for Informing Courts of Service Delivery Plans

Project 1.3 Regional Coordination- 4% Completed

- Coordination of Missouri CVO activities with toll authorities in the states of Kansas and Oklahoma;
- Inter-agency Task Force to improve the regulatory process for the motor carrier industry by developing a single interactive web application for multiple agency requirements and locating those state agencies in a single site; and
- International Trade Corridor Plan / Study.

System Engineering & Integration

This category of projects consist of all aspects of engineering, re-engineering and integration of state legacy systems and other systems to provide data exchange from the carrier's place of business, between state agencies, to roadside enforcement and to and from federal systems. This integration may take on the shape of a simple modification of a state legacy system(s), the creation of new interface systems to a full replacement of a legacy system(s). These projects look at the overall system design and architecture and the testing of these changes.

Activity Description	Duration	Start Date	End Date	% Complete
System Engineering & Integration	998 days	02/07/99	09/30/03	1%

Projects 2.1 through 2.4 include defining system definitions, requirements, reviewing systems design, architecture conformance and system integration and testing as well as interoperability testing.

Safety Information Exchange Systems

Projects under this category deal primarily with software systems that are needed to integrate information from, to and between state and federal agencies. Part of the ASPEN project to equip all inspectors with 16 bit ASPEN software to upload vehicle inspection information to SafetyNet has been completed. Future upgrades will require laptops to have 32 bit capabilities. Some equipment may need to be replaced. Compliance Review data is being uploaded to SafetyNet. A future upgrade to SafetyNet is expected and will need to be installed. This project when completed will also allow wireless inquiries into the Missouri Uniform Law Enforcement System (MULES) and wireless downloading of inspection data into the SAFETYNET repository.

The ability to send and received information from roadside weigh facilities will be needed. Snapshots of carrier information concerning credentials, safety information, insurance and other items will be needed by all state agencies and at the roadside. Systems such as CVIEW will provide those carrier snapshots. A system will be needed to “flag” or indicate motor carrier compliance/noncompliance at the roadside.

Activity Description	Duration	Start Date	End Date	% Complete
SAFETYNET	559d	07/12/00	09/02/02	5%

Projects 3.1 through 3.3 include project management selection, systems engineering and integration and subcontract and procurement.

Project 3.4 Commercial Vehicle Information Exchange Window (CVIEW) – 0% Completed

- The system would be owned and located in the state and would be the mechanism to exchange interstate and intrastate data between state agencies and roadside enforcement within the state. This system would need to be built, customized or procured. Each agency will need to define its requirements for the Missouri CVIEW System. This system will need to have a connection to the federal Safety and Fitness Electronic Records (SAFER) system.

Project 3.5 ASPEN – 56% Completed

- ASPEN is currently being used to upload inspection data to the federal SafetyNet System. The current software is 16 bit and will need to be upgraded to 32 bit.
- Missouri will need to establish a connection between ASPEN and roadside.
- Supply roadside users and state agencies with inspection snapshots via the web.

- Enhance the inspection data uploading process by wireless communication and adding personal computers at fixed weigh facilities to enhance access of inspection information. We have begun testing two portable units with mobile data terminals, which have been loaded with ASPEN and the Inspection Selection System to access interstate inspection data.

Project 3.6 SafetyNet – 5% Complete

- Build and interface for submitting CAPRI Snapshots to SAFETYNET and begin uploading Compliance Reviews information from Motor Carrier & Railroad Safety to the State Highway Patrol. (This process has been completed and is in full operation.)
- Obtain and install SAFETYNET 2000 software.
- Build an interface application from the roadside to CVIEW; and build the roadside screening/flagging system.
- Establish SAFETYNET to SAFER Connection.

Project 3.7 Roadside Operations – 8% Completed

- Define roadside operations applications and activities.
- Build or modify roadside operations user interface application with Department of Revenue, Motor Carrier & Railroad Safety and the Department of Transportation.
- Automate a query activity.
- Build a connection from the roadside to CVIEW.
- Build roadside operations to the screening/flagging system connection.

Credentials Project

This series of projects will define the necessary software and programming needs to of multiple agencies. Two agencies are looking at either upgrading their systems or complete new legacy systems. The current legacy system for Highway Reciprocity has been programmed in an outdated language that is difficult to support. The new legacy system for Highway Reciprocity would be designed to interface with the IFTA and IRP clearinghouses. Access to these clearinghouses will allow the state to electronically transmit data to and from other jurisdictions. It will also allow for the transmittal of monies due to and due from other participating jurisdictions in a much more timely fashion. This new legacy system will have the capable to include other state agencies currently using separate legacy systems.

The development of a Web based single application for multiple agencies will allow for electronic one-stop shop. Electronic one-stop shop has the potential to enhance the efficiency of the administration processes of applying for and obtaining credentials, permits and managing fuel tax administration. Electronic filings should reduce time, labor and cost expended by the motor carrier industry upon compliance with these requirements.

A credential interface will be needed to integrate data from motor carriers' place of business into state systems. This interface will need to be built or systems customized to handle the process. A Carrier Automated Transaction system (CAT) would allow for carriers to transmit monies and credentialing information to state agencies and be able to print credentials at their place of business.

Several activities within the Division of Motor Carrier and Railroad Safety are intended to improve efficiency of their office and to improve customer service. That agency is in the process of implementing a paperless office system. This system would convert paper applications and filings into an electronic image. This agency has also adopted the U.S. Department of Transportation Census Number for its intrastate motor carriers. By the end of the year, all for-hire intrastate motor carriers will be issued US DOT numbers. This project will further implementation of a single national motor carrier numbering system for trailing motor carriers for safety. This agency is also participating in a volunteer program for electronic filing of proof of insurance on the Internet. The passage of state legislation this past session has enabled this program to occur. MCRS is also working with other states and the National Conference of State Transportation Specialists toward the implementation of a single national on-line program for all interstate motor carriers and the elimination of the Single State Registration System.

The overall status of these projects is:

Activity Description	Duration	Start Date	End Date	% Complete
Credentials Project	915d	07/01/99	12/31/02	16%

Projects 4.1 through 4.3 deal with the overall management of the projects within this category, systems engineering and integration and contract and procurement management.

Project 4.4 Develop end-to-end electronic registration for IRP & IFTA- 3% Completed

- Develop initial functional requirements for a new legacy system for IRP and IFTA.
- Develop and issue a Request For Information from possible vendors for the new legacy system.
- Finalize functional requirements for the new legacy system.
- Develop and issue the Request For Proposal from vendors for the new legacy system.
- Select the vendor for development of the new system and award the contract.
- Develop the new legacy system.
- Conduct system testing and implement the new system.

Project 4.7 Develop end-to-end electronic application for OS/OW for MoDOT- 0% Completed

- Develop functional requirements for proposed OS/OW system.
- Develop and issue a Request For Proposal for OS/OW system.
- Select a vendor for proposed the OS/OW system.
- Contract negotiations with vendor for OS/OW system.
- Development of OS/OW system.

Project 4.8 Credential Interface (CI) – 0% Completed

- Define the requirements for the credential interface.
- Evaluate Federal and Other State CI Systems in place.
- Build or buy a Credentialing Interface (CI) that allows data exchange from the motor carrier’s computer systems to the state agency(s).

Project 4.9 Motor Carrier Home Page & Web Credentialing – 2% Completed

- Develop data elements needed by the state agencies.
- Seek out vendors that can provide this system at no cost to the state.
- Develop a new single application for multiple state agencies.

- Test and implement new application.

Project 4.10 Carrier Automated Transaction System (CAT) – 0% Completed

- Define the requirements for the CAT.
- Evaluate current vendor or State systems in place.
- Build or buy a CAT system that allows data exchange and issuing credentials from the motor carrier to the state agency(s).

Project 4.11 Intrastate Regulation – 47% Completed

- Develop a "Paperless Office" System for intrastate and interstate registration for MCRS. (This system has been designed and is being tested for full implementation in state fiscal year 2001.)
- Implement the US DOT Numbering System for intrastate for-hire carriers. (Federal System access, testing, training and full implementation has been completed.)
- Build Interface from MCRS System to State Bank (Electronic Commerce).
- Implement new system to receive "Proof of Insurance" to MCRS from a web application site. (This system has been designed, tested and is ready for permanent implementation at no cost for state participation.)
- Implementation of a Unified Carrier Registration system to replace the Single State Registration Program.

Electronic Screening

Electronic screening capabilities will reduce the number of vehicles that need physical verification by screening compliance at normal highway speeds without the need to exit the main highway lines. Besides the of gaining efficiencies and reduction of costs for the motor carriers by not having to pull into weigh facilities if the carrier is in compliance, state resources can be dedicated to monitoring vehicles not in compliance and carriers whose SAFESTAT scores and safety rating are unacceptable.

The state of Missouri's emphasis is to screen all vehicles with various types of electronic transponders. Two types of transponder technology are currently being used by the industry. It is unclear how these types of technology interact with each other. Missouri is attempting to test these technologies and determine how to read whatever transponder is onboard the motor vehicle. After the results of the test are obtained, a pilot project will be established at Joplin, Missouri. Roadside readers will be connected to a LAN server located at the fixed weigh station through fiber optic cable or wireless-bridge. Up-to-date (yes, no) flags for compliance on prorated license plates, fuel tax requirement, authority registration, insurance, oversize/overdimension, special fuel user tax, out-of service, accident history and safety ratings will be used to determine compliance for pre-clearance. Many carriers are participating in various ITS projects throughout the country as well as implementing fleet and facility management programs within the carrier's terminals. Toll authorities in Oklahoma and Kansas are using transponder technology. Upon completion of the test and pilot project, it is the intent to expand this use of technology to other weigh facilities in Missouri.

The overall progress of these projects is:

Activity Description	Duration	Start Date	End Date	% Complete
Electronic Screening Program	1133d	06/01/99	09/30/03	7%

Projects 5.1 through 5.3 deal with the overall management of the projects within this category, systems engineering and integration and contract and procurement management.

Project 5.4 Open Enrollment to Screening Process for all Carriers - 0% Completed

- Establish agreements with existing ITS/CVO Program Administrators.
- Establish agreements with local and regional Toll Systems (States of Oklahoma and Kansas).
- Identify Transponder Administrator for distribution of transponders.

Project 5.5 Test Active/Passive Technology Co-Location – 10% Completed

- Develop a Request For Proposal for Active/Passive Transponder Technology Feasibility Study.
- Request for Proposal Review and award of the contract.
- Review Feasibility Study Results.

Project 5.6 Joplin Active/Passive Pilot Project, Phase I – 0% Completed

- Conduct tests for reading Active/Passive transponders.
- Conduct Bench Test and develop a report on the results.
- Develop shop drawings and wiring diagrams from the test results.
- Conduct CVISN consistency/interoperability checks.
- Determine Joplin Site Architecture.
- Identify Typical site function and technical specifications.
- Develop 5-year Cost Plan (Initial & Re-occurring Costs).
- Site Preparation/Location of Active/Passive Readers and Weigh in Motion
- Develop Interface between Weigh in Motion and Readers.
- Install Weigh in Motion.
- Develop Interface between Vehicle Classifier and Weigh in Motion
- Install Classifiers (Advanced & Compliance).
- Evaluate Equipment for Screening Vehicle (Length, Width and Height).
- Link mainline screening equipment w/roadside computer.
- Select Carriers for Test Participation.
- Define Roadside Software Requirements.
- Build Roadside System.
- Activate Roadside to SAFER Connection.
- Activate Roadside to CVIEW Connection.

Project 5.9 Electronic Screening Operational (Statewide Rollout) – 0% Completed

- Implement electronic screening. After the test of Active/Passive technology at a single location electronic screening will be implemented statewide in a phased approach at all weigh facilities.
- Establish Screening System to Pre-Screening Controller System Interface.
- Establish Screening System to Roadside Operations System Interface.
- Establish Screening System to CVIEW Interface.
- Site Preparation.
- Carrier Screening Enrollment.
- Implement Electronic Screening Level 1 (Joplin).

Training

Project 6.1 Attend CVISN Workshops I, II, III

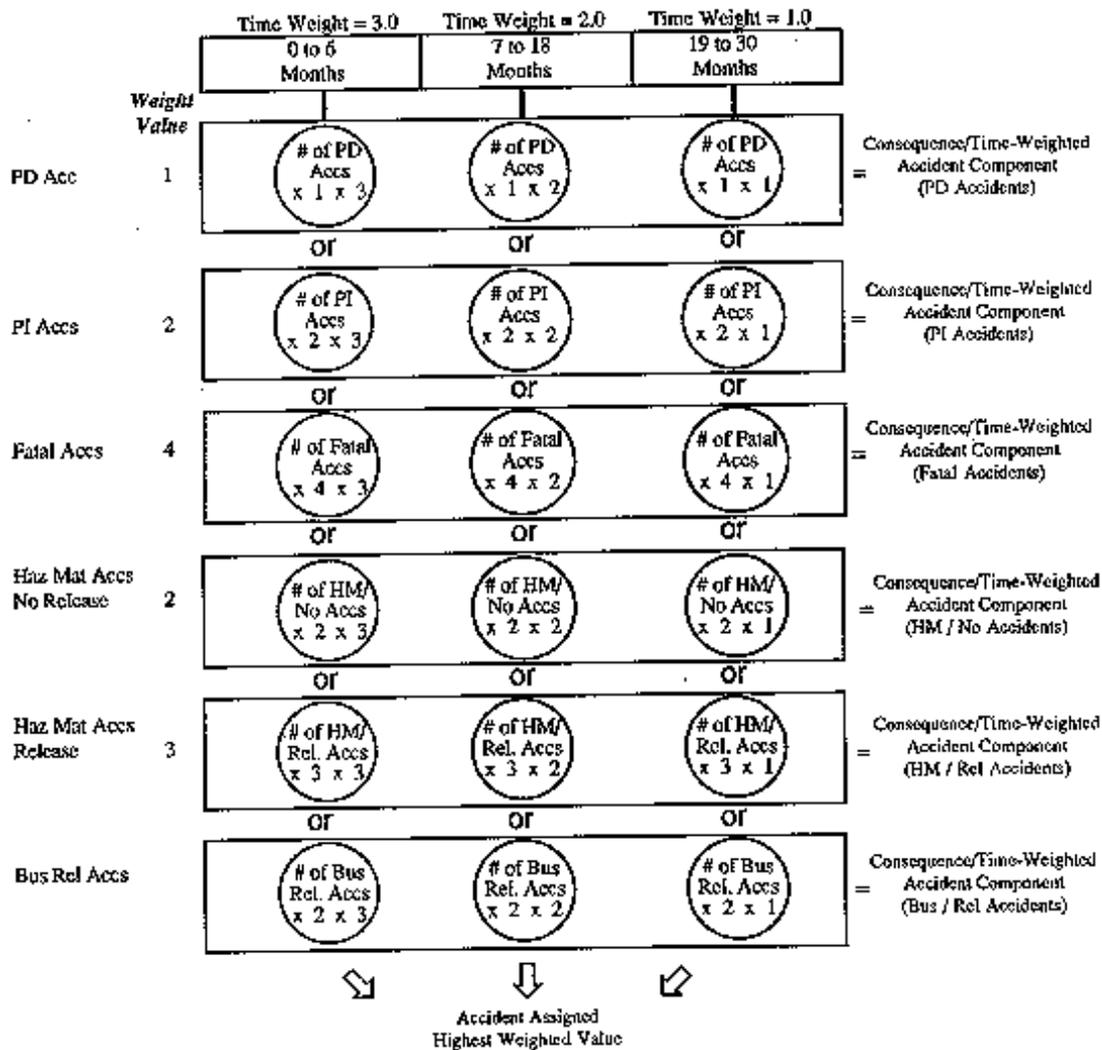
The standing committee has attending the following workshops:

CVISN Scope Workshop, Lexington, KY, July 13-15, 1999
CVISN Planning Workshop, Lexington, KY, December 7-9, 1999
CVISN Design Workshop, Lexington, KY, April 4-6, 2000

ACCIDENT SEA

1. Omit carriers having no accidents.
2. For each carrier, calculate the Accident SEA Score by using the following procedures:

Step 1 Analysis



$$\sum \text{Accident \#1 Weight} + \text{Accident \#2 Weight} + \text{Accident \#n Weight} = \text{Accident Involvement Measure (AIM)}$$

**PRODUCT COMPARISON RANKING OF POSSIBLE ACCIDENT SEA CONSEQUENCE/TIME WEIGHTS
ALTERNATIVE**

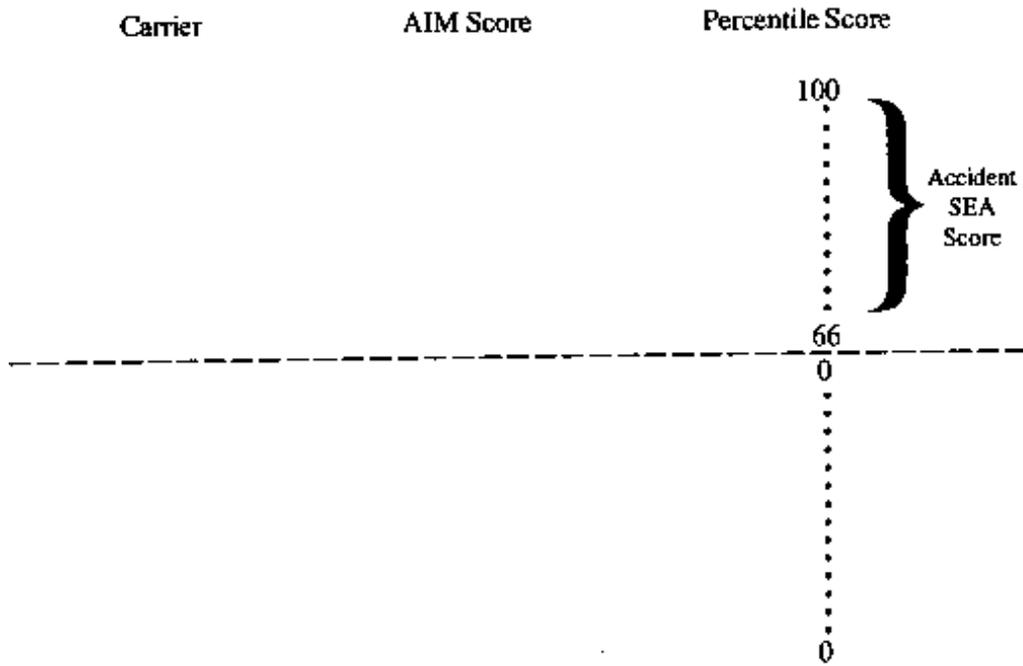
Accident Type	Accident WT	OT	Hazmat Release WT	Hazmat No Release OT	OT WT	Bus Rel WT	Largest Value	Time WT	Consequence Time WT
Fatal 0 to 6 Months Haz Mat - Released	4	3	0	0	0	0	4	3	12
Fatal 0 to 6 Months Haz Mat No Release	4	0	2	0	0	0	4	3	12
Fatal 0 to 6 Months Bus Related	4	0	0	0	2	2	4	3	12
Fatal 0 to 6 Months	4	0	0	0	0	0	4	3	12
Personal Injury 0 to 6 Months Haz Mat Released	2	3	0	0	0	0	3	3	9
Property Damage 0 to 6 Months Haz Mat Release	1	3	0	0	0	0	3	3	9
Fatal 7 to 18 Months Haz Mat - Release	4	3	0	0	0	0	4	2	8
Fatal 7 to 18 Months Haz Mat No Release	4	0	2	0	0	0	4	2	8
Fatal 7 to 18 Months Bus Related	4	0	0	0	2	2	4	2	8
Fatal 7 to 18 Months	4	0	0	0	0	0	4	2	8
Personal Injury 0 to 6 Months Haz Mat No Release	2	0	2	0	0	0	2	3	6
Personal Injury 0 to 6 Months Bus Related	2	0	0	0	2	2	2	3	6
Personal Injury 0 to 6 Months	2	0	0	0	0	0	2	3	6
Personal Injury 7 to 18 Months Haz Mat Release	2	3	0	0	0	0	3	2	6
Property Damage 0 to 6 Months Haz Mat No Release	1	0	2	0	0	0	2	3	6
Property Damage 7 to 18 Months Haz Mat Release	1	3	0	0	0	0	3	2	6
Property Damage 0 to 6 Months Bus Related	1	0	0	0	2	2	2	3	6

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Accident Type	Accident Wt +	Hazmat Release Wt +	Hazmat No Release Wt +	Bus Rel Wt +	X	Time Wt =	Consequence/ Time Wt
Property Damage 7 to 18 Months Haz Mat No Release	1	0	2	0	2	2	6
Property Damage 7 to 18 Months Bus Related	1	0	0	2	2	2	6
Fatal 7 to 18 Months	3	0	0	0	2	2	8
Personal Injury 0 to 6 Months	2	0	0	0	3	3	5
Personal Injury 19 to 30 Months Haz Mat Release	2	3	0	0	1	1	5
Fatal 19 to 30 Months Bus Related	3	0	0	2	1	1	5
Fatal 19 to 30 Months Haz Mat No Release	3	0	2	0	1	1	5
Property Damage 19 to 30 Months Haz Mat Release	1	3	0	0	1	1	4
Personal Injury 7 to 18 Months	2	0	0	0	2	2	4
Personal Injury 19 to 30 Months Bus Related	2	0	0	2	1	1	4
Personal Injury 19 to 30 Months Haz Mat No Release	2	0	2	0	1	1	4
Property Damage 19 to 30 Months Haz Mat No Release	1	0	2	0	1	1	3
Fatal 19 to 30 Months	3	0	0	0	1	1	3
Property Damage 0 to 6 Months	1	0	0	0	3	3	3
Property Damage 19 to 30 Months Bus Related	1	0	0	2	1	1	3
Property Damage 7 to 18 Months	1	0	0	0	2	2	2
Personal Injury 19 to 30 Months	2	0	0	0	1	1	2
Property Damage 19 to 30 Months	1	0	0	0	1	1	1

**ACCIDENT SEA
Step 2 Analysis**

Percentile Ranking
Based on 100 points





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ITS/EVO Program Plan

Dated: September 14, 2000

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Executive Summary for Missouri CVISN Program Plan

This document is a continuance of the State Intelligent Transportation System/Commercial Vehicle Operations Business Plan (ITS/CVO). This Program Plan presents the detail review and planning of the projects that are or will be implemented in Missouri and intended to be supportive document to the State Business Plan. The state Business Plan introduces the history of ITS/CVO projects in Missouri; the current CVO environment which describes the standing committee, the enforcement and industry participation; the strategic direction; project goals and objectives and a description of each project.

This Program Plan will go into detail about the Program Requirements and Design; organization charts of the state agencies involved and the state CVISN organization chart; a detail work breakdown structure of the projects, when the started, expected completion, amount completed and who the tasks are assigned; the procurement strategies and program processes.

The goals of this plan supports this state's commitment, mission and efforts in developing ways to apply intelligent transportation technology that leads to a safer, more efficient and cost-effective commercial vehicle operations in the state of Missouri. These goals are to:

- ◆ Ensure the safe and legal operation of both interstate and intrastate commercial vehicles operating within and through the state of Missouri.
- ◆ Improve the effectiveness of the commercial vehicle roadside program.
- ◆ Improve the effectiveness of the commercial vehicle information program.
- ◆ Administer and enforce the laws relating to all commercial motor vehicle registration with efficiency and fairness.
- ◆ Create projects that are consistent and compatible with the Commercial Vehicle Information Systems and Networks architecture and its deployment.

The Commercial Vehicle Information Systems and Networks initiative began to develop an infrastructure to interchange information electronically between public agencies, motor carriers and other parties through a standard system making use of new technologies. Other initiatives and programs have been implemented to improve inspections, safety information, and manage the flow of traffic.

The ability to implement new technologies depends on the availability of funding. It is hoped that the state of Missouri will be selected for future special federal funding to speed implementation. Until that time, this state will continue to develop and install computer programs and systems, set up a test site for credential, size and weight verification, implement processes electronically and share information between agencies and other states as state funding and resources are available.

The state feels that it has ambitious projects in the works or planned over the next three or four years. These projects include:

- ◆ Increase the number of computers with inspection and inspection selection software at the roadside weigh facilities.
- ◆ Develop and install a wireless, mobile, enforcement data system to generate electronic driver/vehicle reports, accident reports and other officer reports that will be entered in a local area network. This system would allow for wireless verification of vehicle registration, credentials, commercial driver licenses status and other information.
- ◆ Implement a multi-state permitting program for oversize/overweight vehicles.
- ◆ Develop and implement a system to dispatch enforcement for non-compliant drivers that fail to pull into weigh facility when signaled to enter.
- ◆ Implement electronic filing of all regulatory credential requirements.
- ◆ Implement credential, weight and size verification at mainline speeds without having to exit the highway system at three weigh facilities on major interstate highways.
- ◆ Interface with a central repository for fuel and license credentials and payment of fees.
- ◆ The creation of a multi-agency task force for simplifying motor carrier compliance and application process.
- ◆ Project to co-locate active and passive/back-scatter transponder technologies to identify and process commercial vehicles along the mainline.
- ◆ Development of a new legacy system for the International Registration Plan (IRP) and the International Fuel Tax Agreement (IFTA).
- ◆ The issuance of US DOT census numbers for for-hire intrastate motor carriers.
- ◆ The implementation of a paperless office system for registration of for-hire motor carriers.
- ◆ Modification of the current oversize/overweight permit system.
- ◆ Submission of Missouri's Top Level Design CVISN Plan to the US DOT.
- ◆ MoDOT is lead agency in a multi-jurisdictional ITS/CVO planning study for the NAFTA Corridor.

Outcome:

The state of Missouri believes that participation in intelligent transportation system for commercial vehicle operations will help the state achieve management and productivity goals. Preparation of full implementation of Commercial Vehicle Information Systems and Networks (CVISN) is an arduous task and involves multiple state agencies in Missouri, multiple legacy systems, states and federal agencies; varying technologies and partnering with the motor carrier industry. The state of Missouri was not selected as a Model state for receipt of federal funding for implementation. Therefore, the steps toward implementation will be slower as state and federal funds become available. Implementation of CVISN can be a successful scenario because of the efficiencies that are gained through new technologies. Motor carrier cost of operations can be reduced when technologies allow them to stay on the main highway in a safe manner. State resources that can be used to focus on the unsafe operations can benefit Missouri citizens. The standing committee and state agencies in this state have an extreme amount of work to complete to implement this Program Plan.

4.0 Program Requirements and Design

The following section is provided to give a top-level description of the system and functional requirements envisioned to make the Missouri CVISN Program a successful program. The section will provide which Missouri agencies have been active in the CVISN progress to date and provide information, which outline the coordinating efforts of these agencies, and what each agency is responsible for.

The CVISN Operational and Architectural Compatibility Handbook (COACH) documents that are in this section were developed by the John Hopkins University / Applied Physics Laboratory. It is to provide a comprehensive checklist of what is required to conform with the CVISN operational concepts and architecture. It is being used by the Standing Committee to assess the requirements in many areas of CVISN, and to identify to the State of Missouri areas of CVISN that are identified to be full, partial or no commitment. These documents are also used to identify particular identifiers for certain CVISN elements and some of the protocol standards that are available.

The Missouri Standard Interfaces templates identify the proposed communication links that are envisioned from the Carrier Systems to the State, within the State Infrastructure and from the State Infrastructure to the Federal and other State CVISN Infrastructures. Also included in these templates are some of the communications standards that are available and being envisioned by the National CVISN effort to be the modes of data exchanges.

The Missouri Network Design and Narrative provides a top-level set of templates with narrative to identify the overall proposed State Network exchange and some of the data exchange templates that are proposed by each of the agencies involved in CVISN.

Missouri CVISN Program Objectives

- Ensure the safe and legal operation of both interstate and intrastate commercial vehicles operating within and through the state of Missouri
- Improve the effectiveness of roadside program
- Automated collection of safety information
- Automated credentials administration
- Improved access to carrier/vehicle and driver information
- Electronic exchange of information and monies with other jurisdictions
- Allow carriers to register and make payments electronically
- Compatibility with clearinghouses
- Enhance inter-agency communications

2. GUIDING PRINCIPLES

Statements of principle are being used to document fundamental concepts and guidelines supported by the CVO community. In addition to the specific checklists provided in subsequent sections, these guiding principles provide a top-level checklist of fundamental guidelines for all CVISN activities. CVO stakeholders should ensure that their actions are consistent with these principles. No planning columns are included in the tables for guiding principles since the principles provide guidance rather than specific details that can be scheduled or measured.

The guiding principles were developed under the auspices of the ITS America CVO Program Subcommittee [References 17, 18, 19]. These principles continue to be under review by ITS America and the US Department of Transportation. They will be updated as required to reflect the consensus of the CVO community. The current principles are copied verbatim into the tables in this chapter.

2.1 ITS/CVO Guiding Principles [Reference 17]

“The ITS America CVO Committee presents this set of guiding principles which will guide the states and federal government on matters concerning technology and commercial vehicle operations. This list of 39 guiding principles was established by the CVO Programs Subcommittee with representation from National Private Truck Council, ATA, carriers, owner operators, motorcoach representation, UPS, several state administrative and regulatory agencies, AAMVA, AASHTO, and Canada. These principles took two years to create and 100% consensus was reached.

2.1.1 ITS/CVO Guiding Principles : Summary

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	1. A balanced approach involving ITS/CVO technology as well as institutional changes will be used to achieve measurable improvements in efficiency and effectiveness for carriers, drivers, governments, and other CVO stakeholders. Specific technology and process choices will be largely market-driven .	
F	2. The CVISN architecture will enable electronic information exchange among authorized stakeholders via open standards.	

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	3. The architecture deployment will evolve incrementally , starting with legacy systems where practical and proceeding in manageable steps with heavy end-user involvement .	
F	4. Safety assurance activities will focus resources on high risks , and be structured so as to reduce the compliance costs of low-risk carriers and drivers.	
F	5. Information technology will support improved practices and procedures to improve CVO credential and tax administration efficiency for carriers and government.	
F	6. Roadside operations will focus on eliminating unsafe and illegal operations by carriers, drivers, and vehicles without undue hindrance to productivity and efficiency of safe and legal carriers and drivers.	

2.1.2 ITS/CVO Guiding Principles: General CVO

Commit Level (F/P/N)	Compatibility Criteria	Comments
P	1. To the extent possible, ITS/CVO technology development and deployment will be market-driven . The federal role in ITS deployment will be limited to instances in which a government role is indispensable and in which the technology is proven and reliable.	
F	2. Investment and participation in ITS/CVO technology will be voluntary .	
P	3. The relative benefits of various ITS/CVO technology applications and investments will be assessed quantitatively using measures of effectiveness and established methods of quality control.	

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	4. Potential ITS/CVO technology applications will be evaluated against regulatory choices involving low-technology and non-technological options to ensure applications are cost-effective for both government and industry .	
F	5. Government CVO policies and regulatory practices will permit safe and legal carriers and drivers to operate without unnecessary regulatory and administrative burdens .	
F	6. Stakeholders will use technology and institutional reform to implement continuous process improvement and cost-effective process re-engineering.	
F	7. The confidentiality of proprietary and other sensitive stakeholder information will be preserved.	
F	8. The United States CVO community will work to implement compatible policies and architecture and interoperable systems in all states.	
F	9. The United States CVO community will work with those in Canada, Mexico, and other nations to encourage compatible policies and architecture and to implement interoperable systems throughout North America and, when possible, worldwide.	

2.1.3 ITS/CVO Guiding Principles: CVISN Architecture

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	1. The CVISN architecture will be open , modular, and adaptable.	
F	2. The architecture will enable data exchange among systems, a key to reaching CVO objectives. Methods used to exchange data will ensure data integrity and prevent unauthorized access .	

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	3. Data exchange will be achieved primarily via common data definitions , message formats, and communication protocols. These enable development of interoperable systems by independent parties.	
F	4. A jurisdiction shall have and maintain ownership of any data collected by any agent on its behalf.	
F	5. The architecture will accommodate existing and near-term communications technologies.	
F	6. The architecture will accommodate proven technologies and legacy systems whenever possible.	
F	7. The CVISN architecture will allow government and industry a broad range of options , open to competitive markets, in CVO technologies.	

2.1.4 ITS/CVO Guiding Principles: CVISN Deployment

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	1. The feasibility of the architecture will be demonstrated incrementally in simulations, prototypes, operational tests, and pilots. There will be heavy end-user involvement in each step of the process.	
F	2. After feasibility has been demonstrated, key architectural elements will be incorporated into appropriate national and international standards .	
F	3. The architecture deployment will evolve incrementally , starting with legacy systems where practical and proceeding in manageable steps.	

Commit Level (F/P/N)	Compatibility Criteria	Comments
N/A	4. Strong federal leadership will foster voluntary cooperative efforts within government jurisdictions and among groups of other stakeholders to develop systems which are in accord with the architecture.	Need Clarification. What is the commitment by the state you are looking for?

2.1.5 ITS/CVO Guiding Principles: Safety Assurance

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	1. Carriers and drivers will be responsible for the safe and legal operation of commercial vehicles.	
F	2. Jurisdictions will develop and implement uniform standards, practices, procedures, and education programs to improve safety. These activities will leverage market forces that encourage safety.	
F	3. Jurisdictions will focus safety enforcement resources on high risk carriers and drivers. They will remove chronic poor performers from operation and help cooperative marginal performers to improve.	
F	4. Jurisdictions will conduct inspections and audits to provide incentives for carriers and drivers to improve poor performance and to collect information for assessing carrier and driver performance.	
F	5. Jurisdictions will use a safety risk rating for all carriers based on best available information and common criteria.	
F	6. Jurisdictions will identify high risk drivers based on best available information and common criteria.	
F	7. Safety programs will provide benefits which exceed costs for carriers and drivers as well as governments.	

2.1.6 ITS/CVO Guiding Principles: Credentials & Tax

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	1. Electronic information will be used in place of paper documents for the administration of CVO credential and tax requirements.	
F	2. Authorized users will be able to electronically exchange credential and tax-related information and funds via open standards and transmission options.	
F	3. The information needed to administer tax and credential programs involving carriers, drivers, and vehicles will be available to authorized officials , on a need-to-know basis.	
F	4. Individual jurisdictions, or their designated agent, will be the authoritative source of information on credentials they issue.	

2.1.7 ITS/CVO Guiding Principles: Roadside Operations

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	1. Roadside operations will focus on eliminating unsafe and illegal operations by carriers, drivers, and vehicles and will be designed and administered to accomplish this in a manner that does not unduly hinder the productivity and efficiency of safe and legal motor carriers and drivers.	
F	2. Jurisdictions will support CVO roadside operations programs with timely, current, accurate, and verifiable electronic information , making it unnecessary for properly equipped vehicles to carry paper credentials.”	

2.2 Fair Information Principles for ITS/CVO [Reference 18]

“These fair information principles were prepared in recognition of the importance of protecting individual privacy in implementing Intelligent Transportation Systems (ITS) for Commercial Vehicle Operations (CVO). They have been adopted by the ITS America CVO Technical Committee.

These principles represent values and are designed to be flexible and durable to accommodate a broad scope of technological, social, and cultural change. ITS America may, however, need to revisit them periodically to assure their applicability and effectiveness.

These principles are advisory, intended to educate and guide transportation professionals, policy-makers, and the public as they develop fair information and privacy guidelines for specific ITS/CVO projects. They are not intended to supersede existing statutes or regulations. Initiators of ITS/CVO projects are urged to publish the fair information principles that they intend to follow. Parties to ITS/CVO projects are urged to include enforceable provisions for safeguarding privacy in their contracts and agreements.

Commit Level (F/P/N)	Compatibility Criteria	Comments
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Commit Level (F/P/N)	Compatibility Criteria	Comments
F	<p><u>FIP #1: Privacy</u> The reasonable expectation of privacy regarding access to and use of personal information should be assured. The parties must be reasonable in collecting data and protecting the confidentiality of that data.</p>	
F	<p><u>FIP #2: Integrity</u> Information should be protected from improper alteration or improper destruction.</p>	
F	<p><u>FIP #3: Quality</u> Information shall be accurate, up-to-date, and relevant for the purposes for which it is provided and used.</p>	
F	<p><u>FIP #4: Minimization</u> Only the minimum amount of relevant information necessary for ITS applications shall be collected; data shall be retained for the minimum possible amount of time.</p>	
F	<p><u>FIP #5: Accountability</u> Access to data shall be controlled and tracked; civil and criminal sanctions should be imposed for improper access, manipulation, or disclosure, as well as for knowledge of such actions by others.</p>	
F	<p><u>FIP #6: Visibility</u> There shall be disclosure to the information providers of what data are being collected, how they are collected, who has access to the data, and how the data will be used.</p>	
N	<p><u>FIP #7: Anonymity</u> Data shall not be collected with individual driver identifying information, to the extent possible.</p>	Intend to include CDL in preclearance in model
F	<p><u>FIP #8: Design</u> Security should be designed into systems from the beginning, at a system architecture level.</p>	

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	<u>FIP #9: Technology</u> Data encryption and other security technologies shall be used to make data worthless to unauthorized users.	
F	<u>FIP #10: Use</u> Data collected through ITS applications should be used only for the purposes that were publicly disclosed.	
F	<u>FIP #11: Secondary Use</u> Data collected by the private sector for its own purposes through a voluntary investment in technology should not be used for enforcement purposes without the carrier's consent."	

2.3 ITS/CVO Interoperability Guiding Principles [Reference 19]

“These interoperability guiding principles were prepared in recognition of the importance of promoting interoperability in the implementation of Intelligent Transportation Systems (ITS) for Commercial Vehicle Operations (CVO). They have been adopted by the ITS America CVO Technical Committee.

These principles represent values and are designed to be flexible and durable to accommodate a broad scope of technological, social, and cultural change. ITS America may, however, need to revisit them periodically to assure their applicability and effectiveness.

These principles are advisory, intended to educate and guide transportation professionals, policy-makers, and the public as they develop interoperability guidelines for specific ITS/CVO projects. They are not intended to supersede existing statutes or regulations. Initiators of ITS/CVO projects are urged to publish the interoperability principles that they intend to follow. Parties to ITS/CVO projects are urged to include enforceable provisions for assuring interoperability in their contracts and agreements.

2.3.1 ITS/CVO Interoperability Guiding Principles: General

Commit Level (F/P/N)	Compatibility Criteria	Comments
	<u>IGP #1</u> The CVO community will work to implement interoperable ITS/CVO systems in all United States jurisdictions.	See 2.1.2 #8 for answer
	<u>IGP #2</u> The CVO community will work with the CVO communities in Canada and Mexico to implement interoperable ITS/CVO systems throughout North America.	See 2.1.2 # 9 for answer

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	<p><u>IGP #3</u> The CVO community will work to ensure that ITS/CVO systems, where appropriate, are interoperable with other ITS systems (e.g., electronic toll systems).</p>	
P	<p><u>IGP #4</u> Interoperable ITS/CVO systems will be achieved through the development, adoption, and adherence to common standards for hardware, systems/software, operations, and program administration.</p>	Where required
F	<p><u>IGP #5</u> Each jurisdiction will support the national ITS/CVO information system architecture and data exchange standards developed under the Commercial Vehicle Information Systems and Networks (CVISN) program.</p>	
F	<p><u>IGP #6</u> Transponders shall have a unique identifier.</p>	
F	<p><u>IGP #7</u> Information systems supporting electronic screening, credentials administration, and safety assurance will use:</p> <ul style="list-style-type: none"> 7a. US DOT numbers for the identification of both interstate and intrastate motor carriers. 7b. Commercial Drivers License (CDL) numbers for the identification of commercial drivers. 7c. Vehicle Identification Numbers (VIN) and license plate numbers for the identification of power units. 	

2.3.2 ITS/CVO Interoperability Guiding Principles: Hardware

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	<u>IGP #8</u> Commercial vehicle operators will be able to use one transponder for power unit-to-roadside communications in support of multiple applications including electronic screening, safety assurance, fleet and asset management, tolls, parking, and other transaction processes.	
F	<u>IGP #9</u> Public and public-private DSRC applications will support open standards that are consistent with the national ITS architecture.	Define open standards

2.3.3 ITS/CVO Interoperability Guiding Principles: Systems/Software

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	<u>IGP #10</u> Public and public-private organizations will support open data exchange standards for the state-state, state-federal, state-provincial, and carrier-agency exchange of safety and credentials information as described in the national ITS architecture.	

2.3.4 ITS/CVO Interoperability Guiding Principles: Operations

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	<p><u>IGP #11</u> Jurisdictions will support common standards for placement of DSRC transponders on trucks and buses to ensure the safe and cost-effective use of transponders.</p>	
F	<p><u>IGP #12</u> Jurisdictions will support a common set of recommended practices concerning the selection, layout, and signage of roadside screening sites (i.e., weigh stations, ports-of-entry, international border crossings, and temporary inspection sites) to ensure safe operations.</p>	No intention to use variable message signs, however believe permanent signage should be in MUTCD
See Comment	<p><u>IGP #13</u> Jurisdictions will support a common performance standard for roadside electronic enforcement screening and passage of transponder-equipped motor carriers to ensure equity in enforcement.</p>	See #'s 14-19

Commit Level (F/P/N)	Compatibility Criteria	Comments
F	<u>IGP #14</u> Roadside electronic enforcement screening criteria will include the following: motor carriers must be enrolled in the jurisdiction's program; must meet the jurisdiction's enrollment criteria; and must meet all legal requirements established by the jurisdiction.	
F	<u>IGP #15</u> Jurisdictions will support quarterly reviews of carrier qualifications to ensure that the standards evolve to meet the changing needs of government and motor carriers.	At minimum. Working to a real-time format
F	<u>IGP #16</u> A jurisdiction will not retain the identification codes or other data from the DSRC transponders of passing motor carriers who are not enrolled in the jurisdiction's program.	
P	<u>IGP #17</u> Jurisdictions will support a common performance standard for selection of vehicles and drivers for roadside safety inspection.	As CVSA member, see Executive Policy # 98-1 as minimum standard
P	<u>IGP #18</u> Jurisdictions will support a common performance standard for recording and reporting roadside safety inspection results.	Limited by state law
P	<u>IGP #19</u> Jurisdictions will support a common performance standard for reconciling disputed roadside safety inspection results.	As CVSA member, see CVSA Administrative (safety) correction procedures.

2.3.5 ITS/CVO Interoperability Guiding Principles: Program

Commit Level (F/P/N)	Compatibility Criteria	Comments
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F	<u>IGP #20</u> Motor carrier participation in ITS/CVO roadside electronic screening programs will be voluntary; motor carriers will not be required to purchase or operate DSRC transponders.	
F	<u>IGP #21</u> Motor carriers will have the option of enrolling in any ITS/CVO roadside electronic screening program.	
P	<u>IGP #22</u> Jurisdictions will support uniform criteria for enrollment of motor carriers in ITS/CVO roadside screening programs.	
F	<u>IGP #23</u> Enrollment criteria will include consideration of safety performance and credentials status (e.g., registration, fuel and highway use taxes, and insurance).	
F	<u>IGP #24</u> No jurisdiction will be required to enroll motor carriers that do not meet the criteria for enrollment.	
F	<u>IGP #25</u> Motor carriers may obtain a DSRC transponder from the enrolling jurisdiction or a compatible DSRC transponder from an independent equipment vendor of the motor carrier's choice.	Missouri does not intend to provide transponders
F	<u>IGP #26</u> Each jurisdiction will determine the price and payment procedures, if any, for motor carriers to enroll and participate in its ITS/CVO electronic screening program.	
F	<u>IGP #27</u> Jurisdictions shall work to establish business interoperability agreements among roadside electronic screening programs.	
Commit Level (F/P/N)	Compatibility Criteria	Comments

F	<p><u>IGP #28</u> A jurisdiction will make a motor carrier's DSRC transponder unique identifier available to another jurisdiction upon written request and authorization by the motor carrier.</p>	
N	<p><u>IGP #29</u> Jurisdictions will work toward development of a single point of contact for motor carriers enrolling in more than one ITS/CVO roadside screening program.</p>	
F	<p><u>IGP #30</u> Each jurisdiction will fully disclose and publish its practices and policies governing, at a minimum: 30a. Enrollment criteria; 30b. Transponder unique identifier standards; 30c. Price and payment procedures for transponders and services; 30d. Screening standards; 30e. Use of screening event data; and 30f. Business interoperability agreements with other programs.”</p>	

Note: F – Full Commitment; P – Partial Commitment; N – No Commitment
L1 – CVISN Level 1; E – Enhanced Level of CVISN capability; C – Complete level of CVISN capability
Complete code descriptions are given in section 1.5.

3 OPERATIONAL CONCEPTS

The Operational Concepts in this chapter are organized into 4 groups: general, safety information exchange, credentials administration, electronic screening. Concepts in the “general” category apply to the other three. The concepts are based on an interpretation of the guiding principles and the state of existing and emerging technologies today. The elements in each table in this section were originally based on the *Key Operational Concepts* sections of the OCD [Reference 9]. Updated versions of the operational concepts are included in the CVISN Guide to Top-Level Design [Reference 13] and in the CVISN Guides to Safety Information Exchange, Credentials Administration, and Electronic Screening [References 14-16]. This version of the COACH reflects the updated concepts.

3.1 General

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	1. Good business processes can be enhanced through improved automated access to accurate information.	L1	

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	2. Authoritative sources are responsible for maintaining accurate information. Each jurisdiction participating in ITS/CVO information exchange identifies the authoritative source for each data item.	L1	
P	3. Sometimes it is practical for authoritative systems to authorize indirect sources to assist in the information exchange process.	L1	At states discretion
F	4. To enable cross-referencing and standard look-ups in multiple information systems, a common scheme for identifying carriers must be adopted. The Primary Carrier ID should be used in interface agreements (open standards, Internet-based exchanges, and custom interface agreements) to facilitate the exchange of carrier information. How the ID is stored internally outside the interface is up to the system implementers. The ID should be based on the USDOT number for both interstate and intrastate carriers. If it is not feasible for the state to use USDOT number as the ID type for all intrastate carriers, then the state should establish some convention for the Primary Carrier ID that will apply to all intrastate carriers in that state.	L1 – interstate C – intrastate	
F	5. To enable cross-referencing and standard look-ups in multiple information systems, a common scheme for identifying drivers must be adopted for interstate and intrastate operators. The Commercial Drivers License (CDL) number should be the basis of the Driver ID.	L1	

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	6. To enable cross-referencing and standard look-ups in multiple information systems, a common scheme for identifying vehicles must be adopted for interstate and intrastate operators. The Vehicle Identification Numbers (VIN) and jurisdiction plus license plate numbers should be the bases for the identification of power units.	L1	
See Comment	7. To enable cross-referencing and standard look-ups in multiple information systems, a common scheme for identifying international trips must be adopted. The Trip/Load number consisting of DUNS and trip-specific ID should be the basis for identifying international trips.	E	Need clarification of trip load number and DUNS
F	8. Standard information exchange is supported via carrier and vehicle (and eventually driver) snapshots.	L1 – carrier & vehicle C – driver	

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	9. Flexible implementation/deployment options are accommodated by the ITS/CVO architecture. As technology changes, so will the architecture.	L1	
F	10. Open standards are used for interchanges between public and private systems. In particular, ANSI ASC X12 EDI transactions are used for carrier-state and state-core infrastructure information systems' interactions. DSRC standards for the messages, data link, and physical layers are used for vehicle-roadside interactions.	L1	
F	11. Enhanced data exchange will allow all activities to focus resources on high risk operators.	L1	
F	12. Interoperability is assured by a process of architecture conformance checks throughout a project's lifecycle, culminating in execution of standardized interoperability tests. If a tested system is changed, the interoperability tests are re-run as part of the re-validation process.	L1	
F	13. The Fair Information Principles for ITS/CVO will be implemented using a combination of policies, procedures, technology, and training. Stakeholders will be included in the discussions of the techniques to be used to implement the principles.	L1	
F	14. Citations are based on a review of real-time conditions and checks with authoritative sources.	L1	

3.2 Safety Information Exchange

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	1. Data are collected to quantify the primary measures of effectiveness related to safety of CVO (accidents and fatalities).	L1	
F	2. Electronic safety records (snapshots) are made available at the roadside to aid inspectors and other enforcement personnel.	L1	
F	3. Inspectors use computer applications to capture, verify, and submit intrastate and interstate inspection data at the point of inspection.	L1	
F	4. Safety data are made available electronically to qualified stakeholders.	L1	
F	5. User access to data is controlled (restricted and/or monitored) where necessary.	L1	
F	6. Mechanisms are made available for operators to dispute safety records held by government systems.	L1	See CVSA Safety Admin. Correction Procedures
F	7. Compliance reviews are supported through electronic access to government-held safety records.	E	
F	8. Safety risk ratings are determined according to uniform guidelines.	E	
P	9. Jurisdictions support a standard set of criteria for inspection selection.	E	Officer's discretion
F	10. A comprehensive safety policy, including roadside and desktside activities, is implemented to improve safety.	C	
F	11. Carriers are associated with a base state for safety information record storage and credentialing.	C	
F	12. Compliance reviews are supported through electronic access to carrier-held records.	C	

3.3 Credentials Administration

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	1. Credential applications and fuel tax returns are filed electronically from CVO stakeholder facilities.	L1	
F	2. Internal state administrative processes are supported through electronic exchange of application data, safety records, carrier background data, and other government-held records.	L1	
F	3. IRP and IFTA base state agreements are supported electronically.	L1	
P	4. Credential and fuel tax payment status information for interstate operators are made available electronically nationally to qualified stakeholders.	L1	Only to authorized stakeholders
	5. User access to data is controlled (restricted and/or monitored) where necessary.	L1	See 3.2 #5
F	6. Mechanisms are made available for operators to dispute credentials records held by government systems.	L1	
F	7. Fees and taxes are paid electronically.	E	
F	8. Electronic access to administrative processes and information is available from “one stop shops” in public sites.	E	
F	9. Credential and fuel tax payment status information for intrastate operators are made available electronically to qualified stakeholders throughout the state.	E	
F	10. Carrier audits are accomplished with electronic support.	C	
F	11. The “paperless vehicle” concept is supported, i.e. electronic records become primary and paper records become secondary.	C	

3.4 Electronic Screening

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	1. Widespread participation in electronic screening programs is encouraged.	L1	
F	2. Jurisdictions disclose practices related to electronic screening.	L1	
P	3. Electronic screening is provided for vehicles equipped with FHWA-specified DSRC transponders. See Reference 35.	L1	Support of both active/passive technologies should be operating practice
F	4. Credentials and safety checks are conducted as part of the screening process.	L1	
F	5. Fixed and/or mobile roadside check stations are employed for electronic clearance functions, according to the jurisdiction's needs and resources.	L1	
F	6. Jurisdictions support a common set of screening criteria.	E	Should be minimum criteria
F	7. Screening systems are interoperable with those in different jurisdictions.	E	

Note: F – Full Commitment; P – Partial Commitment; N – No Commitment

L1 – CVISN Level 1; E – Enhanced Level of CVISN capability; C – Complete level of CVISN capability

Complete code descriptions are given in section 1.5.

4 STATE INSTITUTIONAL FRAMEWORK

The checklist in this section summarizes the institutional and business planning steps that states should take to become ready to implement the CVISN architecture and concepts. The checklist is based on the ideas outlined in the January 1999 letter from the Director, Office of Motor Carrier Safety & Technology on CVISN Workshops [Reference 23] and the CVISN Model Deployment Request for Information and Request for Application [References 21-22].

Table 4-1 State Institutional Framework Checklist

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
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Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	1. The State is committed to complete the full cycle of the workshops, and upon completion, to begin deployment of the ITS/CVO systems and services that meet the unique economic, administrative, and transportation needs, as outlined in the State ITS/CVO Business Plan.	L1	
F	2. A qualified core project team that will participate in all three of the workshops has been identified. This project team must include the following individuals: the State's CVISN project manager; the State's CVISN system architect; a project facilitator/administrator, who could be a representative of a participating State agency or a consultant working with the State; operations staff representing the agencies responsible for the State's major CVO functional areas (i.e., IRP, IFTA, safety information systems, roadside safety inspections, size and weight enforcement, and credentials enforcement); staff from the State department of information technology or comparable information technology units within the State CVO agencies; representative of the State Department of Transportation; representative of the FHWA Division office; and a motor carrier industry representative (invited). See Reference 23 for qualification details.	L1	Have not identified system architect at this time
N	3. Appropriate and sufficient staff, equipment, and State and private funding are available to carry out the deployment of CVISN and ITS/CVO services. The CVISN project has sufficient priority (i.e., other higher-priority projects are not competing for the same resources).	L1	As resources become available. Will have compete

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	4. A State CVO strategic plan and/or business plan exists and has been accepted by the FHWA. It outlines the goals, strategies, anticipated benefits and costs, organization, projects, schedules, and resources relevant to achieving the envisioned CVO environment.	L1	
F	5. A planning and coordination process exists which includes all State agencies involved in any aspect of motor carrier safety and regulation.	L1	
F	6. The top executives and chief information systems managers of each involved agency have endorsed State CVO plans and given the CVISN project manager adequate authority.	L1	
F	7. A process for resolution of conflicts among participating agencies exists.	L1	
F	8. State agencies have a strong commitment to customer service and the ability to work with the motor carrier industry in their State.	L1	
F	9. State agencies involve the motor carrier industry in the planning process.	L1	
F	10. State agencies conduct education programs to improve the safety performance and regulatory compliance of motor carriers.	L1	
F	11. State agencies provide periodic forums for obtaining suggestions and concerns from the motor carrier industry.	L1	MO Carrier Ass'n is a member of ITS/CVO Standing Committee
F	12. State agencies actively pursue opportunities for and implement business process reengineering projects.	L1	
P	13. An e-mail system is available among agencies.	L1	
F	14. At least key agency staff members have access to the Internet.	L1	
P	15. The State has adopted an open standard (ANSI ASC X12, for example) for electronic data interchange with the public.	L1	Have not adopted at this time

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
P	16. The State's communications infrastructure is sufficiently developed to extend to the kinds of exchanges needed under the CVISN Architecture.	L1	Still need development in credential interface w/public
P	17. There are no State legislative barriers relative to data privacy, physical signature requirements, data exchange among agencies, data exchange with other states, or other uses of information technology required to implement the CVISN concept of operations.	L1	
P	18. The legislature provides adequate resources to support an active ITS/CVO program and deployment of the ITS/CVO services.	L1	
F	19. The State participates in one or more regional CVO forums to assist in developing regional and national interoperable systems and compatible policies and procedures.	L1	Lead state in Midwest Mainstreaming
F	20. The State is willing to provide timely, electronic information to the planned clearinghouses to support the base state agreements.	L1	Intend to fully compatible. However, concerned w/cost to operate in clearinghouse
F	21. The project team has completed the ITS/CVO technical training courses. The first course, Introduction to ITS/CVO, is recommended for workshop participants but can be waived for personnel with prior ITS/CVO knowledge and experience. The second course, ITS/CVO Technical Project Management for Non-Technical Managers, and third course, Understanding ITS/CVO Technology Applications, are required for the personnel who will represent each State at the workshops.	L1	

Commit Level (F/P/N)	Compatibility Criteria	Req Level (L1/E/C)	Comments
F	22. The State has identified and made adequate progress towards the resolution of any Y2K problems among CVO agencies. It is strongly recommended that States resolve any Year 2000 computer problems among CVO agencies before beginning the workshops.	L1	
F	23. Effective procurement plans and processes are in place to acquire services and equipment needed to support the CVISN project, and the CVISN team is aware of constraints the processes impose.	L1	
See comment	24. Effective subcontract management processes are in place and allow timely identification and resolution of performance problems.	L1	Clarification needed
F	25. The CVISN team has a clear understanding of the State-specific requirements for information technology projects, e. g., whether or not a feasibility study is required.	L1	
F	26. The CVISN team has a clear understanding of the State-specific budget cycles and is aware of constraints they impose.	L1	

Note: F – Full Commitment; P – Partial Commitment; N – No Commitment
L1 – CVISN Level 1; E – Enhanced Level of CVISN capability; C – Complete level of CVISN capability
Complete code descriptions are given in section 1.5.

5 STATE SYSTEMS CHECKLISTS

The checklists in this chapter provide top-level requirements for the design of state systems. The top-level requirements are divided into these categories:

- General
- CV Administration
- Safety Information Exchange and Safety Assurance
- Electronic Screening

5.1 General State Systems Design Requirements

The general state system design requirements apply to all state systems. They facilitate interoperability and the exchange of information within a single state, and across jurisdictions.

Table 5-1 General State Systems Design Requirements Checklist

Commit Level (F/P/N)	Item #	Compatibility Criteria	Req Level (L1/E/C)	Op Test Date	IOC Date	FOC Date	Comments
F	5.1.1	Adopt standard identifiers for carriers, vehicles, drivers, and transponders to support information exchange	L1				
F	1	Adopt standard identifiers for interstate carrier, vehicle, driver, and transponder.	L1				
F	2	Adopt standard identifiers for intrastate carrier, vehicle, driver, and transponder.	C				

Commit Level (F/P/N)	Item #	Compatibility Criteria	Req Level (L1/E/C)	Op Test Date	IOC Date	FO C Date	Comments
F	5.1.2	Use open standards for exchange of information with other jurisdictions and with the public.	L1				
F	1	Use ANSI X12 EDI standards for transactions between state information systems and private systems (CV operators, insurance companies, etc.).	L1				
F	2	Use ANSI X12 EDI standards for transactions between state information systems and CVISN Core Infrastructure systems, where available.	L1				
F	3	Use XML standards for transactions between state information systems and private systems (CV operators, insurance companies, etc.) (contingent on demonstration of feasibility).	C				Who will do this?
F	5.1.3	Ensure that all information transfers, fee payments, and money transfers are authorized and secure.	L1				
F	5.1.4	Exchange safety and credentials data electronically within the state to support credentialing, safety, and other roadside functions. Where useful, exchange snapshots.	L1				
F	1	Data for interstate carriers	L1				
F	2	Data for interstate vehicles	L1				
F	3	Data for intrastate carriers	E				
F	4	Data for intrastate vehicles	E				
F	5	Data for drivers	C				
F	5.1.5	Demonstrate technical interoperability by performing Interoperability Tests.	L1				
F	5.1.6	Support electronic payments.	E				

5.2 State Safety Information Exchange and Safety Assurance Systems Design Requirements

The state safety information exchange and safety assurance systems are likely to consist of:

- ASPEN
- SAFETYNET/AVALANCHE
- Citation & Accident
- CAPRI (Compliance Analysis Performance Review Information)
- CV Information Exchange Window (CVIEW)

The state CV safety information exchange and safety assurance systems will operate at one or more (generally) fixed locations within a state. The systems perform safety information exchange and safety assurance functions supporting safety regulations. States may form regional alliances to support these functions. Each state coordinates with other states, regional alliances, and CVISN Core Infrastructure systems to support nationwide access to safety information for administrative and enforcement functions.

Table 5-2 State Safety Information Exchange and Safety Assurance Systems Design Requirements Checklist

Commit Level (F/P/N)	Item #	Compatibility Criteria	Req Level (L1/E/C)	Op Test Date	IOC Date	FO C Date	Comments
F	5.2.1	Use ASPEN (or equivalent) at all major inspection sites	L1				
F	1	Select vehicles and drivers for inspection based on availability of inspector, standard inspection selection system, vehicle measures, and random process, as statutes permit.	L1				
F	2	Report interstate inspections to MCMIS via SAFETYNET	L1				
F	3	Report intrastate inspections to SAFETYNET	L1				

Commit Level (F/P/N)	Item #	Compatibility Criteria	Req Level (L1/E/C)	Op Test Date	IOC Date	FOC Date	Comments
P	4	Submit interstate and intrastate inspections for 45-day storage to SAFER.	L1				After quality is assured

P	5	Periodically check OOS orders issued in the state to focus enforcement and safety assurance activities.	E				
N	6	To assist in inspection, use DSRC to retrieve summary vehicle safety sensor data, if driver allows and vehicle is properly equipped.	C				
N	7	To assist in inspection, use DSRC to retrieve driver's daily log, if driver allows and vehicle is properly equipped.	C				
F	8	Use electronically-generated driver's daily log, if driver offers as an alternative to a manually-maintained log during an inspection.	C				
F	5.2.2	SAFETYNET 2000 submits interstate and intrastate inspections reports to SAFER.	L1				As path to MCMIS
F	5.2.3	Use CAPRI (or equivalent) for compliance reviews.	L1				
F	1	Report interstate compliance reviews to MCMIS via SAFETYNET	L1				
N	5.2.4	Collect, store, analyze, and distribute citation data electronically.	E				Prohibited by state law
N	1	Report citations for interstate operators to MCMIS via SAFETYNET	E				Prohibited by state law
F	5.2.5	Collect, store, analyze, and distribute crash data electronically.	E				
F	1	Report interstate crashes as required to MCMIS via SAFETYNET	E				
F	5.2.6	Compute carrier safety risk rating for intrastate carriers based on safety data collected.	E				
F	5.2.7	Identify high risk drivers based in the state through regular performance evaluation of various factors such as license status, points, and inspections.	C				

5.3 State CV Administration Systems Design Requirements

The state CV administrative systems are likely to consist of:

- Interstate & Intrastate Vehicle Registration
- Fuel Tax Credentialing/Tax Return Processing
- Credentialing Interface
- Web CAT
- Carrier Registration (SSRS)
- Driver licensing
- Titling
- Treasury or Revenue
- HazMat Credentialing/Permitting
- Oversize/Overweight Permitting
- Electronic Screening Enrollment

These systems operate at one or more (generally) fixed locations within a state. The systems perform administrative functions supporting credentials and tax regulations. States may form regional alliances to support these functions. Each state coordinates with other states, regional alliances, and CVISN Core Infrastructure systems to support nationwide access to credentials information for administrative and enforcement functions.

Table 5-3 State CV Administration Systems Design Requirements Checklist

Commit Level (F/P/N)	Item #	Compatibility Criteria	Req Level (L1/E/C)	Op Test Date	IOC Date	FOC Date	Comments
F	5.3.1	Support electronic credentialing (electronic submission of applications, evaluation, processing, and application response) for IRP using EDI standards.	L1				

Commit Level (F/P/N)	Item #	Compatibility Criteria	Req Level (L1/E/C)	Op Test Date	IOC Date	FO C Date	Comments
F	5.3.2	Proactively provide updates to vehicle snapshots as needed when IRP credentials actions are taken, using EDI standards.	L1				
P	1	Interface to SAFER for interstate vehicle snapshots, using EDI standards	L1				Less citation data
F	5.3.3	Proactively provide updates to carrier snapshots as needed when IRP credentials actions are taken, using EDI standards.	L1				
F	1	Interface to SAFER for interstate carrier snapshots, using EDI standards	L1				
F	5.3.4	Provide IRP Clearinghouse with IRP credential application information (recaps).	L1				
F	1	Interface to IRP Clearinghouse using EDI standards.	E				This capability is being investigated by an IRP CH committee. Change Request Form 313 in process.
F	5.3.5	Review fees billed and/or collected by a jurisdiction and the portion due other jurisdictions (transmittals) as provided by the IRP Clearinghouse.	L1				
F	1	Interface to IRP Clearinghouse using EDI standards.	L1				This capability is being investigated by an IRP CH committee. Change Request Form 313 in process.
P	5.3.6	Support electronic state -to-state fee payments via IRP Clearinghouse	L1				Intend to be compatible. Concerned about cost
F	5.3.7	Support electronic credentialing (electronic submission of applications, evaluation, processing, and application response) for IFTA registration using EDI standards.	L1				
F	5.3.8	Proactively provide updates to carrier snapshots as needed when IFTA credentials actions are taken or tax payments are made, using EDI standards.	L1				

F	1	Interface to SAFER for interstate carrier snapshots, using EDI standards	L1				
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Commit Level (F/P/N)	Item #	Compatibility Criteria	Req Level (L1/E/C)	Op Test Date	IOC Date	FOC Date	Comments
P	5.3.9	Provide IFTA Clearinghouse with IFTA credential application information using EDI standards.	L1				See note 5.3.6
F	5.3.10	Support electronic tax filing for IFTA quarterly fuel tax returns using EDI standards.	L1				
P	5.3.11	Provide information on taxes collected by own jurisdiction and the portion due other jurisdictions (transmittals) to the IFTA Clearinghouse using EDI standards.	L1				See note 5.3.6
P	5.3.12	Download for automated review the demographic information from the IFTA Clearinghouse using EDI standards.	L1				See note 5.3.6
P	5.3.13	Download for automated review the transmittal information from the IFTA Clearinghouse using EDI standards.	L1				See note 5.3.6
F	5.3.14	Retrieve IFTA tax rate information electronically from IFTA, Inc.	L1				
F	5.3.15	Support electronic credentialing (electronic submission of applications, evaluation, processing, and application response) for other credentials using EDI standards.	E				
F	1	Interstate carrier registration	E				
F	2	Intrastate carrier registration	E				
F	3	Vehicle title	E				
F	4	Intrastate vehicle registration	E				
F	5	HazMat credentialing/permitting, if such credentials/permits are required by state law.	E				
F	6	Oversize/overweight permitting.	E				
F	5.3.16	Proactively provide updates to vehicle snapshots as needed when credentials actions are taken, using EDI standards.	E				
F	1	Vehicle title	E				
F	2	Intrastate vehicle registration	E				
F	3	Oversize/overweight permitting.	E				

5.4 State Electronic Screening Systems Design Requirements

The roadside systems consist of:

- Screening System
- Roadside Operations System
- Sensor/Driver Communications System

These roadside systems will operate at each fixed or mobile CV check station within a state. The systems perform roadside functions supporting automated carrier, vehicle, and driver identification and associated look-ups in infrastructure-supplied data for credentials and safety checks.

Table 5-4 State Roadside Systems Design Requirements Checklist

Commit Level (F/P/N)	Item #	Compatibility Criteria	Req Level (L1/E/C)	Op Test Date	IOC Date	FOC Date	Comments
P	5.4.1	Follow FHWA guidelines for Dedicated Short Range Communications (DSRC) equipment. Details below extracted from Reference 35.	L1				Support both active & passive technologies should be operating practice
N	1	"For the immediate future, all CVO and Border crossing projects will continue to utilize the current DSRC configuration employed by the programs. This is the "ASTM version 6" active tag.	L1				
P	2	Beginning January 1, 2001, all CVO and Border Crossing projects will use an active configuration that is backward compatible with the current configuration and yet consists of the following:	E				

P	2a	"ASTM version 6" defines the data link layer.	E				
P	2b	The IEEE P1455 application layer standard and the ASTM 1 active physical layer standard will be implemented."	E				

Commit Level (F/P/N)	Item #	Compatibility Criteria	Req Level (L1/E/C)	Op Test Date	IOC Date	FOC Date	Comments
F	5.4.2	Use snapshots to support screening decisions.	L1				
F	1	Carrier snapshots.	L1				
F	2	Vehicle snapshots.	L1				
P	3	Driver snapshots.	C				
F	5.4.3	Implement interoperability policies as they are developed by ITS America, the American Association of State Highway Transportation Officials, HELP, Inc., MAPS, Advantage CVO, I-95 Corridor Coalition, and the Commercial Vehicle Safety Alliance.	L1				However, intend to adopt interoperability principles that include active/passive technologies
F	1	See AASHTO's Commercial Vehicle Electronic Screening Interoperability Policy Resolution, PR-14-97, Reference 20.	L1				
F	5.4.4	Provide electronic mainline or ramp screening for transponder-equipped vehicles, and clear for bypass if carrier & vehicle were properly identified and screening criteria were passed.	L1				
F	1	For transponder-equipped vehicles, identify carrier at mainline or ramp speeds.	L1				
F	2	For transponder-equipped vehicles, identify vehicle at mainline or ramp speeds.	L1				
F	3	Use WIM or weight history at mainline speed or on the ramp in making screening decisions.	L1				
p	4	Record screening event data.	E				Not carrier or vehicle specific
P	5	For transponder-equipped vehicles, identify driver at mainline or ramp speeds.	C				
F	5.4.5	Verify credentials/safety information with authoritative source prior to issuing citation.	L1				

F	5.4.6	If a vehicle illegally bypasses or leaves the CV check station, alert law enforcement for possible apprehension.	C				
F	5.4.7	Report periodically to State safety information system on the activities conducted at each station (e.g. statistics).	C				

6 CVISN CORE INFRASTRUCTURE SYSTEMS CHECKLISTS

The checklists in this chapter provide top-level requirements for the design of CVISN Core Infrastructure systems. The top-level requirements are divided into these categories:

- General
- IRP Clearinghouse
- IFTA Clearinghouse
- SAFER
- CDLIS
- NMVTIS
- RSPA
- MCMIS
- Licensing & Insurance
- ASAP
- CAPRI

6.1 General CVISN Core Infrastructure Planned Capabilities

The general CVISN Core Infrastructure system design requirements apply to all CVISN Core Infrastructure systems. They facilitate interoperability and the exchange of information among states, and across functional boundaries.

Table 6-1 General CVISN Core Infrastructure Planned Capabilities Checklist

Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
F	6.1.1	Adopt standard identifiers for carriers, vehicles, drivers, and transponders to support information exchange	L1	Third parties must adopt same identifiers
F	1	Adopt standard identifiers for interstate carrier, vehicle, driver, and transponder.	L1	Third parties must adopt same identifiers

F	2	Adopt standard identifiers for intrastate carrier, vehicle, driver, and transponder.	C	Third parties must adopt same identifiers
----------	---	--	----------	---

Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
P	6.1.2	Use open standards for exchange of information with jurisdictions and with the public.	L1	As determined by state law
F	1	Use ANSI X12 EDI standards for transactions between CVISN Core Infrastructure systems and private systems (CV operators, insurance companies, etc.).	L1	
F	2	Use ANSI X12 EDI standards for transactions between state information systems and CVISN Core Infrastructure systems, where available.	L1	
F	3	Use XML standards for transactions between CVISN Core Infrastructure information systems and private systems (CV operators, insurance companies, etc.) (contingent on demonstration of feasibility).	C	Who will do this?
F	6.1.3	Ensure that all information transfers, fee payments, and money transfers are authorized and secure.	L1	
P	6.1.4	Exchange safety and credentials data electronically with other CVISN Core Infrastructure to support credentialing, safety, and other roadside functions. Where useful, exchange snapshots.	L1	Authorized user access only
F	1	Data for interstate carriers	L1	
F	2	Data for interstate vehicles	L1	
F	3	Data for intrastate carriers	E	
F	4	Data for intrastate vehicles	E	
P	5	Data for drivers	C	
F	6.1.5	Demonstrate technical interoperability by performing Interoperability Tests.	L1	
F	6.1.6	Support electronic payments.	E	

6.2 IRP Clearinghouse Planned Capabilities

The CVISN Core Infrastructure includes two different clearinghouses (IRP, IFTA). This section presents a checklist that applies to the IRP Clearinghouse.

Table 6-2 IRP Clearinghouse Planned Capabilities Checklist

State Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
P	6.2.1	Support electronic input of interstate credential application information (demographic and cab card data) from member jurisdictions.	L1	Plan to be compatible. Concerned w/cost to participate
P	1	Provide ANSI X12 EDI option for transactions.	E	This capability is being investigated by an IRP CH committee. Change Request Form 313 in process.
P	6.2.2	Support electronic input of fee allocation information (recaps), in association with credential applications, from member jurisdictions.	L1	
P	1	Provide ANSI X12 EDI option for transactions.	E	This capability is being investigated by an IRP CH committee. Change Request Form 313 in process.

P	6.2.3	Maintain accounting of fees due to, paid to, and received from member jurisdictions.	L1	
P	6.2.4	Periodically (monthly), initiate fee payment and transfers among jurisdictions via electronic funds transfer (EFT).	L1	

State Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
P	6.2.5	Provide accounting information (e.g., netting summaries, financial information about vehicles, Canada-US exchange rates) electronically to member jurisdictions.	L1	See Comment 6.2.1
P	1	Provide ANSI X12 EDI option for transactions.	L1	See Comment 6.2.1 This capability is being investigated by an IRP CH committee. Change Request Form 313 in process.
P	6.2.6	Provide an optional service to determine allocation of fees/taxes to jurisdictions in which the applicant will operate.	C	See Comment 6.2.1
P	6.2.7	Upon request, share credential application data from base state with other jurisdiction to audit financial reconciliation of credential/tax fees	E	See Comment 6.2.1
P	6.2.8	If requested by a member jurisdiction, and with concurrence from the relevant base states, proactively provide updates to vehicle snapshots as needed when IRP credentials actions are taken, using EDI standards.	L1	See Comment 6.2.1 This capability is being investigated by an IRP CH committee. Change Request Form 312 in process.
P	6.2.9	If requested by a member jurisdiction, and with concurrence from the relevant base states, proactively provide updates to carrier snapshots as needed when IRP credentials actions are taken, using EDI standards.	L1	See Comment 6.2.1 This capability is being investigated by an IRP CH committee. Change Request Form 312 in process.

6.3 IFTA Clearinghouse Planned Capabilities

The CVISN Core Infrastructure includes two different clearinghouses (IRP, IFTA). This section presents a checklist that applies to the IFTA Clearinghouse.

Table 6-3 IFTA Clearinghouse Planned Capabilities Checklist

State Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
P				
P	6.3.1	Support electronic input of interstate credential application information (demographic) from member jurisdictions.	L1	See Comment 6.2.1
P	1	Provide ANSI X12 EDI option for transactions.	L1	See Comment 6.2.1
P	6.3.2	Support electronic input of tax payment information (transmittals), in association with quarterly tax filings, from member jurisdictions.	L1	See Comment 6.2.1
P	1	Provide ANSI X12 EDI option for transactions.	L1	See Comment 6.2.1
P	6.3.3	Provide reports on demographic and transmittal information.	L1	See Comment 6.2.1
P	1	Provide ANSI X12 EDI option for transactions.	L1	See Comment 6.2.1
P	6.3.4	Upon request, share credential application data from base state with other jurisdiction to audit financial reconciliation of credential/tax fees	E	See Comment 6.2.1
P	6.3.5	If requested by a member jurisdiction, and with concurrence from the relevant base states, proactively provide updates to carrier snapshots as needed when IFTA credentials and tax filing actions are taken, using EDI standards.	L1	See Comment 6.2.1 This capability is being investigated by an IFTA CH committee.

6.4 SAFER Planned Capabilities

The Safety and Fitness Electronic Records (SAFER) system is under development. As capabilities are implemented, the version of the system is tested and made available for general use. The checklist shows general capabilities. For more details, see the SAFER build plans.

Table 6-4 Information Storage and Exchange Systems Design Requirements Checklist

State Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
F	6.4.1	Maintain carrier and vehicle snapshots for interstate operators.	L1	
P	6.4.2	Accept inputs from authoritative sources for carrier and vehicle snapshots.	L1	Rely on data when possible

N	1	Provide ANSI X12 EDI option for transactions.	L1	Used current closed standard
F	6.4.3	Provide snapshot subscription service to government users.	L1	
F	1	Proactively transmit updated snapshot segments to subscribers based on subscription criteria.	L1	
N	2	Provide ANSI X12 EDI option for transactions.	L1	Used current closed standard
F	6.4.4	Upon request, retrieve existing snapshot(s) and transmit to requester.	L1	
N	1	Provide ANSI X12 EDI option for transactions.	L1	Used current closed standard
N	6.4.5	Provide means for commercial vehicle operators to view data about themselves.	L1	Will review
F	6.4.6	Facilitate the exchange of inspection reports.	L1	
N	1	Provide ANSI X12 EDI option for transactions.	L1	Used current closed standard

State Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
F	6.4.7	Provide inspection report subscription service for Law Enforcement.	L1	
P	6.4.8	Facilitate the exchange of crash data.	E	Less citation info
F	1	Provide open standard option for transactions.	E	
N	6.4.9	Facilitate the exchange of citation data.	E	As restricted by state law
N	1	Provide open standard option for transactions.	E	
P	6.4.10	Maintain driver snapshots.	C	
P	6.4.11	Accept inputs from authoritative sources for driver snapshots.	C	
P	1	Provide ANSI X12 EDI option for transactions.	C	

6.5 CDLIS Planned Capabilities

The Commercial Driver License Information System (CDLIS) currently supports CVO by providing access to information about commercial drivers to authorized users.

State Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
F	6.5	CDLIS - existing system		
P	6.5.1	Connect to SAFER so systems that access SAFER can also link to CDLIS.	L1	

6.6 NMVTIS Planned Capabilities

The National Motor Vehicle Title Information System (NMVTIS) is a developing system. No specific changes are planned, although it is possible that access will be provided via SAFER in the future.

6.7 RSPA HazMat Planned Capabilities

The FHWA Research and Special Projects (RSPA) Hazardous Materials (HazMat) system registers carriers according to federal hazardous materials regulations. No specific changes are planned.

6.8 MCMIS Planned Capabilities

The Motor Carrier Management Information System (MCMIS) is the FHWA repository for inspection, compliance, crash, and citation data for interstate commercial vehicle operators. Some upgrades have been implemented to support CVISN concepts, such as linking MCMIS to SAFER. Further modernization is planned.

State Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
F	6.8	MCMIS - existing system		
P	6.8.1	Provide safety information to SAFER for snapshots.	L1	After quality assurance
p	6.8.2	Provide safety information to users via SAFER Data Mailbox and MCMIS/SAFER Gateway.	L1	See 6.8.1

6.9 Licensing & Insurance Planned Capabilities

The Licensing & Insurance system currently supports registering financial responsibility for interstate carriers according to Federal regulations. Some upgrades have been implemented to support CVISN concepts such as linking to SAFER. Further modernization is planned.

State Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
P	6.9	Licensing & Insurance - existing system		
N	6.9.1	Provide licensing & insurance information to SAFER for snapshots	L1	State law precludes

6.10 ASAP Planned Capabilities

The Automated Safety Assessment Program (ASAP) system is under development. As it matures, links to other systems may be implemented. Contact FHWA's Dan Hartman for additional information.

State Commit Level (F/P/N)	Item #	Planned Capabilities	Req Level (L1/E/C)	Comments
N	6.10	ASAP - developing system		
N	6.10.1	Collect compliance data from carrier electronically	E	

**Intelligent Transportation Systems (ITS)
Commercial Vehicle Operations (CVO)**

**CVISN Operational and Architectural
Compatibility Handbook (COACH)
Part 3
Detailed System Checklists**

~~Baseline Version~~

POR-97-7067 P1.0

May 1999

Please note that this is a Preliminary Issue

It is important to note that this is a preliminary document. All sections included are complete and have been reviewed by JHU/APL, but not by other DOT contractors or state/federal government agencies. The purpose of this issue is to obtain comments and feedback on this document from those external organizations before a baseline version is published.

Note: This document and other CVISN-related documentation are available for review and downloading by the ITS/CVO community from the JHU/APL CVISN site on the World Wide Web. The URL for the CVISN site is:

<http://www.jhuapl.edu/cvisn/>

Review and comments to this document are welcome. Please send comments to:

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**CVISN Operational and Architectural Compatibility Handbook (COACH)
Part 3 – Detailed System Checklists**

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1. INTRODUCTION

The CVISN Operational and Architectural Compatibility Handbook (COACH) provides a comprehensive checklist of what is required to conform with the Commercial Vehicle Information Systems and Networks (CVISN) operational concepts and architecture. It is intended for use by state agencies with a motor carrier regulatory function and by motor carriers. It is also intended to provide a quick reference for developers of CVISN Core Infrastructure systems.

1.1 COACH Structure

The COACH is divided into 5 parts:

- Part 1 - Operational Concept and Top-Level Design Checklists
- Part 2 - Project Management Checklists
- Part 3 - Detailed System Checklists**
- Part 4 - Interface Specification Checklists
- Part 5 - Interoperability Test Criteria

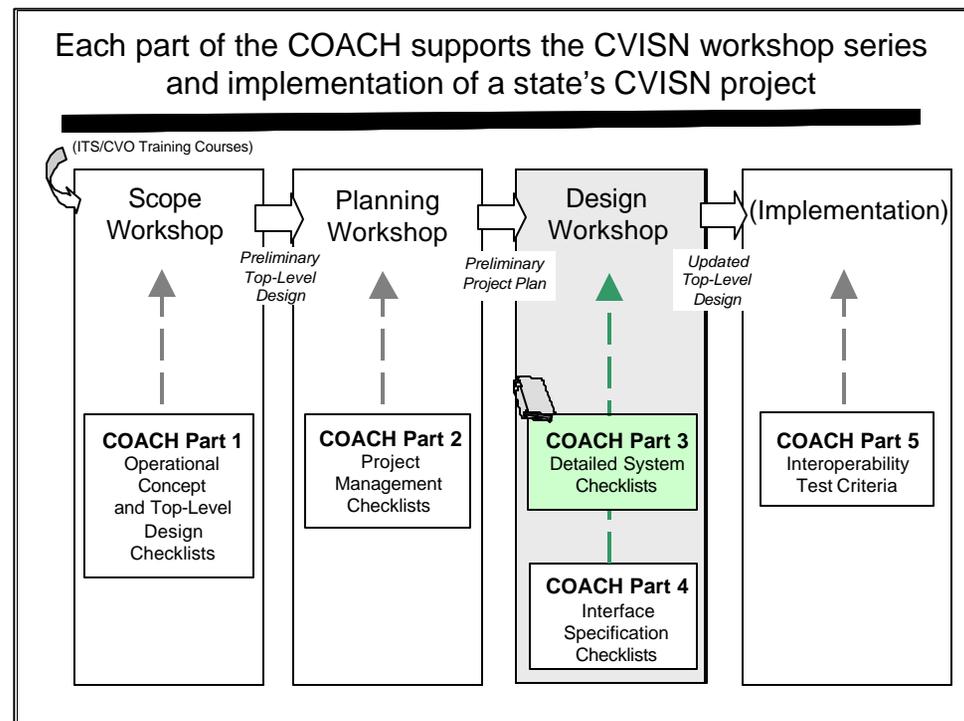
Parts 1 [Reference 2], 2 [Reference 3], and 4 [Reference 4], and 5 [Reference 5] are available at the Browse and Download Documentation; Architecture section of the JHU/APL CVISN web site <http://www.jhuapl.edu/cvo/>. This is the first draft of the COACH Part 3.

1.2 COACH Part 3 Detailed System Checklists Description

This volume is Part 3. Part 3 describes the generic CVISN design.

- Data Maintenance Specifications, establishing the requirements incumbent on data “owners” to keep others informed about changes in data values [Chapter 2]

Figure 1.1-1 The COACH supports the workshops



- Allocation of State System requirements to components of the generic CVISN state design, and description of those generic components [Chapter 3]
- Description of CVISN Core Infrastructure components [Chapter 4]
- Description of Carrier System components [Chapter 5]
- References [Chapter 6]

Since the means of communications (e.g., network configuration, protocols supported) are usually specific to each state or to each system, readers should contact the state architect or the system manager for that information. This document is concerned primarily with the information exchanged among systems. Communications standards for vehicle-to-roadside communications are stated.

This document is used to allocate the state requirements from the COACH Part 1 to components of the state system design. The document also includes checklists for data maintenance requirements. Each state should maintain a master filled-in copy of the COACH.

1.3 Generic State CVISN System Design

Figure 1.3-1 below depicts the generic CVISN state system design template. Material in this document is based upon this generic design. The systems shown in the generic design are described in chapters 3-5. The CVISN Glossary [Reference 1] explains the acronyms. The generic design represents the main elements needed for a state to implement the CVISN architecture. Each state will adapt the generic design to accommodate their existing (legacy) systems, and to meet their own unique needs.

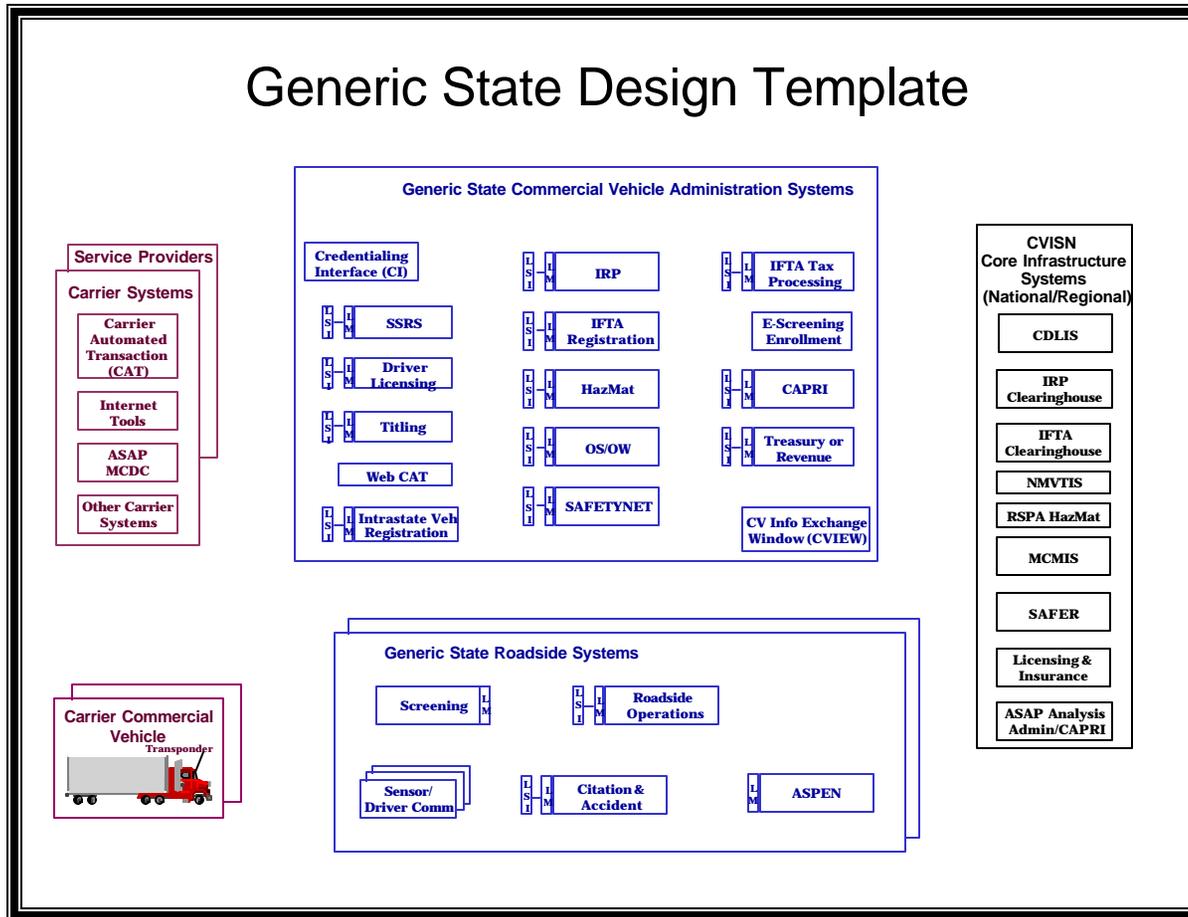
Use of standardized Electronic Data Interchange (EDI) and Dedicated Short Range Communications (DSRC) interfaces is required for architecture conformance. Each state chooses whether to modify a legacy system (LM - legacy modification) to support EDI (and other new functions and interfaces), or to create a Legacy System Interface (LSI) to deal with the EDI-to-native form interface. Many CVISN states are implementing a mix of LSIs and LMs. Throughout this document, the generic state system design is based on choosing to modify the legacy systems (i.e., implement LMs).

In the generic design depicted here, the legacy credentials systems update the appropriate snapshot segments in CVIEW using EDI. The inspection system in the generic state design is ASPEN. In this design, both the Roadside Operations and ASPEN products subscribe to CVIEW to receive snapshots. The CVIEW-Roadside Operations connection is an EDI interface. The CVIEW-ASPEN interface uses the “application file format” that corresponds to a file format that could be

input into an EDI translator. As of April 1999, ASPEN does not handle EDI, due to the expense of equipping several hundred ASPEN units with commercial translators.

To achieve interoperability, the CVISN architecture calls for the use of open standards for carrier-state and state-state (via the CVISN Core Infrastructure) interfaces. Interfaces that are wholly within a state government's control (e.g., between state agencies) are not required to use open standards. Most CVISN Model Deployment States have chosen to use open standards for some within-state interfaces, and have chosen to use existing custom interface agreements for others. For example, some states have chosen to implement LSIs instead of modifying their existing IRP or IFTA products. They are implementing the LSIs as small applications running on the same computer as the Credentialing Interface (CI). For those states, there are no EDI interfaces between the CI and their existing IRP or IFTA systems. Some of those states have also decided that the CI will provide snapshot segment updates of credentials data to CVIEW on behalf of the IRP or IFTA systems. In this document we depict one generic design for simplicity. The generic design shown here maximizes the use of open standards. Other designs are also acceptable under the CVISN architecture. Refer to the technical volumes of the CVISN Guide series for further information [References 8-10].

Figure 1.3-1 Generic State Design Template



1.4 How States Should Use This Document

The COACH summarizes key concepts and architectural guidelines for CVISN. This version of the COACH Part 3 focuses on topics important to states. The COACH Part 1 defines the CVISN Level 1 criteria. This document allocates the state requirements from the COACH Part 1 to specific components of the generic state CVISN design. This document also provides more information about the CVISN Core Infrastructure products and the components of the Carrier Systems. The Data Maintenance table in Chapter 2 provides guidelines for maintaining data shared across functional areas.

To gain a more complete understanding of CVISN, state planners and designers should read the Introductory Guide to CVISN [Reference 7], other parts of the COACH [References 2-5], and the CVISN System Design Description [Reference 6]. The COACH Part 2 includes checklists that support the project planning processes. The COACH Part 4 defines the interface specification requirements. The COACH Part 5 states interoperability testing criteria. The CVISN System Design Description describes system requirements related to CVISN Level 1 capabilities, the generic CVISN design, and how the elements fit together.

This version of the COACH Part 3 is intended to be a model for how states might allocate the COACH Part 1 requirements to elements of their system designs. This document will be used in the planned CVISN workshops.

The “Commit” column in the table in Chapter 2 should be used to indicate the state’s commitment to the data maintenance/update requirement stated in the “Requirement for data to be maintained or updated” column. As in the COACH Part 1, the codes for commitment are defined as:

- Commit Level (F/P/N) – the state’s commitment level to the item

Using the first column of each checklist entry, a **commitment level should be filled in** by the state. There are three possible levels of commitment:

- (F) This rating indicates a full commitment. This level means that at least 80% of the state’s systems involved in the process implied by the checklist item are compatible or are intended to be compatible with the checklist item statement.
- (P) This rating indicates a partial commitment. This level means that between 50% and 80% of the state’s systems involved in the process implied by the checklist item are compatible or are intended to be compatible with the checklist item statement.

(N) This rating indicates no commitment. This level means that less than 50% of the state's systems involved in the process implied by the checklist item are compatible or are intended to be compatible with the checklist statement.

- Repts Level - the compatibility requirement level assigned to this compatibility criterion by the FHWA CVISN project team

For a state to be “compatible with CVISN,” it must implement selected items in the checklists. To distinguish those items, the CVISN project team has assigned a **compatibility requirement level** to each checklist item:

(L1) This rating identifies a CVISN Level 1 compatibility requirement.

(E) This rating indicates an enhanced level of CVISN compatibility. These items may require a little longer to complete (3-4 years).

(C) This rating indicates a complete level of CVISN Compatibility. Satisfying all these provides complete CVISN compatibility. These items are expected to require a longer-range (5 or more years) time frame.

States are expected to focus initially on checklist items with an *L1* compatibility requirement level rating. Making a *partial commitment* indicates that the state will at least demonstrate the feasibility of that concept or architectural guideline. Making a *full commitment* indicates that the state will fully implement the concept or architectural guideline and be ready for the next steps.

The generic CVISN state design has been summarized in this document in a series of tables in Chapter 3. The first and second columns came from the COACH Part 1 (Item # and Compatibility Criteria). The remaining columns correspond to components of the generic state design. The compatibility requirement level (L1, E, or C) in a cell indicates that the compatibility criterion is fulfilled in part or in whole by that component of the generic CVISN state design, and in what timeframe the criterion is expected to be implemented. The last column is for state-specific comments.

In its own version of this document, each state may choose to fill in the cells in Chapter 3 differently. The state may choose to use more specific product names in the columns in Chapter 3, or may add/delete design component columns. The state may use the Comments column to clarify what functions are performed by each marked component if a row implies support from multiple components.

If the state maintains its master copy of this document electronically, the following conventions are recommended when filling in the columns to illustrate the “firmness” of the state’s plan:

- *Italics type* : Tentative, not approved by the final decision makers
- Regular type : Approved by the decision makers (or supported by consensus)
- **Bold type** : Completed

Chapters 4 and 5 give a little more information about the functions of each of the CVISN Core Infrastructure and Carrier systems than was provided in COACH Part 1. The chapters are provided for information only.

States are to indicate their commitment to the data maintenance/update requirements in Chapter 2, and are to tailor their allocation of requirements to state system components in Chapter 3 prior to attending the CVISN Design Workshop.

2. DATA MAINTENANCE REQUIREMENTS

The checklists in this chapter summarize the requirements for maintaining data and sharing updates with other CVO stakeholders. Systems should be designed to meet these criteria. If a user group has more stringent requirements, those requirements override these.

Table 2-1 Data Maintenance & Update

Commit Level (F/P/N)	Data Need Category	Requirement for data to be maintained or updated	Reqs Level	Comments
F	1. <i>Routine snapshot segment changes</i> are those for which users can wait until the next routine snapshot update is scheduled. Routine snapshot data changes include updates related to passed inspections, compliance reviews, or credential renewals or supplements.	The source system should update the snapshot record within 24 hours of the change.	L1; C	L1 for carrier & vehicle snapshots; C for driver snapshots
F	2. <i>High-priority snapshot segment changes</i> are those which users need to know about immediately. High priority snapshot data changes include out-of-service (OOS) resulting from an inspection.	The source system should update the snapshot record within 30 minutes hour of the change.	L1; C	L1 for carrier & vehicle snapshots; C for driver snapshots

Commit Level (F/P/N)	Data Need Category	Requirement for data to be maintained or updated	Reqs Level	Comments
N	3. <i>Snapshot subscription fulfillment</i> is the SAFER or CVIEW process for sending specified snapshot output views to users based on standing requests to do so when specified data changes.	Whenever the criteria for sending a snapshot are triggered, the snapshot system (CVIEW or SAFER) should distribute the revised snapshot within 24 hours for routine snapshot segment changes, and within 30 minutes for high-priority snapshot segment changes.	L1; C	L1 for carrier & vehicle snapshots; C for driver snapshots Further clarification of Data Need Category is requested.
F	4. <i>An inspection report</i> indicates the results of an inspection conducted at the roadside by a qualified inspector.	Normally, the results of an inspection using ASPEN should be reported electronically within 24 hours of being conducted. If the vehicle or driver was placed OOS, the results should be reported within 30 minutes.	L1	
N	5. <i>Credential application response</i> is the response from the state to the applicant. In this context, the “response” reflects the results of evaluating the credential application.	The state system should respond to the applicant’s system within 2 hours for a correct transaction that requires no manual intervention. If manual intervention is required, the state system should respond to the applicant’s system within 24 hours of receipt of an electronic input.	L1	

Commit Level (F/P/N)	Data Need Category	Requirement for data to be maintained or updated	Reqs Level	Comments
F	6. <i>IRP base state agreement data</i> are those data required by other jurisdictions to understand the fees collected on their behalf. In IRP lingo, these data are exchanged via “recaps.”	The state IRP system should send recaps to the IRP Clearinghouse at least monthly.	L1	
F	7. <i>IFTA base state agreement data</i> are those data required by other jurisdictions to understand the quarterly fuel taxes collected on their behalf. In IFTA lingo, these data are called “demographic” for basic census information, and “transmittal” for tax return information.	The state IFTA system should send updated demographic and transmittal data to the IFTA Clearinghouse at least monthly.	L1	
F	8. The <i>Privacy Act of 1974</i> [Reference18] attempts to regulate the collection, maintenance, use, and dissemination of personal information by federal government agencies. Federal systems must adhere to the law. Some sections of the law apply to state and local governments as well. Additionally, some states have related laws regarding privacy and data access.	The systems affected by the Act or related statutes should incorporate procedures, protocols, and designs that support the law. The Privacy Act include sections concerning data disclosure, accounting of disclosure, access, amendment, reporting, archiving, and other activities.	L1	

3. GENERIC DESIGN – STATE SYSTEMS

3.1 Allocation of General State Systems Design Requirements

The general state systems design requirements are allocated to all the systems that support the functions described by the compatibility criteria in this table.

Item #	Compatibility Criteria	STATE																			Comments	
		IFTA	IRP	Intrastate Veh Registr	Credentialing Interface	Treasury	Titling	CDL/DL	SSRS	WebCAT	HazMat	OS/OW	E-Screening Enrollment	SAFETYNET	CVIEW	ASPEN	Citation & Accident	CAPRI	Screening	Roadside Operations		Sensor/Driver Comm
3.1.1	Adopt standard identifiers for carriers, vehicles, drivers, and transponders to support information exchange.	L1	L1	C	L1		E	E	E	C	E	E	E	L1	L1	L1	E	L1	L1	L1	L1	In Sections 3.1.1 through 3.1.6 NO CITATION data is to be provided as per Missouri Statute
1	Adopt standard identifiers for interstate carrier, vehicle, driver, and transponder.	L1	L1		L1		E	E	E	C	E	E	E	L1	L1	L1	E	L1	L1	L1	L1	
2	Adopt standard identifiers for intrastate carrier, vehicle, driver, and transponder.			C	C		C	C		C	C	C	C	C	C	C	C	C	C	C	C	

3.1.2	Use open standards for exchange of information with other jurisdictions and with the public.	L1	L1		L1		E	L1	E	C					L1		C				
1	Use ANSI X12 EDI standards for transactions between state information systems and private systems (CV operators, insurance companies, etc.).				L1																
2	Use ANSI X12 EDI standards for transactions between state information systems and CVISN Core Infrastructure systems, where available.	L1	L1				E	L1	E						L1		C				
3	Use XML standards for transactions between state information systems and private systems (CV operators, insurance companies, etc.) (contingent on demonstration of feasibility).				C					C					C	C	C				
3.1.3	Ensure that all information transfers, fee payments, and money transfers are authorized and secure.	L1	L1	E	L1	L1	E	E	E	C	E	E	E	L1	L1	L1	C	L1	L1	L1	L1
3.1.4	Exchange safety and credentials data electronically within the state to support credentialing, safety, and other roadside functions. Where useful, exchange snapshots.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1	Data for interstate carriers	L1	L1		L1	L1			E	C	E		E	L1	L1	L1	C	L1	L1	L1	

2	Data for interstate vehicles		L1		L1	L1	E					E	E	L1	L1	L1	C	L1	L1	L1			
3	Data for intrastate carriers				E	E							E	E	E	E	C	E	E	E			
4	Data for intrastate vehicles			E	E	E	E					E	E	E	E	E	C	E	E	E			
5	Data for drivers					E		C						C	C	C	C		C	C			
3.1.5	Demonstrate technical interoperability by performing Interoperability Tests.	L1	L1	E	L1		E	C	E	C	E	E	E	L1	L1	L1	C		L1	L1	L1		
3.1.6	Support electronic payments.	E	E	E	E	E	E		E	C	E	E	E										In Sections 3.1.1 through 3.1.6 NO CITATION data is to be provided as per Missouri Statute

3.2 Allocation of State Safety Information Exchange and Safety Assurance Systems Design Requirements

The paragraphs in this section describe the functions of each Safety Information Exchange and Safety Assurance product in the generic CVISN state system design. Requirements from the COACH Part 1 are allocated to specific products in table 3.2.

SAFETYNET

This product was developed and is maintained by FHWA. SAFETYNET, operating in every state, collects safety data, provides tools to analyze and edit the data, and reports safety data to FHWA's MCMIS. According to Reference 12, SAFETYNET is the state-level information management system for motor carrier safety. SAFETYNET captures inter- and intra-state driver/vehicle inspection data, accident data, carrier compliance reviews, enforcement data, and carrier identification data. Originally designed as a manual data entry system, SAFETYNET now allows electronic data collection. The system is central to successful management and operation of the Motor Carrier Safety Assistance Program (MCSAP). It contains many report-generating, prioritizing and task tracking routines. The next generation "SAFETYNET 2000" will be available in 1999 and will provide a robust client-server, SQL database management system.

CVIEW

Commercial Vehicle Information Exchange Window. This product is a spin-off of the FHWA-developed SAFER system. It is owned by and located in a state. In CVISN Level 1, there is a requirement to implement a system called CVIEW (Commercial Vehicle Information Exchange Window) or its equivalent for snapshot exchange within the state and to other states. The CVIEW or equivalent functions are listed below:

- Provide for the electronic exchange of state-based interstate carrier and vehicle credential data between state source/legacy systems, users, and SAFER
- Provide for the electronic exchange of intrastate carrier and vehicle safety and credential data between state source systems and users
- Serve as the repository for a state-selected subset of interstate carrier and vehicle safety and credential data
- Serve as the repository for a state-selected subset of intrastate carrier and vehicle safety and credential data
- Provide inter- and intrastate carrier and vehicle safety and credential data to the roadside to support electronic screening and other roadside operations

In addition to these snapshot-related functions, CVIEW or its equivalent is also expected to serve as the single interface system for ASPEN units in the field. ASPEN will retrieve inspections through CVIEW, and report inspections through CVIEW. CVIEW has similar Data Mailbox facilities as SAFER to facilitate the exchange of information among state users within the state agencies.

ASPEN

Record & report safety inspections. According to Reference 12, ASPEN is a driver/vehicle safety inspection software package that improves the entire inspection process by providing inspectors at the roadside access to safety performance information including the most recent inspection results, the driver's CDL status (see CDLIS) and the safety performance and past safety problems of the carrier (see ISS). ASPEN can be seen as an intelligent assistant that ensures complete and accurate data collection at the roadside. Inspectors select applicable violations from lists of possible citations and add descriptive notes as needed. The program can be customized for use by different States. ASPEN prints an inspection report on-site that is given to the driver. A copy also can be faxed to carrier management. ASPEN inspection data is electronically transferred to State information systems via CVIEW and SAFER. Optimized for use with pen-computers, ASPEN can also be run on Mobile Data Terminals and laptop computers. ASPEN's functions include:

- Interface with Roadside Operations system (to get screening data, notify when inspector available)
- Interface with CDLIS to check CDL status
- Interface to CVIEW/Data Mailbox system (directly or via Roadside Ops) to report inspections and access snapshots and safety reports
- Inspect vehicle - provide operator data entry of inspection results
- Update ASPEN internal database
- Calculate/display Inspection Selection System (ISS) value which recommends inspection based on carrier safety history

According to Reference 12, ISS is a standardized algorithm uses carrier safety performance and inspection history data to rank carriers according to the relative value of conducting a vehicle inspection. The objective is to increase inspections on carriers with poor safety performance records (accidents, out-of-service defects and other safety problems) while also increasing inspections on carriers where there is little available information. ISS runs within ASPEN and also as a stand alone for Port of Entry use. Eventually it may also be used for mainline vehicle screening.

Citation & Accident

Record citation and accident data. This product may exist in some form in some states. Generally, the product is envisioned to perform these functions:

- Enter citation data electronically
- Issue citations
- Enter accident data electronically
- Generate accident reports
- Interface to CVIEW system (directly or through Roadside Ops) to report citations and accidents and access safety reports

CAPRI

Carrier Automated Performance Review Information. This product was developed and is maintained by FHWA. CAPRI supports compliance reviews. All Federal staff and most States use CAPRI software.

STATE

Item #	Compatibility Criteria	IFTA	IRP	Intrastate Veh Registr	Credentialing Interface	Treasury	Titling	CDL/DL	SSRS	WebCAT	HazMat	OS/OW	E-Screening Enrollment	SAFETYNET	CVIEW	ASPEN	Citation & Accident	CAPRI	Screening	Roadside Operations	Sensor/Driver Comm	Comments
3.2.1	Use ASPEN (or equivalent) at all major inspection sites.															L1						In Sections 3.2.1 through 3.2.7 NO CITATION data is to be provided as per Missouri Statute
1	Select vehicles and drivers for inspection based on availability of inspector, standard inspection selection system (ISS), vehicle measures, and random process, as statutes permit.															L1			L1	L1		
2	Report interstate inspections to MCMIS via SAFETYNET.													L1	L1	L1						
3	Report intrastate inspections to SAFETYNET.													L1	L1	L1						
4	Submit interstate and intrastate inspections for 45-day storage to SAFER.														L1	L1						

3.2.5	Collect, store, analyze, and distribute crash data electronically.																			L1, C	C		C						C - Report to SAFETYNET 2000 via CVIEW and SAFER Data Mailbox
1	Report interstate crashes as required to MCMIS via SAFETYNET.																			L1, C	C		C						C - Report to SAFETYNET 2000 via CVIEW and SAFER Data Mailbox
3.2.6	Compute carrier safety risk rating for intrastate carriers based on safety data collected.																			E									
3.2.7	Identify high risk drivers based in the state through regular performance evaluation of various factors such as license status, points, and inspections.																			C									In Sections 3.2.1 through 3.2.7 NO CITATION data is to be provided as per Missouri Statute

3.3 Allocation of State CV Credentials Administration Systems Design Requirements

The paragraphs in this section describe the functions of each CV Credentials Administration product in the generic CVISN state system design. Requirements from the COACH Part 1 are allocated to specific products in table 3.3.

IFTA

International Fuel Tax Agreement systems. See Reference 13. Usually split into two systems, one that handles registration and one that processes fuel tax returns. The IFTA is a registration reciprocity agreement among states of the United States and provinces of Canada that provides for payment of fuel taxes on the basis of fuel used in various jurisdictions. Carriers pay fuel taxes to the various jurisdictions in which fleet vehicles are operated by registering and filing tax returns through a base state. Only one fuel use license is issued for each carrier when registered under the Agreement. In the generic CVISN state design, in addition to the normal IFTA functions, the IFTA Registration system also provides carrier snapshot updates.

IRP

International Registration Plan systems. See Reference 14. The International Registration Plan is a registration reciprocity agreement among states of the United States and provinces of Canada that provides for payment of interstate vehicle license fees on the basis of fleet miles operated in various jurisdictions. License fees are paid to the various jurisdictions in which fleet vehicles are operated through a base state. Only one license plate and one cab card is issued for each fleet vehicle when registered under the Plan. A fleet vehicle is known as an apportionable vehicle and such vehicle, so far as registration is concerned, may be operated both interjurisdictionally and intrajurisdictionally. In the generic CVISN state design, in addition to the normal IRP functions, the IRP system also provides carrier and vehicle snapshot updates.

Intrastate Vehicle Registration

These systems register commercial vehicles that normally operate within the state. In the generic CVISN state design, in addition to the normal intrastate vehicle registration functions, the system also provides vehicle snapshot updates.

Credentialing Interface

The Credentialing Interface provides a convenient interface within the state to accept electronic credentialing application inputs from carriers, and to provide responses from state systems to carriers. As such, it is the focal point for credential and tax interaction with the carriers.

- Uses EDI ASC X12 standards for external interfaces,
- Acknowledges receipt of valid EDI transactions,

- Archives transactions,
- Does preliminary syntax checks on received transactions,
- Allows for optional manual review of transactions,
- Routes applications to the appropriate state credentialing system,
- Routes responses to the carrier,
- Supports electronic screening enrollment functions by updating carrier and vehicle snapshots with carrier's requests to participate in electronic screening programs.

A state may choose to extend the CI to perform some other function(s) normally allocated to another system, e.g., updating snapshot segments with credentials information.

Treasury

In this context, the State's Treasury system processes electronic payments. The Treasury system provides payment information to the credentialing system for which the fee/tax is paid. Various electronic payment methods are possible. States authorize electronic payment methods depending on regulations, capabilities, and experiences with individual payers.

Titling

Title new and used vehicles. In the generic CVISN state design, in addition to the normal titling functions, the Titling system will also provide vehicle snapshot updates.

CDL/DL

Issue Commercial Driver's License/ Driver's License. In the generic CVISN state design, in addition to the normal licensing functions, the system will also provide driver snapshot updates.

SSRS

Single State Registration System. Carrier registration. In the generic CVISN state design, in addition to the normal registration functions, the SSRS will also provide carrier snapshot updates.

Web CAT

State WWW site support for electronic credentialing. Some CVISN Model Deployment states are exploring Internet-based credentialing solutions. In those states, the carrier's credential applications will be submitted to the Web CAT via an Internet browser. The Web CAT is expected to provide input screens and perform initial data checks. The Web CAT would pass the application data, normally in EDI format, to the Credentialing Interface, which would then route the application to the appropriate legacy system. The response from the legacy system would be returned to the carrier via the CI and Web CAT.

1	Interface to IRP Clearinghouse using EDI standards.		L1																	
3.3.6	Support electronic state-to-state fee payments via IRP Clearinghouse.		L1		L1															
3.3.7	Support electronic credentialing (electronic submission of applications, evaluation, processing, and application response) for IFTA registration using EDI standards.	L1		L1	L1				C				L1							
3.3.8	Proactively provide updates to carrier snapshots as needed when IFTA credentials actions are taken or tax payments are made, using EDI standards.	L1											L1							
1	Interface to SAFER for interstate carrier snapshots, using EDI standards.												L1							
3.3.9	Provide IFTA Clearinghouse with IFTA credential application information using EDI standards.	L1																		
3.3.10	Support electronic tax filing for IFTA quarterly fuel tax returns using EDI standards.	L1		L1	L1				C				L1							

3.4 Allocation of State Electronic Screening Systems Design Requirements

The paragraphs in this section describe the functions of each Electronic Screening System product in the generic CVISN state system design. Requirements from the COACH Part 1 are allocated to specific products in table 3.4.

Each station's design is unique because of:

- State policy & practices
- Traffic flow, volume, & number of lanes
- Available site space
- Legacy system characteristics
- Existing proprietary solutions
- Vintage of roadside and communications equipment
- Resources available for making changes

In the generic design, the Electronic Screening System functions are allocated as shown below.

Screening

Make pass/pull-in decision.

- Interface to sensor/driver communications system
- Interface to Roadside Operations system (get snapshot summaries, send sensor data, send screening results)
- Sort vehicles on mainline or ramp, using: sensor data, snapshot data, availability of inspector, operator configuration selections
- Output screening results to tag via DSRC (includes driver notification)
- Control screening messages and signal lights
- Configure screening based on operator control (via Roadside Operations system) data
- Track vehicle through facility via tracking loops

Roadside Operations

Process snapshots and control site traffic.

- Interface to CVIEW – get snapshot data
- Support legacy operator interfaces (Static Scale, CDLIS, NLETS, Traffic Flow)
- Control “pull around back” messages and signal lights
- Interface to electronic screening (send criteria, get screening results, get sensor data, send snapshot summaries)
- Interface to report activities from other roadside systems to infrastructure, and vice versa
- On request, retrieve report data and display
- Process snapshot data into local database

- Track position of each vehicle moving through the station
- Allow operators to set/view screening criteria
- Display sensor data to operator
- Display snapshot data to operator
- Display vehicle position data to operator (e.g. mainline, ramp, scale lane, inspection area)

Sensor/Driver Communications

Process vehicle measures and communicate via DSRC with driver.

- Weigh In Motion/Automatic Vehicle Classification
- Automatic Vehicle Identification (via DSRC)
- In-cab notification (via DSRC)
- Height detectors
- Static scales
- Variable message signs
- Signal lights

STATE

Item #	Compatibility Criteria	IFTA	IRP	Intrastate Veh Registr	Credentialing Interface	Treasury	Titling	CDL/DL	SSRS	WebCAT	HazMat	OS/OW	E-Screening Enrollment	SAFETYNET	CVIEW	ASPEN	Citation & Accident	CAPRI	Screening	Roadside Operations	Sensor/Driver Comm	Comments
3.4.1	Follow FHWA guidelines for Dedicated Short Range Communications (DSRC) equipment. Details below extracted from Reference 16.																		L1		L1	In Sections 3.4.1 through 3.4.7 NO CITATION data is to be provided as per Missouri Statute

5	For transponder-equipped vehicles, identify driver at mainline or ramp speeds.																		C	C	C
3.4.5	Verify credentials/safety information with authoritative source prior to issuing citation.	L1, C	L1, C	L1, C			L1, C	L1, C	L1, C		L1, C	L1, C	L1, C		C	L1, C	C				C
3.4.6	If a vehicle illegally bypasses or leaves the CV check station, alert law enforcement for possible apprehension.																		C	C	
3.4.7	Report periodically to State safety information system on the activities conducted at each station (e.g. statistics).																		C	C	
																					In Sections 3.4.1 through 3.4.7 NO CITATION data is to be provided as per Missouri Statute

4. GENERIC DESIGN – CVISN CORE INFRASTRUCTURE SYSTEMS

See the COACH Part 1, Chapter 6 for the lists of capabilities for these CVISN Core Infrastructure Systems.

CDLIS

Commercial Driver License Information System. A Nationwide linkage of State driver license systems, CDLIS allows quick access to license status and violation history for any CDL driver in North America. CDLIS is used during roadside inspections to identify drivers with revoked, suspended, or bogus licenses.

SAFER

Safety and Fitness Electronic Records system.

From Reference 15,

“The SAFER System is being developed as a component of ITS. One of its primary functions is to increase the efficiency and effectiveness of the inspection process at the roadside. The SAFER System currently provides carrier, vehicle, and driver safety information to fixed and mobile roadside inspection stations. This capability will be expanded in future releases of the software to include credential information. This will allow roadside inspectors and other potential government and private users to focus their efforts on high-risk areas; i.e., selecting vehicles and/or drivers for inspection based on the number of prior carrier inspections and its safety and credential history. As a result, inspection resources will be directed at drivers and vehicles associated with carriers with few prior inspections or poor safety/credential records, while minimizing time spent inspecting carriers with many prior inspections and good safety/credential histories. This will improve the overall cost effectiveness of the inspection process as well as provide an incentive to safe and legal carriers.

There are many other functions SAFER will support. For example, SAFER will provide data exchange support to the Performance and Registration Information Systems Management (PRISM) project which is currently conducting a feasibility study to determine if vehicle registration can be linked to carrier safety. SAFER will also provide electronic access to carrier safety information to various third party users such as shippers, insurers, vehicle rental/leasing companies, carriers, and others. . .

The primary function of the System is to provide users timely, electronic access to safety and credential data via one or more wide area network (WAN) communication links. This information will include identity data about carriers, vehicles, and drivers, summaries of past safety performance histories (inspections, accidents, and other data) and credential information.

SAFER will provide users with either a summary safety record (“snapshot”), or a more detailed report. Two such reports are the carrier profile and vehicle/driver inspection reports. The System will support on-line query and

response for snapshot and report information. It will allow users to request, via subscriptions, that specific snapshots or reports are sent to them automatically when substantial change in the data occurs. Users will be also able to specify the types of change that triggers transmission of subscription requests. . .

The SAFER system will also support maintenance operations, ensure data currency, provide backup and security protection, track user services and where appropriate, bill users for data exchange services.”

One component of the SAFER system is its data mailbox facility. The data mailbox facility provides a simple and universal means of transferring data between State and Federal law enforcement officers and the various information systems.

MCMIS

Motor Carrier Management Information System. The system is operated by the Federal Highway Administration’s (FHWA) Office of Motor Carriers and Highway Safety. According to Reference 12, MCMIS is the national data warehouse of safety performance information on interstate (and some intrastate) motor carriers. It is the authoritative source of safety information used to drive National Motor Carrier Safety programs and to feed other information systems. MCMIS maintains a comprehensive record of the safety performance of the motor carriers and hazardous materials shippers who are subject to the Federal Motor Carrier Safety Regulations or Federal hazardous materials regulations. MCMIS is currently accessed directly by Federal and State offices. Routine access to MCMIS data is provided by SAFER.

IRP Clearinghouse

International Registration Plan Clearinghouse. Administration of IRP base state agreement. The IRP Clearinghouse performs these major functions:

- Accepts recaps input from jurisdictions,
- Computes balance due/owed to/from each jurisdiction,
- Facilitates monthly funds transfer, supporting EFT
- Note: EDI interfaces are being considered.

For more information, contact Stan Kelly at IRP. Inc. 703-908-5765 or stank@aamva.org.

IFTA Clearinghouse

International Fuel Tax Agreement Clearinghouse. Administration of IFTA base state agreement. The IFTA Clearinghouse performs these major functions:

- Responds to standard & ad hoc queries
- Transmittal data entry screens
- Tax Matrix & Reference Table maintenance

- Accepts data (demographic & transmittal) submitted by clients (EDI)
- Provides standard reports

For more information, contact Bob McKee at IFTA, Inc. 602-839-4382 or rmckee@iftach.org.

NMVTIS

National Motor Vehicle Titling Information System. This system is being developed by the American Association of Motor Vehicle Administrators (AAMVA). The initial focus is not on commercial vehicles. It is to provide a pointer to title information for all vehicles.

RSPA HazMat

FHWA's Research & Special Projects Administration Hazardous Materials. Register carriers authorized under federal regulations to carry HazMat.

Licensing & Insurance

Register financial responsibility for interstate carriers. The former Interstate Commerce Commission's (ICC) Licensing and Insurance (L&I) system maintains a comprehensive record of the financial responsibility of motor carriers in order to ensure that they meet the minimum insurance requirements for the activities in which they are engaged. The system is now maintained and operated by the FHWA. If a motor carrier desires to engage in an activity covered by the financial responsibility regulations, it must provide proof of proper insurance coverage. The carrier's detailed insurance information is maintained in the L&I system along with indicators of its over-all status. When the carrier's insurance profile changes (for instance, when an insurance policy is canceled) the insurance provider informs FHWA and the system is updated. The L&I information is provided to the public through a variety of mechanisms, including telephone response systems and the SAFER web page.

ASAP Analysis Admin/CAPRI

Automated Safety Assessment Program Analysis Administration/CAPRI. FHWA components of systems that support collection of compliance data from carriers and record & report compliance reviews.

5. GENERIC DESIGN – CARRIER SYSTEMS

See the COACH Part 1, Chapter 7 for the lists of capabilities related to the CVISN State and Core Infrastructure Systems' requirements for these Carrier Systems.

Credentialing System

Apply for and receive responses about credentials; file fuel tax returns. A stand-alone Carrier Automated Transactions (CAT) system is one possible design solution. Another is a "CAT Module" that is integrated into a larger freight and fleet management system. The credentialing system performs such functions as:

- Data entry screens for credential applications & fuel tax filing
- Validate application
- Specify payment method
- Get latest fuel tax tables
- Compute fees (some, not all)
- Print applications
- Translate to/from EDI transaction
- Initiate payments through banks (future)
- Send EDI transactions
- Receive EDI transactions
- Acknowledge EDI transactions
- Print credentials
- Archive transactions

Internet tools

Via Internet browser, access governmental or private Web sites to apply for and receive responses about credentials, file fuel tax returns, and perform other CV-related functions. CVISN Model Deployment states are exploring Internet-based credentialing solutions. See the description under Web CAT in Chapter 3.

ASAP MCDC

Automated Safety Assessment Program Motor Carrier Data Collection. Report compliance information.

Other Carrier Systems

Other elements of fleet and freight management. Carriers have many systems to help them do business. To date, no specific electronic State or CVISN Core Infrastructure interfaces with these carrier activities have been defined. The applications address activities in such areas as:

- Business Operations

- Accounting & finance
- Purchasing
- Billing
- Human resources & payroll
- Asset management
- Management information
- Planning & forecasting
- Customer Service
 - Sales
 - Scheduling
 - Load matching
 - Order processing
 - Shipment inquiry
- Fleet Management
 - Routing & dispatch
 - Equipment ID & tracking
 - Shipment ID & tracking
 - Driver management
 - Maintenance
 - Safety management

On-Board Communication

Communicate via DSRC, voice, etc. This design component is involved in functions such as managing the interfaces with other on-board equipment including driver monitoring, cargo monitoring, and sensor equipment. This component communicates the information collected by the other on-board devices to off-vehicle systems, through various communications methods.

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**Intelligent Transportation Systems (ITS)
Commercial Vehicle Operations (CVO)**

**CVISN Operational and Architectural
Compatibility Handbook (COACH)**

Part 4

Interface Specification Checklists

Draft Version

POR-97-7067 D1.0

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Please note that this is a Preliminary Issue

It is important to note that this is a preliminary document. All sections included are complete and have been reviewed by JHU/APL, but not by other DOT contractors or state/federal government agencies. The purpose of this issue is to obtain comments and feedback on this document from those external organizations before a baseline version is published.

Note: This document and other CVISN-related documentation are available for review and downloading by the ITS/CVO community from the JHU/APL CVISN site on the World Wide Web. The URL for the CVISN site is:

<http://www.jhuapl.edu/cvisn/>

Review and comments to this document are welcome. Please send comments to:

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**CVISN Operational and Architectural Compatibility Handbook (COACH)
Part 4 – Interface Specification Checklists**

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1. INTRODUCTION

The CVISN Operational and Architectural Compatibility Handbook (COACH) provides a comprehensive checklist of what is required to conform with the Commercial Vehicle Information Systems and Networks (CVISN) operational concepts and architecture. It is intended for use by state agencies with a motor carrier regulatory function and by motor carriers. It is also intended to provide a quick reference for developers of CVISN Core Infrastructure systems.

1.1 COACH Structure

The COACH is divided into 5 parts:

- Part 1 - Operational Concept and Top-Level Design Checklists
- Part 2 - Project Management Checklists
- Part 3 - Detailed System Checklists
- Part 4 - Interface Specification Checklists**
- Part 5 - Interoperability Test Criteria

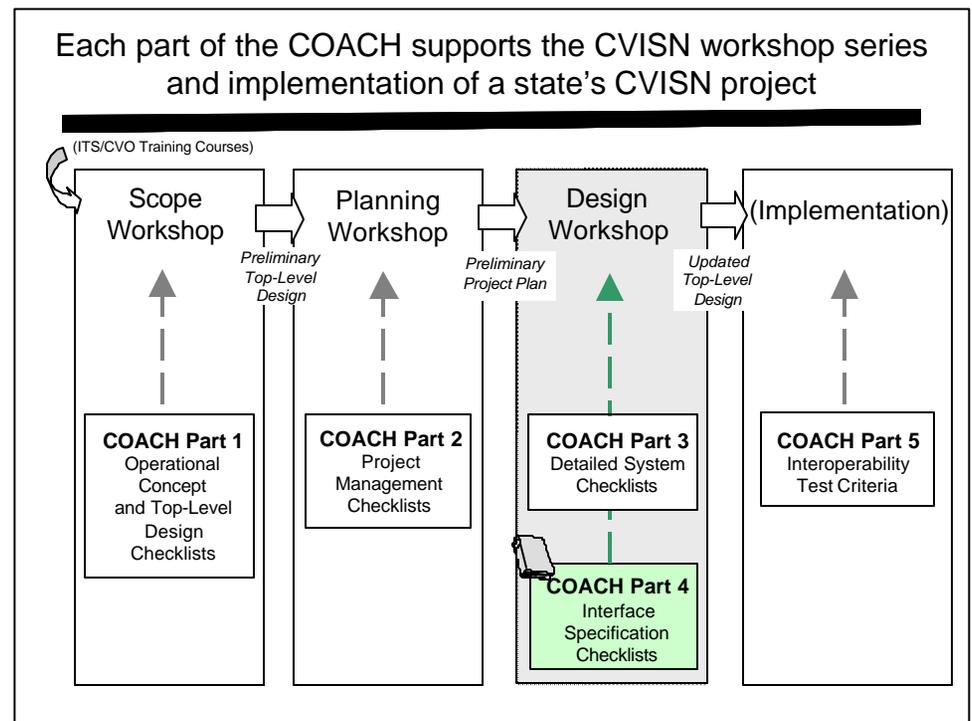
Parts 1 [References 2, 3], 2 [Reference 4], and 5 [Reference 6] are available in preliminary form at the Browse and Download Documentation; Architecture section of the JHU/APL CVISN web site <http://www.jhuapl.edu/cvo/>. Part 3 [Reference 5] will be published as draft in 1999.

1.2 COACH Part 4 Interface Specification Checklists Description

This volume is Part 4. Part 4 includes several types of checklists related to interfaces:

- Standard Interface Identification Tables, identifying the standardized interfaces to be used between pairs of products [Chapter 2].

Figure 1-1 The COACH supports the workshops



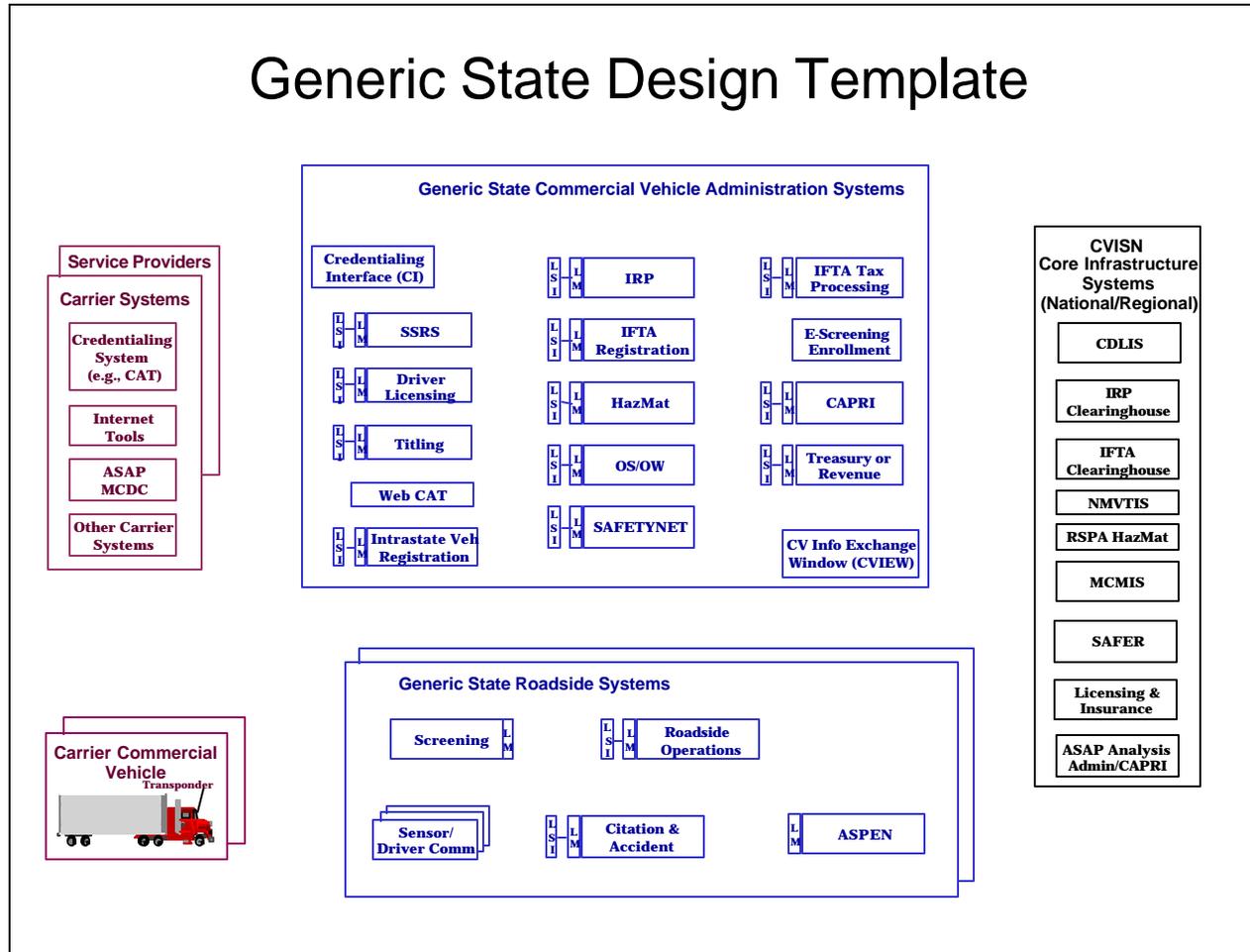
- Standard Data Definitions, specifying data format and meaning conventions for items common to more than one standard interface [Chapter 3].
- References, a list of standards and recommended practices related to ITS/CVO interfaces [Chapter 4].

In Part 4, the checklists are intended to be used to indicate which items the reader agrees with, and to provide a mechanism for planning development activities. Each state should maintain a master filled-in copy of the COACH.

1.3 Generic State CVISN System Design

Figure 1-2 below depicts the generic CVISN state system design template. Material in this document is based upon this generic design. Products equivalent to the carrier and state products shown may be substituted in the design. For example, a state may choose to combine the HazMat and Oversize/Overweight permitting functions into one product. In that case, the interfaces specified would apply to the combined product rather than to two distinct products.

Figure 1-2 Generic State Design Template



The systems shown in the generic design are defined in the CVISN Glossary [Reference 1]. The generic design represents the main elements and interfaces needed for a state to implement the CVISN architecture. Each state will adapt the generic design to accommodate their existing (legacy) systems, and to meet their own unique needs. The generic design is explained in more detail in the COACH Part 3 [Reference 5].

Use of standardized Electronic Data Interchange (EDI) and Dedicated Short Range Communications (DSRC) interfaces is required for architecture conformance. Each state chooses whether to modify a legacy system (LM - legacy modification) to support EDI (and other new functions and interfaces), or to create a Legacy System Interface (LSI) to deal with the EDI-to-native form interface. Many CVISN states are implementing a mix of LSIs and LMs. Throughout this document, the generic state system design is based on choosing to modify the legacy systems (i.e., implement LMs).

In the generic design depicted here, the legacy credentials systems update the appropriate snapshot segments in CVIEW using EDI. The inspection system in the generic state design is ASPEN. In this design, the Roadside Operations subscribes to CVIEW to receive snapshots. ASPEN subscribes to SAFER to receive snapshots. The CVIEW-Roadside Operations connection is an EDI interface. The SAFER-ASPEN interface uses the "application file format" that corresponds to a file format that could be input into an EDI translator. As of March 1999, ASPEN does not handle EDI, due to the expense of equipping several hundred ASPEN units with commercial translators.

To achieve interoperability, the CVISN architecture calls for the use of open standards for carrier-state and state-state (via the CVISN Core Infrastructure) interfaces. Interfaces that are wholly within a state government's control (e.g., between state agencies) are not required to use open standards. Most CVISN Model Deployment States have chosen to use open standards for some within-state interfaces, and have chosen to use existing custom interface agreements for others. For example, some states have chosen to implement LSIs instead of modifying their existing IRP or IFTA products. They are implementing the LSIs as small applications running on the same computer as the Credentialing Interface (CI). For those states, there are no EDI interfaces between the CI and their existing IRP or IFTA systems. Some of those states have also decided that the CI will provide snapshot segment updates of credentials data to CVIEW on behalf of the IRP or IFTA systems. In this document we depict one generic design for simplicity. The generic design shown here maximizes the use of open standards. Other designs are also acceptable under the CVISN architecture. Refer to the technical volumes of the CVISN Guide series for further information [References 16-19].

1.4 How States Should Use This Document

The COACH summarizes key concepts and architectural guidelines for CVISN. This version of the COACH Part 4 focuses on topics important to states. The COACH Part 1 defines the CVISN Level 1 criteria. This document identifies the detailed interface requirements associated with CVISN Level 1.

To gain a more complete understanding of CVISN, state planners and designers should read the Introductory Guide to CVISN [Reference 20], other parts of the COACH [References 2-6], and the CVISN System Design Description [Reference 15]. This version of the COACH Part 4 is intended to be a working document that is used for designing modifications and enhancements to existing state systems, and for planning the development of new systems in each user's state. This document will be used in the planned CVISN workshops.

The key concepts and architectural guidelines for CVISN states have been summarized in this document in a series of checklist tables. Each table in this document consists of these columns, unless otherwise noted:

- Commit Level (F/P/N) – the state's commitment level to the item

Using the first column of each checklist entry, a **commitment level should be filled in** by the state. There are three possible levels of commitment:

(F) This rating indicates a full commitment. This level means that at least 80% of the state's systems involved in the process implied by the checklist item are or intend to be compatible with the checklist item statement.

(P) This rating indicates a partial commitment. This level means that between 50% and 80% of the state's systems involved in the process implied by the checklist item are or intend to be compatible with the checklist item statement.

(N) This rating indicates no commitment. This level means that less than 50% of the state's systems involved in the process implied by the checklist item are or intend to be compatible with the checklist statement.

- Reqs Level - the compatibility requirement level assigned to this compatibility criterion by the FHWA CVISN project team

For a state to be "compatible with CVISN," it must implement selected items in the checklists. To distinguish those items, the CVISN project team has assigned a **compatibility requirement level** to each checklist item:

(L1) This rating identifies a CVISN Level 1 compatibility requirement.

(E) This rating indicates an enhanced level of CVISN compatibility. These items may require a little longer to complete (3-4 years).

(C) This rating indicates a complete level of CVISN Compatibility. Satisfying all these provides complete CVISN compatibility. These items are expected to require a longer-range (5 or more years) time frame.

States are expected to focus initially on checklist items with an *L1* compatibility requirement level rating. Making a *partial commitment* indicates that the state will at least demonstrate the feasibility of that concept or architectural guideline. Making a *full commitment* indicates that the state will fully implement the concept or architectural guideline and be ready for the next steps.

- Comments – available for the state to refer to another document or plan, note a question, record a clarifying comment, etc.

If the state maintains its master copy of this document electronically, the following conventions are recommended when filling in the columns to illustrate the “firmness” of the state’s plan:

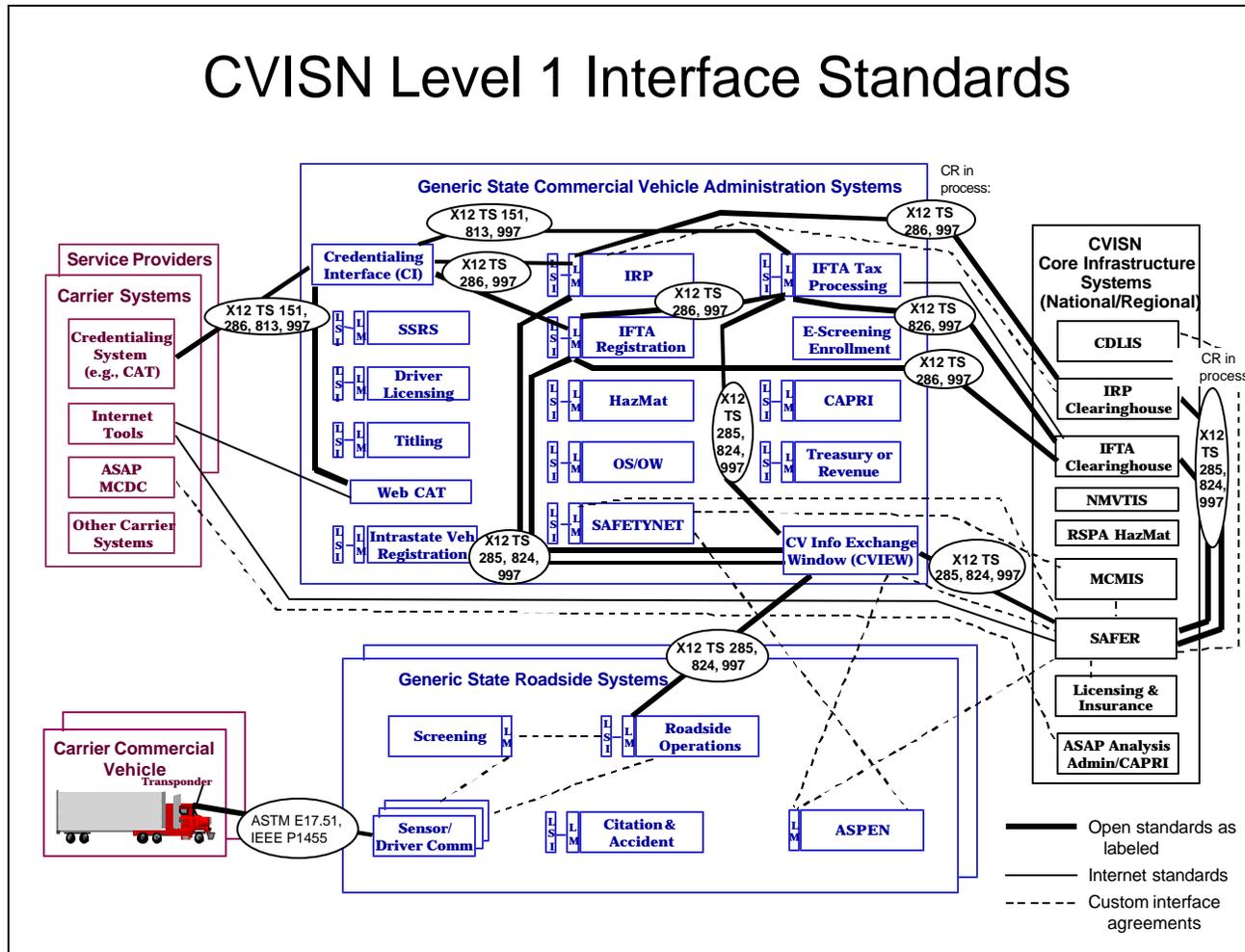
- *Italics type* : Tentative, not approved by the final decision makers
- Regular type : Approved by the decision makers (or supported by consensus)
- **Bold type** : Completed

States are to fill out the “Commit Level” column for the tables prior to attending the CVISN Design Workshop.

2. STANDARD INTERFACE IDENTIFICATION

Figure 2-1 shows all the CVISN Level 1 interface standards overlaid onto the generic state design template. The **open standards shown in the ovals** are listed below:

Figure 2-1 CVISN Level 1 Interface Standards



ANSI ASC X12 EDI Standard Transaction Sets

These are the ANSI EDI standards used in CVISN applications. A subset of these transactions is used to support Level 1 capabilities.

TS 150 Tax Rate Notification
TS 151 Electronic Filing of Tax Return Data Acknowledgement
TS 284 CV Safety Reports (available for non-ASPEN inspection systems)
TS 285 CV Safety & Credentials Information Exchange (snapshots)
TS 286 Commercial Vehicle (CV) Credentials
TS 813 Electronic Filing of Tax Return Data
TS 820 Payment Order/Remittance Advice
TS 824 Application Advice
TS 826 Tax Information Exchange
TS 997 Functional Acknowledgement

The EDI standards are available for purchase from the Data Interchange Standards Association (DISA), Inc., 1800 Diagonal Road, Suite 200, Alexandria, VA 22314-2852; email publications@disa.org; phone 1-888-363-2334; web site <http://www.disa.org/>. As of the publication of this document, Reference 7 is the current standard.

FHWA is sponsoring the development of several Implementation Guides (IGs) on how to use the EDI transaction sets for CVO applications. To date, JHU/APL has developed IGs for TS 285, TS 286 (IRP, IFTA, OS/OW), as well as a FHWA Code Directory. JHU/APL also plans to develop IGs for other 286 applications, and for TS 284 and 824. See the Browse and Download Documentation; EDI Implementation Guides section of the JHU/APL CVISN web site <http://www.jhuapl.edu/cvo/> for the latest implementation guides. For information about the transaction sets related to tax filing, see <http://www.taxadmin.org/>.

DSRC-Related Standards

ASTM E17.51 Physical & Data Link Layers
IEEE P1455 Message Set

The DSRC standards are still in the approval cycle. For current status information, see <http://www.its.dot.gov/standard/standard.htm>.

These ANSI and DSRC open standards are the ones that states implementing CVISN capabilities should adopt.

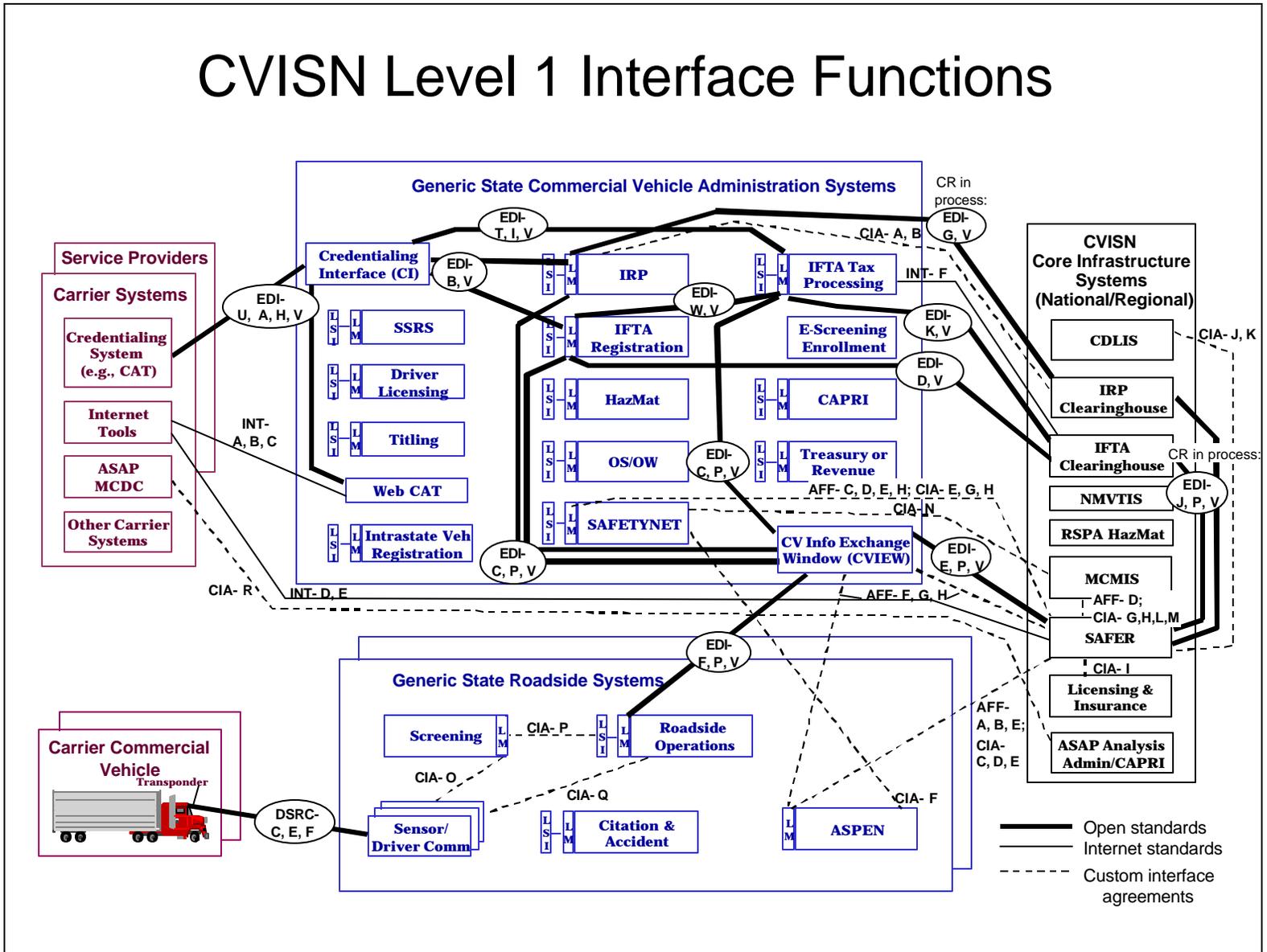
The interfaces between carrier's Internet browsers and various World Wide Web applications use Internet standards. See <http://www.w3.org/> for information about Internet standards.

The interfaces between FHWA-developed safety-related systems (ASPEN and SAFER, ASPEN and CVIEW, SAFER and SAFETYNET, SAFER and MCMIS, SAFER and Licensing & Insurance) are based on custom interface agreements defined by the system developers and endorsed by FHWA. Under special circumstances, FHWA tolerates, but does not encourage, the use of custom interface agreements for interchanges between systems operated under different "jurisdictions".

The purposes of the interfaces are explained in the remainder of this section.

In Figure 2-2, the standard names (e.g., X12 TS 286) have been replaced with letters. The letters correspond to particular functions as illustrated in the table that follows.

Figure 2-2 CVISN Level 1 Interface Functions



The checklist table below, Table 2-1, explains the purpose for each standardized interface shown in Figure 2-2. In addition to the standard column definitions explained in section 1.4, this table contains these columns:

- Label – the identification shown in Figures 2-2
- Std – the open standard or custom interface agreement to which the label refers and references that contain details of the standard and how to implement it
- Interface Purpose - summary versions of the interface exchanges expected, culled from other CVISN documentation
- From System – based on the generic design, the system that will send the information listed in the Interface Purpose column
- To System – based on the generic design, the system that will receive the information listed in the Interface Purpose column

There are more interfaces listed in the table than are shown on the drawings. Those additional interfaces correspond to enhanced or complete capabilities, as indicated by the “Req Level” column. For details about implementing the standardized interfaces, review the standards and implementation guides.

If the ‘Req Level” cell is in *italics*, it means that the capability will be supported during the Level 1 timeframe, but is not yet available as of March 1999.

There are several connection paths shown for ASPEN and SAFETYNET. They represent the capabilities planned as the products evolve to more powerful computers and more sophisticated software. Details of the evolution paths will be included in the CVISN Guide to Safety Information Exchange [Reference 17].

The categories of interfaces shown on Figure 2-2 and in Table 2-1 are:

- EDI – Electronic Data Interchange; ANSI X12 standards
- DSRC – Dedicated Short-Range Communications; IEEE and ASTM standards
- AFF – Application File Format; data structured in a format that is a precursor to an EDI exchange
- INT – Internet; HTML standards
- CIA – Custom Interface Agreement; data exchanged according to a particular custom interface agreement

Table 2-1 Standard Interface Identification Table

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqs Level	Comments
F	EDI-A	TS 286 Ref 7, 9, 11, 12, 14	Commercial Vehicle (CV) Credentials: <ul style="list-style-type: none"> • Submit initial/renewal/supplemental electronic application for credentials • Submit trip permit application • Notify payee of payment method • Submit corrected application • Send renewal notice • Return credentials data to applicant • Return temporary credential • Return trip permit • Notify payer of fees due • Reject application 	CAT (or WebCAT) CAT (or WebCAT) CAT (or WebCAT) CAT (or WebCAT) CI CI CI CI CI CI CI	CI CI CI CI CAT (or WebCAT) CAT (or WebCAT) CAT (or WebCAT) CAT (or WebCAT) CAT (or WebCAT) CAT (or WebCAT) CAT (or WebCAT)	L1; E	L1 = IRP & IFTA E = other credentials
F	EDI-B	TS 286 Ref 7, 9, 11, 12, 14	CV Credentials: <ul style="list-style-type: none"> • Pass application to legacy system • Return credentials data • Return temporary credential • Return trip permit • Report fees due • Reject application 	CI Legacy admin system Legacy admin system Legacy admin system Legacy admin system Legacy admin system	Legacy admin system CI CI CI CI CI	L1; E	L1 = IRP & IFTA E = other credentials

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqs Level	Comments
P	EDI-C	TS 285 Ref 7, 13-14	CV Safety & Credentials Information Exchange: <ul style="list-style-type: none"> Update snapshot segment Request carrier, vehicle, or driver information (i.e. request a snapshot view) Respond to carrier, vehicle, or driver information request or fulfill subscription (i.e. send one or more snapshots using a particular view) 	Legacy admin system (or CI) Legacy admin system (or CI) CVIEW	CVIEW CVIEW Legacy admin system (or CI)	L1; C	L1 = carrier & vehicle C = driver, Determination to be made in future on driver information and technology available
F	EDI-D	TS 286 Ref 7, 11, 14	CV Credentials: <ul style="list-style-type: none"> Submit application data Retrieve demographic data from Clearinghouse for review 	State IFTA Registration IFTA Clearinghouse	IFTA Clearinghouse State IFTA Registration	L1	
F	EDI-E	TS 285 Ref 7, 13-14	CV Safety & Credentials Information Exchange: <ul style="list-style-type: none"> Update snapshot segment Request carrier, vehicle, or driver information (i.e. request a snapshot view) Respond to carrier, vehicle, or driver information request or fulfill subscription (i.e. send one or more snapshots using a particular view) Update snapshot segment 	CVIEW CVIEW SAFER SAFER	SAFER SAFER CVIEW CVIEW	L1; C	L1 = carrier & vehicle C = driver

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqs Level	Comments
F	EDI-F	TS 285 Ref 7, 13-14	CV Safety & Credentials Information Exchange <ul style="list-style-type: none"> Request carrier or vehicle information (i.e. request a snapshot view) Respond to carrier or vehicle information request (i.e. send one or more snapshots using a particular view) 	Roadside Operations CVIEW	CVIEW Roadside Operations	L1; C	L1 = carrier & vehicle C = driver
F	EDI-G	TS 286 Ref 7, 10, 14	CV Credentials: <ul style="list-style-type: none"> Summarize fees billed and/or collected by a jurisdiction, and the portion due to other jurisdictions (netting/transmittal) Provide recaps for retention and/or review Provide recaps 	IRP Clearinghouse IRP Clearinghouse State IRP System	State IRP System State IRP System IRP Clearinghouse	L1 L1 E	NOTE: Change request in process for EDI interfaces
F	EDI-H	TS 813 Ref 7, 35	Tax Return: <ul style="list-style-type: none"> File electronic IFTA tax return 	CAT (or WebCAT)	CI	L1	
F	EDI-I	TS 813 Ref 7, 35	Tax Return: <ul style="list-style-type: none"> Pass tax return to IFTA tax return processing system 	CI	State IFTA Tax Processing System	L1	
F	EDI-J	TS 285 Ref 7, 13-14	CV Safety & Credentials Information Exchange: <ul style="list-style-type: none"> Update snapshot segment 	IFTA or IRP Clearinghouse	SAFER	L1	NOTE: Change request in process for this to be implemented on behalf of states that belong to clearinghouse but are not yet CVISN states

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqs Level	Comments
F	EDI-K	TS 826 Ref 7, 36	Tax Information Exchange: <ul style="list-style-type: none"> Send data on fuel tax filings among jurisdictions; summarize detailed tax information from individual returns and balance due/owed (netting and pre-netting summaries) 	IFTA Clearinghouse	State IFTA Tax Processing System	L1	
F	EDI-L	TS 150 Ref 7, 34	Tax Rate Notification <ul style="list-style-type: none"> Send latest IFTA tax rates 	CI	CAT or WebCAT	E	
N	EDI-M	TS 284 Ref 7, 14, 31	CV Safety Reports (Inspection Report) <ul style="list-style-type: none"> Submit safety report Request safety report Respond to safety report request 	CVIEW CVIEW SAFER	SAFER SAFER CVIEW	L1	Plan to go from SAFETYNET to SAFER
NOT APPLICABLE	EDI-N	TS 284 Ref 7, 14, 31	CV Safety Reports (Inspection Report) <ul style="list-style-type: none"> Submit original safety report Request safety report Respond to safety report request 	non-ASPEN Inspection system non-ASPEN Inspection system CVIEW	CVIEW CVIEW non-ASPEN Inspection system	L1	
N	EDI-O	TS 284 Ref 7, 14, TBD	CV Safety Reports (Crash Data) <ul style="list-style-type: none"> Submit original safety report 	Citation & Accident	SAFETYNET 2000 via CVIEW & SDM	C	STARS via SAFETYNET 2000 to SDM. Custom Interface Agreement Citations - Never (Mo Statute)
F	EDI-P	TS 824 Ref 7, 14, TBD	Application Advice <ul style="list-style-type: none"> Acknowledge successful processing of TS 285 update message data Report errors in processing of TS 285 update message data 	receiver of 285 receiver of 285	sender of 285 sender of 285	L1	

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Repts Level	Comments
F	EDI-Q	TS 150 Ref 7, 34	Tax Rate Notification <ul style="list-style-type: none"> Send latest IFTA tax rates 	State IFTA Tax Processing System	CI	E	
?	EDI-R		<i>reserved</i>				
F	EDI-S	TS 820 Ref 7	Payment Order/Remittance Advice : <ul style="list-style-type: none"> Initiate EFT payment Report payment received 	payer state's bank	payer's bank State Treasury or Revenue system	E	
F	EDI-T	TS 151 Ref 7, 32	Electronic Filing of Tax Return Data Acknowledgement <ul style="list-style-type: none"> Report errors encountered when attempting to process IFTA tax return (813) 	State IFTA Tax Processing System	CI	L1	
F	EDI-U	TS 151 Ref 7, 32	Electronic Filing of Tax Return Data Acknowledgement <ul style="list-style-type: none"> Pass IFTA tax return error message Pass IFTA tax return successfully processed message 	CI CI	CAT (or WebCAT) CAT (or WebCAT)	L1	
F	EDI-V	TS 997 Ref 7, 33	Acknowledge	all EDI-receiving systems	all EDI sending-systems	L1	
F	EDI-W	TS 286 Ref 7, 11, 14	CV Credentials: <ul style="list-style-type: none"> Submit application data (complete or subset; (demographic information) 	State IFTA Registration System	State IFTA Tax Processing System	L1	
F	EDI-X	TS 284 Ref 7, 14, 31	Inspection Report <ul style="list-style-type: none"> Fulfill inspection report subscription Query for inspection report Respond to inspection query 	SAFER Law Enforc User SAFER	Law Enforcement User SAFER Law Enforc User	L1	

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqts Level	Comments
F SEE NOTE IN FAR RIGHT COLUMN	DSRC	various	According to draft USDOT policy, <ul style="list-style-type: none"> For the immediate future, all CVO and Border crossing projects will continue to utilize the current DSRC configuration employed by the programs. This is the ASTM 1 version 6, ASTM 2 version 6 active tag. Beginning January 1, 2001, all CVO and Border Crossing projects will use an active configuration that is backward compatible with the current configuration and yet consists of the following: <ol style="list-style-type: none"> ASTM 2 version 6 defines the data link layer. The IEEE P1455 application layer standard and the ASTM 1 version 7 active physical layer standard will be implemented. 				NOTE: Plan to comply with interface purpose for version 6 active tag, HOWEVER also plan to provide an interface with passive tag technology also. Intention of the state of Missouri is to read ALL transponders.
F	DSRC-A	IEEE P1455 Ref 24	CV Electronic Screening Message Set <ul style="list-style-type: none"> CV Screening Identification 	Transponder	Screening/Driver Comm	E	See note above regarding reading of All transponders
F	DSRC-B	IEEE P1455 Ref 24	CV Screening Message Set All messages	Transponder or Screening/Driver Comm	Screening/Driver Comm or Transponder	C	See note above regarding reading of All transponders
F	DSRC-C	IEEE P1455 Ref 24	CV Border Clearance Message Set <ul style="list-style-type: none"> Trip Identification Number message 	Transponder	Screening/Driver Comm	L1	See note above regarding reading of All transponders
F	DSRC-D	IEEE P1455 Ref 24	CV Border Clearance Message Set All messages	Transponder or Screening/Driver Comm	Screening/Driver Comm or Transponder	C	See note above regarding reading of All transponders

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqs Level	Comments
F	DSRC-E	ASTM 17.51 Ver 6 Ref 23	ASTM 2 Data Link Layer (Level 2 in OSI model)	Transponder or Screening/Driver Comm	Screening/Driver Comm or Transponder	L1	See note above regarding reading of All transponders
F	DSRC-F	ASTM 17.51 Ver 6 Ref 22	ASTM 1 Physical Link Layer (Level 1 in OSI model)	Transponder or Screening/Driver Comm	Screening/Driver Comm or Transponder	L1	See note above regarding reading of All transponders
F	DSRC-G	ASTM 17.51 Ver 7 Ref 30	ASTM 1 Physical Link Layer (Level 1 in OSI model)	Transponder or Screening/Driver Comm	Screening/Driver Comm or Transponder	E	See note above regarding reading of All transponders
F	AFF-A	application file format Ref 25	Snapshot <ul style="list-style-type: none"> • Fulfill snapshot subscription • Query for snapshot(s) • Response to query 	SAFER ASPEN-32 SAFER	ASPEN-32 SAFER ASPEN-32	L1	
P	AFF-B	application file format Ref 25	Inspection Report <ul style="list-style-type: none"> • Submit original inspection report • Query for inspection report • Respond to inspection query 	ASPEN-32 ASPEN-32 SAFER	SAFER SAFER ASPEN-32	L1	Original inspection report ASPEN-32 to SAFETYNET 2000 then to SAFER
F	AFF-C	application file format Ref 25	Snapshot <ul style="list-style-type: none"> • Fulfill snapshot subscription • Query for snapshot(s) • Response to query 	SAFER SAFETYNET 2000 SAFER	SAFETYNET 2000 SAFER SAFETYNET 2000	L1	
P	AFF-D	application file format Ref 25	Inspection Reports, Compliance Reviews, Crash Data, Enforcement Data <ul style="list-style-type: none"> • Update request (upload and store) • Update confirmation (confirm success) 	SAFETYNET 2000 MCMIS via SDM	MCMIS via SDM SAFETYNET 2000	L1	Accidents - yes Citations - Never (Mo Statute)

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqs Level	Comments
P	AFF-E	application file format Ref 25	Inspection Report <ul style="list-style-type: none"> • Submit original inspection report 	ASPEN-32	SAFETYNET 2000 via SDM	L1	Intent is to go directly from Aspen-32 to SAFETYNET 2000
F	AFF-F	application file format Ref 25	Snapshot <ul style="list-style-type: none"> • Fulfill snapshot subscription • Query for snapshot(s) • Response to query 	CVIEW ASPEN-32 CVIEW	ASPEN-32 CVIEW ASPEN-32	L1	
P	AFF-G	application file format Ref 25, 26	Inspection Report <ul style="list-style-type: none"> • Submit original inspection report 	ASPEN-32	SAFER via CVIEW	L1	Original inspection report ASPEN-32 to SAFETYNET 2000 then to SAFER
P	AFF-H	application file format Ref 25, 26	Inspection Report <ul style="list-style-type: none"> • Submit original inspection report 	ASPEN-32	SAFETYNET 2000 via CVIEW & SDM	L1	Intent is to go directly from Aspen-32 to SAFETYNET 2000

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqs Level	Comments
F	INT-A	Internet Standards	Equivalent of Commercial Vehicle (CV) Credentials: <ul style="list-style-type: none"> • Submit initial/renewal/supplemental electronic application for credentials • Submit trip permit application • Notify payee of payment method • Submit corrected application • Send renewal notice • Return credentials data to applicant • Return temporary credential • Return trip permit • Notify payer of fees due • Reject application 	Internet Tools Internet Tools Internet Tools Internet Tools Web CAT Web CAT Web CAT Web CAT Web CAT Web CAT Web CAT	Web CAT Web CAT Web CAT Web CAT Internet Tools Internet Tools Internet Tools Internet Tools Internet Tools	L1; E	L1 = IRP & IFTA E = other credentials
F	INT-B	Internet Standards	Equivalent of Tax Return: <ul style="list-style-type: none"> • File electronic IFTA tax return 	Internet Tools	Web CAT	L1	
F	INT-C	Internet Standards	Equivalent of Electronic Filing of Tax Return Data Acknowledgement <ul style="list-style-type: none"> • Pass IFTA tax return error message • Pass IFTA tax return successfully processed message 	Web CAT Web CAT	Internet Tools Internet Tools	L1	
F	INT-D	Internet Standards	Snapshots <ul style="list-style-type: none"> • Query for snapshot(s) • Response to query 	Internet Tools SAFER	SAFER Internet Tools	L1	Snapshots must be Public Information to be accessed
F	INT-E	Internet Standards	Inspection Reports <ul style="list-style-type: none"> • Query for inspection report • Respond to inspection query 	Internet Tools SAFER	SAFER Internet Tools	L1	
F	INT-F	Internet Standards	Tax Rate Notification <ul style="list-style-type: none"> • Send latest IFTA tax rates 	IFTA Clearinghouse	State IFTA Tax Processing System	L1	

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqts Level	Comments
F	CIA-A	custom interface agreement	Recaps	State IRP	IRP Clearinghouse	L1	
F	CIA-B	custom interface agreement	Netting/Transmittal data	IRP Clearinghouse	State IRP	L1	
F	CIA-C	custom interface agreement Ref 25	Snapshots <ul style="list-style-type: none"> • Fulfill snapshot subscription • Query for snapshot(s) • Response to query 	SAFER ASPEN SAFER	ASPEN SAFER ASPEN	L1	
F	CIA-D	custom interface agreement Ref 25	Inspection Reports <ul style="list-style-type: none"> • Submit original inspection report • Query for inspection report • Respond to inspection query 	ASPEN ASPEN SAFER	SAFER SAFER ASPEN	L1	
N	CIA-E	custom interface agreement	Inspection Reports <ul style="list-style-type: none"> • Submit original inspection report 	ASPEN	SAFETYNET via SDM	L1	SDM = Safer Data Mailbox
F	CIA-F	custom interface agreement	Inspection Reports <ul style="list-style-type: none"> • Submit original inspection report 	ASPEN	SAFETYNET via electronic bulletin board	L1	
F	CIA-G	custom interface agreement Ref 25	Facsimile request Facsimile response	SAFETYNET MCMIS via SDM	MCMIS via SDM SAFETYNET	L1	SDM = Safer Data Mailbox

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqs Level	Comments
F	CIA-H	custom interface agreement Ref 25	F-report request F-report response	SAFETYNET MCMIS via SDM	MCMIS via SDM SAFETYNET	L1	SDM = Safer Data Mailbox
F	CIA-I	custom interface agreement Ref 25	Snapshot • Update carrier snapshot segment	Licensing & Insurance	SAFER	L1	
F	CIA-J	custom interface agreement Ref 25	Driver Status Report	CDLIS	SAFER	L1	
F	CIA-K	custom interface agreement Ref 25	Driver History Report	CDLIS	SAFER	L1	
F	CIA-L	custom interface agreement Ref 25	Snapshot • Update carrier snapshot segment	MCMIS	SAFER	L1	Decision to made by Federal Entities
F	CIA-M	custom interface agreement Ref 25	Inspection Reports, Compliance Reviews, Crash Data, Enforcement Data • Provide past reports	MCMIS	SAFETYNET	L1	
F	CIA-N	custom interface agreement Ref 25	Inspection Reports, Compliance Reviews, Crash Data, Enforcement Data • Provide reports	SAFETYNET	MCMIS	L1	Accidents - yes Citations - Never (Mo Statute)

Commit Level (F/P/N)	Label	Std	Interface Purpose	From System	To System	Reqts Level	Comments
F	CIA-O	custom interface agreement	Sensor data Control data	Sensor/Driver Comm Screening	Screening Sensor/Driver Comm	L1	
F	CIA-P	custom interface agreement	Screening criteria, snapshot data Screening results	Roadside Operations Screening	Screening Roadside Operations	L1	
N	CIA-Q	custom interface agreement	Sensor data Control data	Sensor/Driver Comm Roadside Operations	Roadside Operations Sensor/Driver Comm	L1	Plan to support CIA-O
F	CIA-R	custom interface agreement	Report compliance data	ASAP Motor Carrier Data Collection	ASAP Analysis Administration	E	Decision to made by Federal Entities

NOTE: For CVISN Level 1,

- The credentials handled by TS 286 include IRP Registration and IFTA Registration; future credentials include Single State Registration/Unified Carrier Registration, Oversize/Overweight Permitting, HazMat Permitting, Vehicle Titling, Intrastate Vehicle Registration
- The snapshots handled by TS 285 include carrier (safety and credentials elements), vehicle (safety and credentials elements); future snapshots may include driver
- The safety reports handled by TS 284 include Inspection Results; future safety reports include HazMat Incident, Compliance Review, and Crash

3. STANDARD DATA DEFINITIONS

Ideally, there would be a common data dictionary for use throughout all systems associated with CVISN. That is not practical, since many legacy systems have different data definitions, and new systems are being developed by different organizations. Several documents define data elements that support CVO functions and standards [References 14, 21, 24, 27, 28, 29].

The data items listed in this chapter are common across more than one interface standard. They are used as “keys” to access information about the major entities: carrier, vehicle, driver, shipment, and trip. When systems use common keys, it is possible to match information sets such as safety and credentials data. The specifications in Table 3-1 define the key identifier characteristics to be adopted when exchanging information using the standards. It may be necessary to translate the identifier from a legacy system into this format when using a standard to exchange information. In addition to the standard column definitions explained in section 1.4, this table contains these columns:

- Entity – Any person, place, thing, concept, or event that has meaning to an enterprise, and about which data can be stored. (Example: vehicle)
- Identifier Name – the name of the data element that should be standard across systems for the entity
- Identifier Segment – a list of components that make up the data name, including whether the segment should be alphabetic, numeric, or alphanumeric
- Number of Characters – the maximum length that should be supported for each segment

For further information about standard identifiers, see Reference 8.

Table 3-1 Standard Data Definitions

Commit Level (F/P/N)	Entity	Identifier Name	Identifier Segments	Number of Characters	Reqs Level	Comments
F	Motor Carrier	Primary Carrier ID e.g., For interstate carrier: MCI 12345 A001 (note that MCI is the code used for ID Type USDOT #) e.g., For intrastate carrier in a state using FEIN as the Primary Carrier ID for intrastate carriers: TJ US-CA 123456789 (note that TJ is the code used for ID Type FEIN)	ID Type (alphanumeric); if carrier is interstate, must be USDOT type code + Jurisdiction Code, if carrier is intrastate (alphanumeric) + Carrier-Specific Identifier corresponding to the ID type (alphanumeric); if carrier is interstate, must be USDOT number + Carrier terminal ID designated by carrier (alphanumeric)	3 (max) 5 (ISO-3166) 12 (max) 4 (max)	L1	

Commit Level (F/P/N)	Entity	Identifier Name	Identifier Segments	Number of Characters	Reqs Level	Comments
F	Vehicle	Vehicle Identification Number e.g., 1FDKE30F8SHB33184 and Vehicle Plate ID e.g., US CA 12345664820M	VIN assigned by manufacturer (alphanumeric) Country code + Jurisdiction (state or province) code (alphanumeric) + License plate ID (alphanumeric)	30 (max) 2 (using country code from ISO-3166) 2 (using subdivision code from ISO-3166) 12 (max)	L1	

Commit Level (F/P/N)	Entity	Identifier Name	Identifier Segments	Number of Characters	Reqs Level	Comments
F	Transponder	Transponder ID e.g., 0 123456789	<p>Transponder ID Definition Flag (0=current; 1=IEEE P1455) +</p> <p><i>If Transponder ID Definition Flag = current, then the other segment is:</i> Transponder Serial Number assigned by manufacturer</p> <p><i>If Transponder ID Definition Flag = IEEE P1455, then the other segments are:</i> Manufacturer Identifier + Transponder Serial Number assigned by manufacturer</p>	<p>1 bit</p> <p>32-bit unsigned integer</p> <p>16 bits</p> <p>20 bits</p>	L1 E	
F	Driver	Driver Unique ID e.g., US MD B99999999999A	<p>Country code +</p> <p>Jurisdiction (state or province) code (alphanumeric) +</p> <p>Driver specific identifier (driver license number) assigned by jurisdiction (alphanumeric)</p>	<p>2 (using country code from ISO-3166)</p> <p>2 (using subdivision code from ISO-3166)</p> <p>16 (max)</p>	L1	

Commit Level (F/P/N)	Entity	Identifier Name	Identifier Segments	Number of Characters	Reqs Level	Comments
F	Shipment	Shipment Unique ID e.g., 776655443322	Bill of Lading number assigned by the carrier (numeric)	12 (max)	C	
F	Trip	Trip/Load Number e.g., 123456789761231	Carrier DUNS number as assigned by Dun and Bradstreet (numeric) + Trip unique number as assigned by carrier (numeric)	9 6	E	

Note that jurisdiction refers to a five-character code (XX-XX) for either country and state, or for country and province; or else to a two-character code for state or province (depending on context).

4. REFERENCES

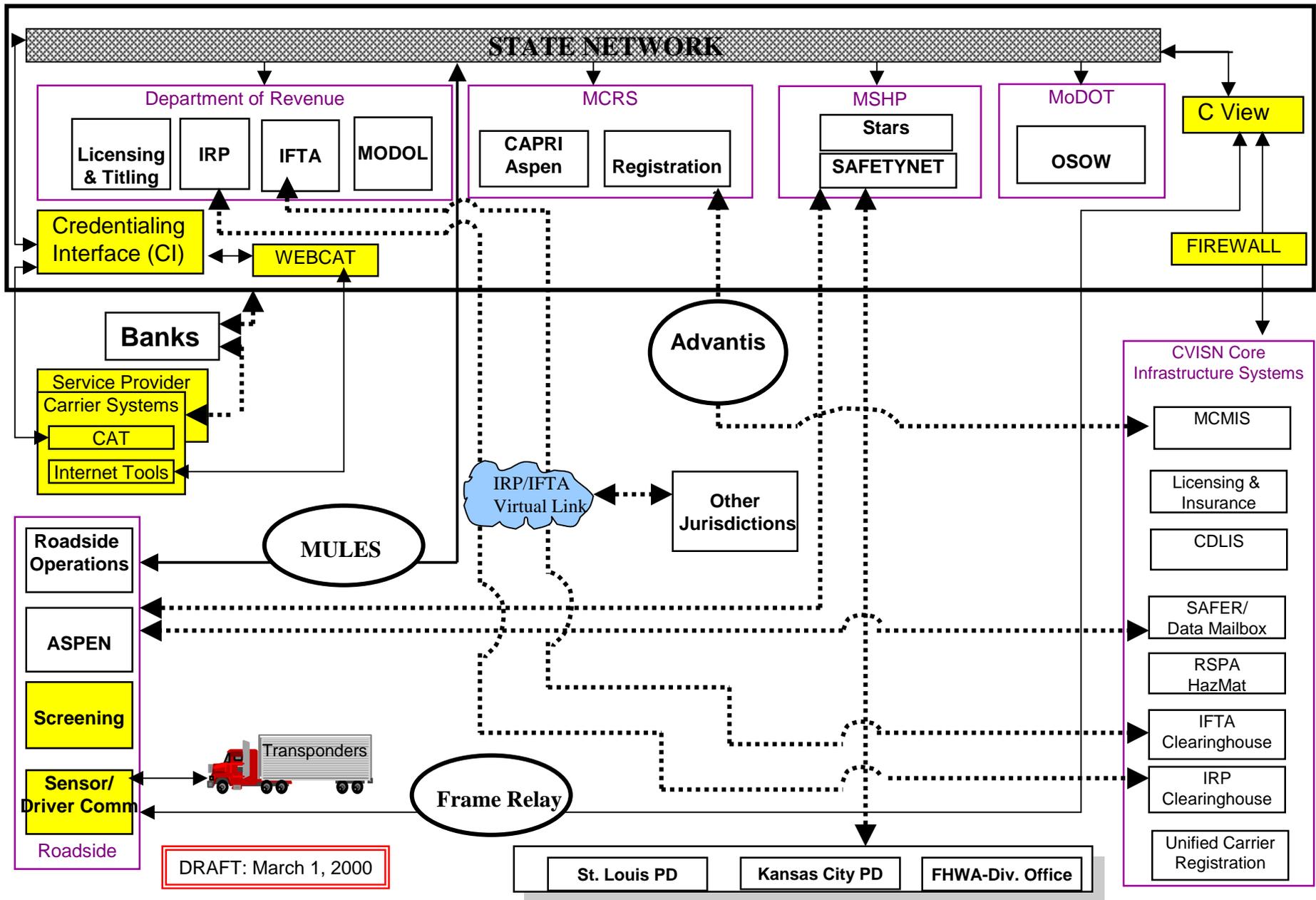
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11. JHU/APL, *EDI Implementation Guide for Commercial Vehicle Credentials (Transaction Set 286), Volume III - International Fuel Tax Agreement (IFTA) Credential Transactions, ANSI ASC X12 Version 4 Release 1*, POR-97-6996 D.3.1, dated December 1998.
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34. Information about contacts regarding the use of TS 150, Tax Rate Notification, is available at web site <http://www.taxadmin.org/fta/edi/invedi.html>.
35. Information about TS 813, Electronic Filing of Tax Return Data, is available at web site <http://www.taxadmin.org/fta/mf/mf.html>.
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Proposed Missouri Network Template

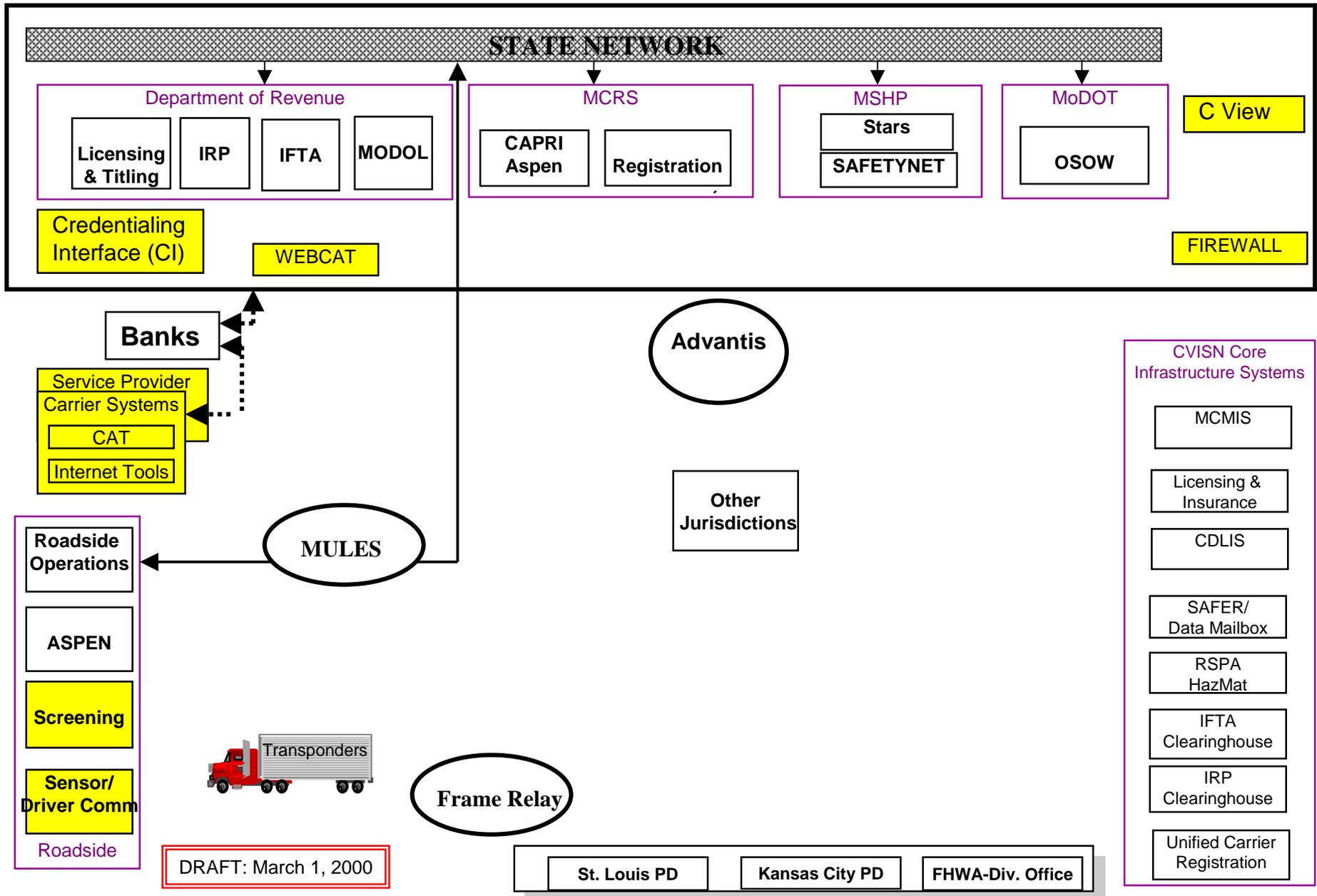


Operational Scenario:

Proposed Missouri Network Template

The primary players in the Missouri CVISN project consist of those agencies within State Government responsible for credentialing carriers who operate in and through the state of Missouri. As well the CVISN project includes the agencies who monitor the activities of those same carriers while operating upon the highways of this state. These agencies include the Missouri Department of Transportation-Motor Carrier Services Unit, Department of Revenue-Highway Reciprocity Commission, Department of Economic Development-Division of Motor Carrier and Railroad Safety and the Department of Public Safety-Missouri State Highway Patrol, Commercial Vehicle Enforcement Division. Each of these agencies participating in the CVISN project are presently linked to the States Computer Network as indicated by the shaded bar and arrows leading into the agencies.

Missouri State Network Template



Operational Scenario:

Proposed Missouri Network Template

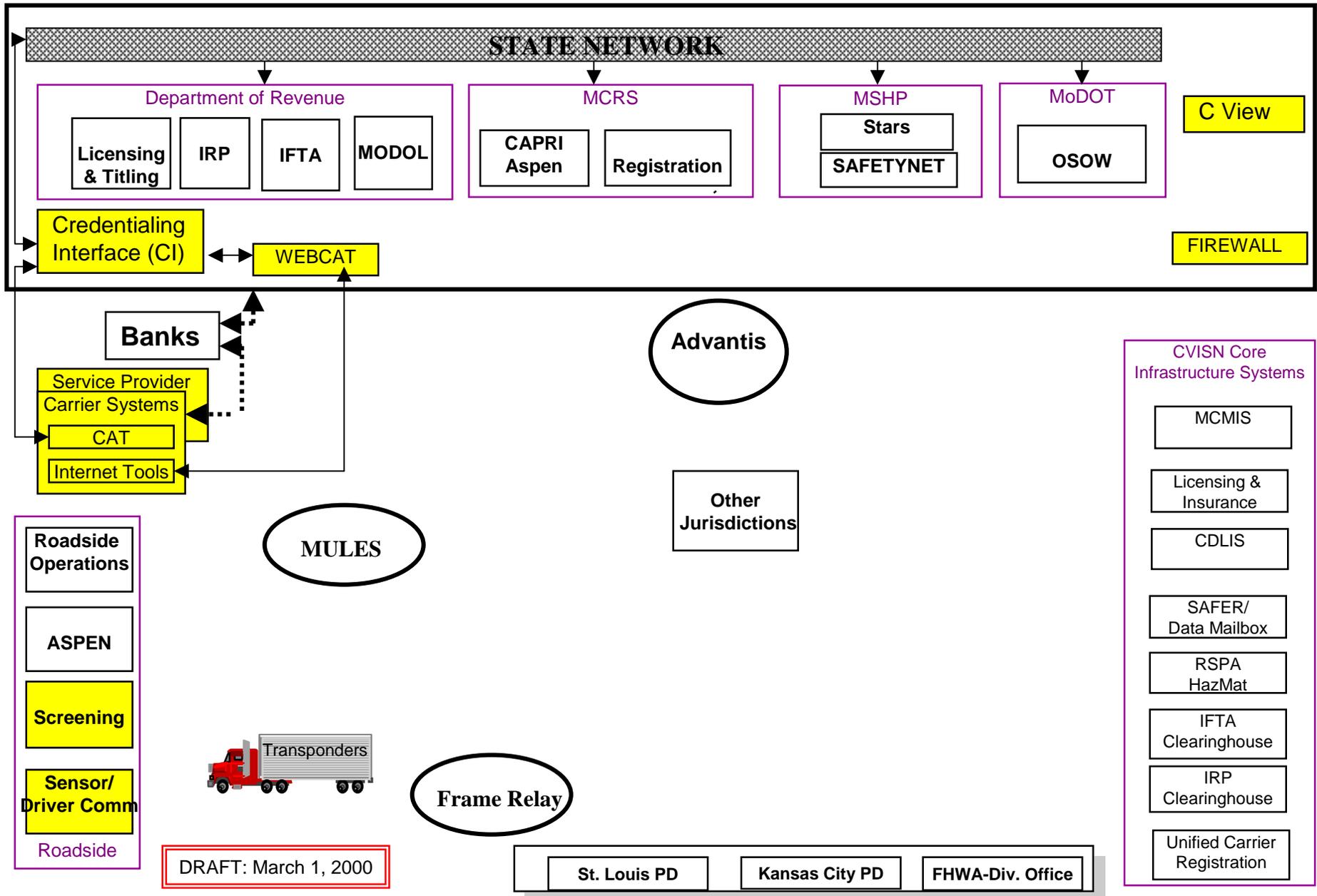
The State Network resides within the Office of Administration which allows the linking of agency computer systems to all departments participating in the CVISN process. Presently the Missouri State Highway Patrol has access to agency data files that store, revise and update carrier and individual licenses, both vehicle and driver and operating authorities necessary that allow commercial carriers to operate in and through the State of Missouri. One exception to this is OS/OW permit information. The Missouri State Highway Patrol, through administrative messaging can advise MoDOT of a situation where a OS/OW permit is being confiscated and recommendations as to whether a new permit is to be issued.

Operational Scenario:

Proposed Missouri Network Template

The Credential Interface and CVIEW will reside within the State information system and physical location will be determined through recommendations of the ITS/CVO Steering Committee. The integrity of both the Credential Interface and the CVIEW will be protected by installing firewalls which also serve to protect the states information network. These firewalls allow connectivity between State Governments, Carrier/Service Providers, Credential Interfaces as well as the CVISN Core Infrastructure Systems.

Credential Interface Network Template

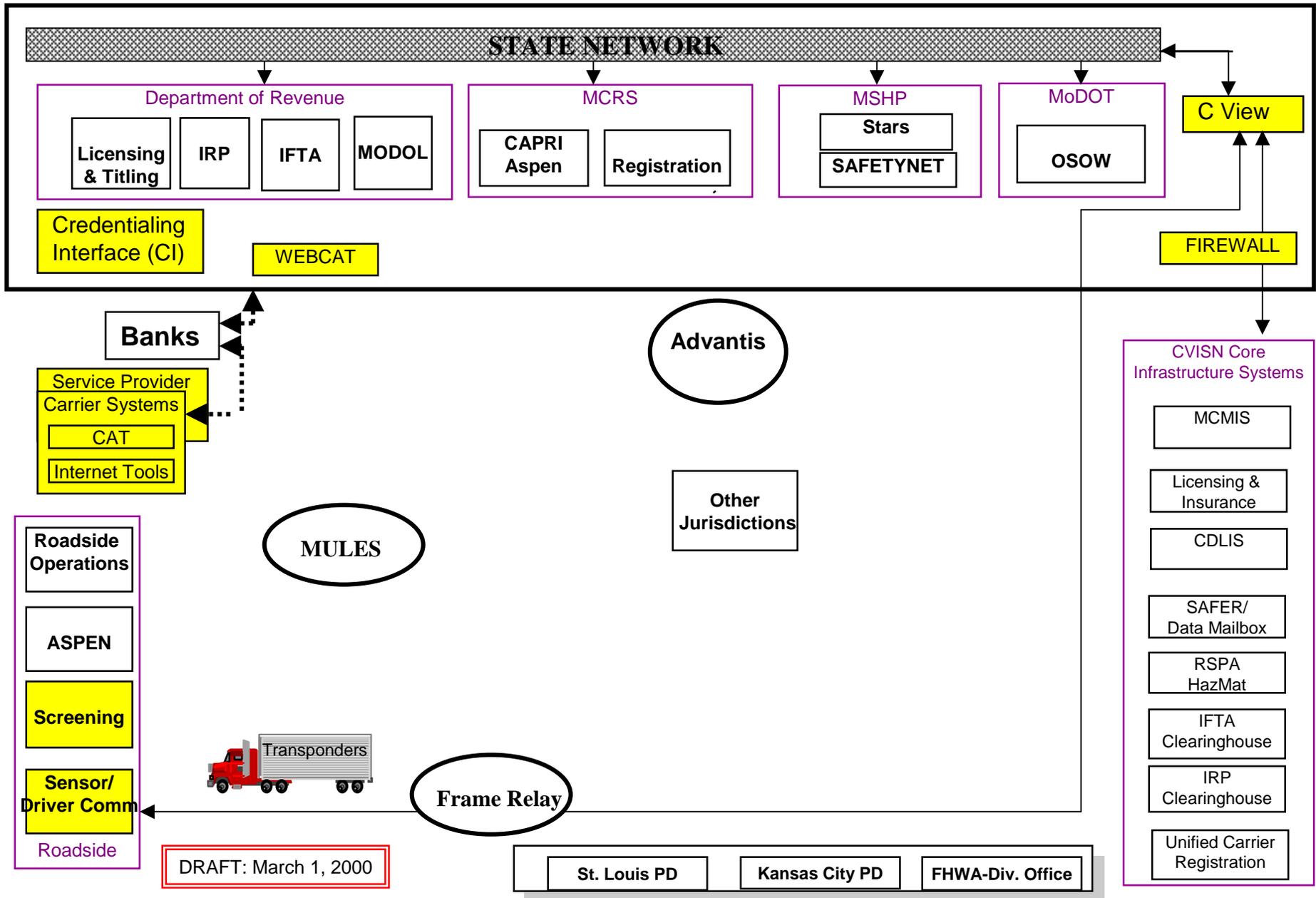


Operational Scenario:

Credential Interface Network Template

The Credential Interface (CI) will be accessible to organizations and industry outside Missouri State Government such as Carrier and Carrier Service Providers. The Credential Interface will provide functionality to make application for and secure credentials, permits and operating authority through Internet access using Internet tools or modem dialup via a Carrier Automated Transaction (CAT) system. Access to the Credential Interface using Internet Tools will pass through a WEB CAT linked to the Credential Interface located within the States Network. Carriers through the use of a CAT or WEB CAT will be able to apply for and receive IRP, IFTA, SSRS, Intrastate Operating Authority, OS/OW Permits and send payment information to the appropriate agency and notice of receipt of payment will be provided to the carrier/service provider. The Credential Interface also will allow interested carriers to make application for participation in Missouri Electronic Pre-Clearance program.

CVIEW Network Template



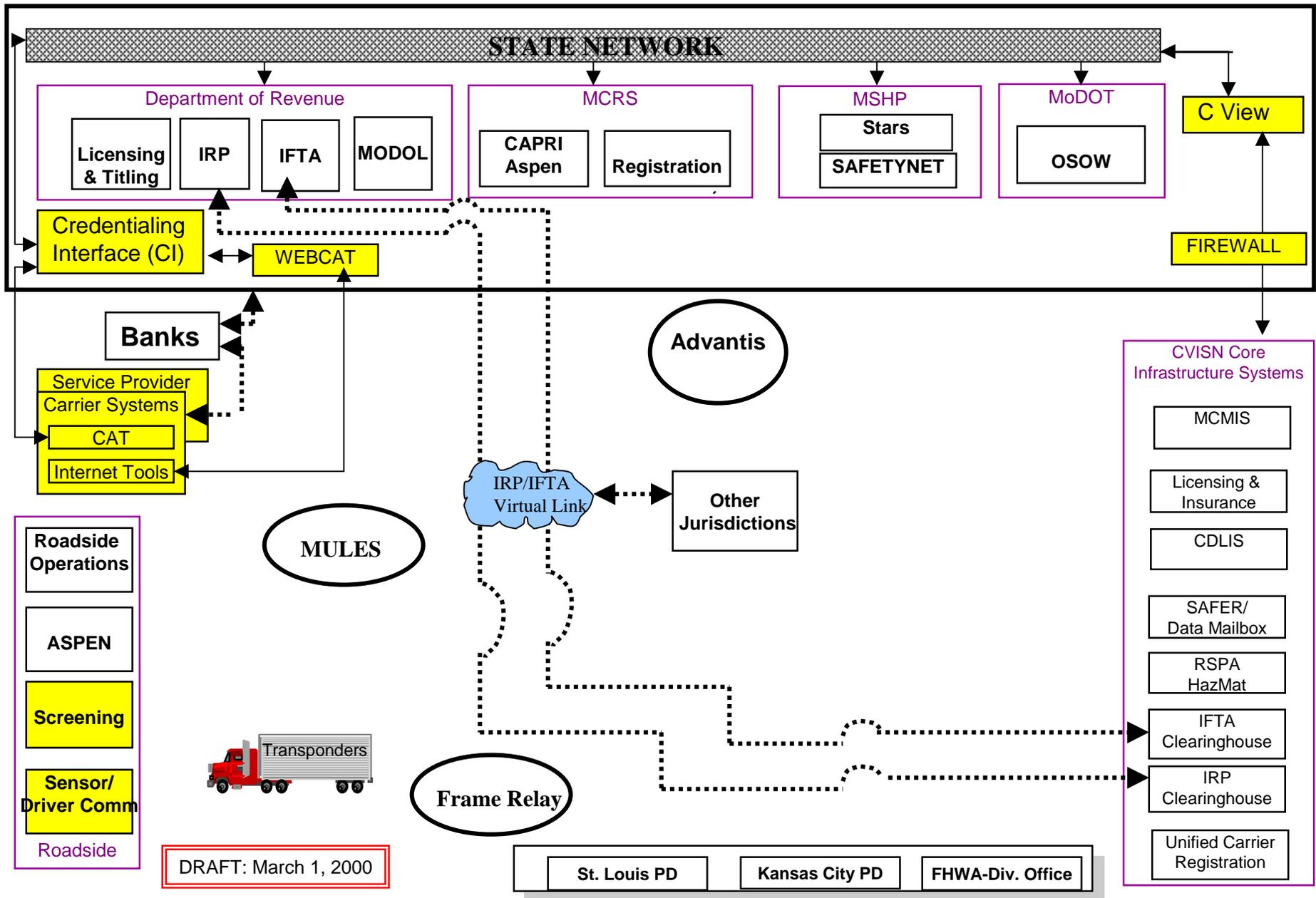
Operational Scenario: CVIEW Network Template

CVIEW will be the system used by the state agencies participating in the CVISN program to request a, build and/or refresh intrastate carrier snapshots and reside within the States information system. Agency Division Offices can as well request a interstate carrier snapshots by utilizing CVIEW's connectivity to SAFER as well as the other CVISN Core Infrastructure Systems. This will also allow other states to make specific carrier/vehicle snapshot requests by passing the request through SAFER to the Missouri CVIEW. CVIEW will as well house information on carriers participating in the electronic screening program and will be linked to roadside operations through the patrol's Frame Relay network and the Electronic Screening Flagging System.

Operational Scenario: CVIEW Network Template

CVIEW will refresh carrier's safety and credential per-clearance flags as the information pertaining to carriers/vehicle changes or is updated by the participating agencies. Utilizing the CVIEW as the storage device for safety and credential per-clearance information will enable us to minimize the amount of information needed to be stored and updated at the Electronic Screening Flagging System. The CVIEW will supply officers at roadside with information as to why a carrier/vehicle was denied by-passing the inspection/weighing facilities.

Department of Revenue IFTA/IRP Network Template



Operational Scenario:

Department of Revenue IFTA/IRP Network Template

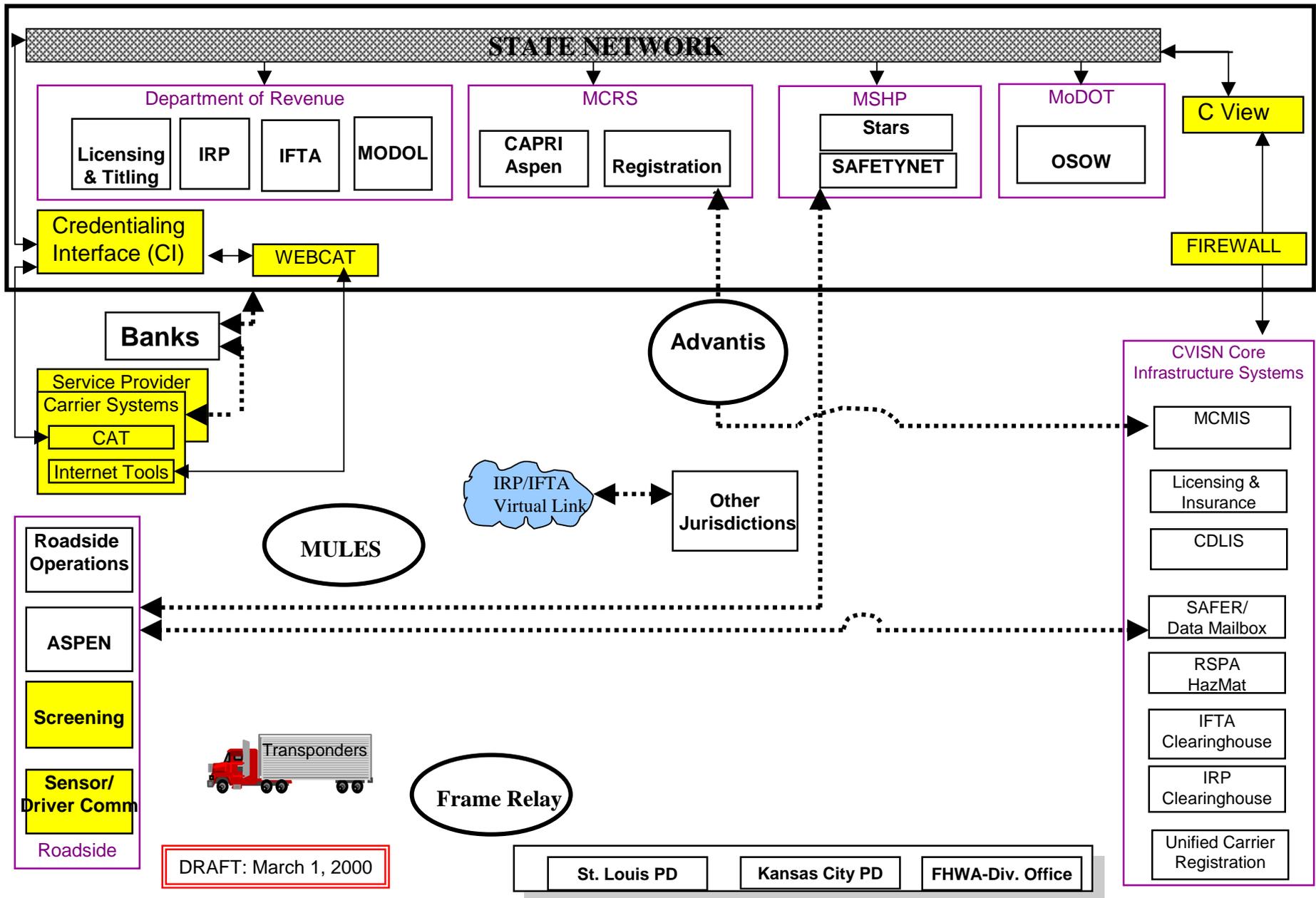
The Highway Reciprocity Commission (HRC), a Division of the Missouri Department of Revenue, is responsible for the administration of the International Registration Plan (IRP) and The International Fuel Tax Agreement (IFTA). Commercial carriers using systems compatible with the state's Credential Interface will be able to apply for, renew, and in the case of IFTA report quarterly in order to obtain renew and maintain credentials necessary for operation in and through the State of Missouri. Two means of carrier access into the credential interface are to be supported, modem dialup as well as Internet connectivity. Carriers will be able to submit applications to HRC for review and if necessary returned to the carrier for correction. Once accepted HRC can notify the carriers of the necessary fees required to secure the proper credentials, and send payment information and notice of receipt of payment back to the carrier/service provider.

Operational Scenario:

Department of Revenue IFTA/IRP Network Template

HRC will have and maintain a direct connection to the IRP and IFTA Clearinghouses in order to pass and or update carrier credentialing information and status. This direct connection will as well allow payment information to be forwarded to the clearinghouses and notice of receipt of payment back to HRC. Through the existing state's network HRC will be connected to the CVIEW. This path will allow HRC to input and or update data necessary to establish and maintain intrastate carrier snapshots. As well HRC will be able to provide CVIEW with information needed to allow carriers participating in the Electronic Pre-Clearance Program to bypass weigh stations or be denied bypass based upon credential information. CVIEW will provide a path to the CVISN Core Infrastructure System, if necessary, to look at Interstate carriers safety snapshots.

MCRS Network Template



Operational Scenario:

MCRS Network Template

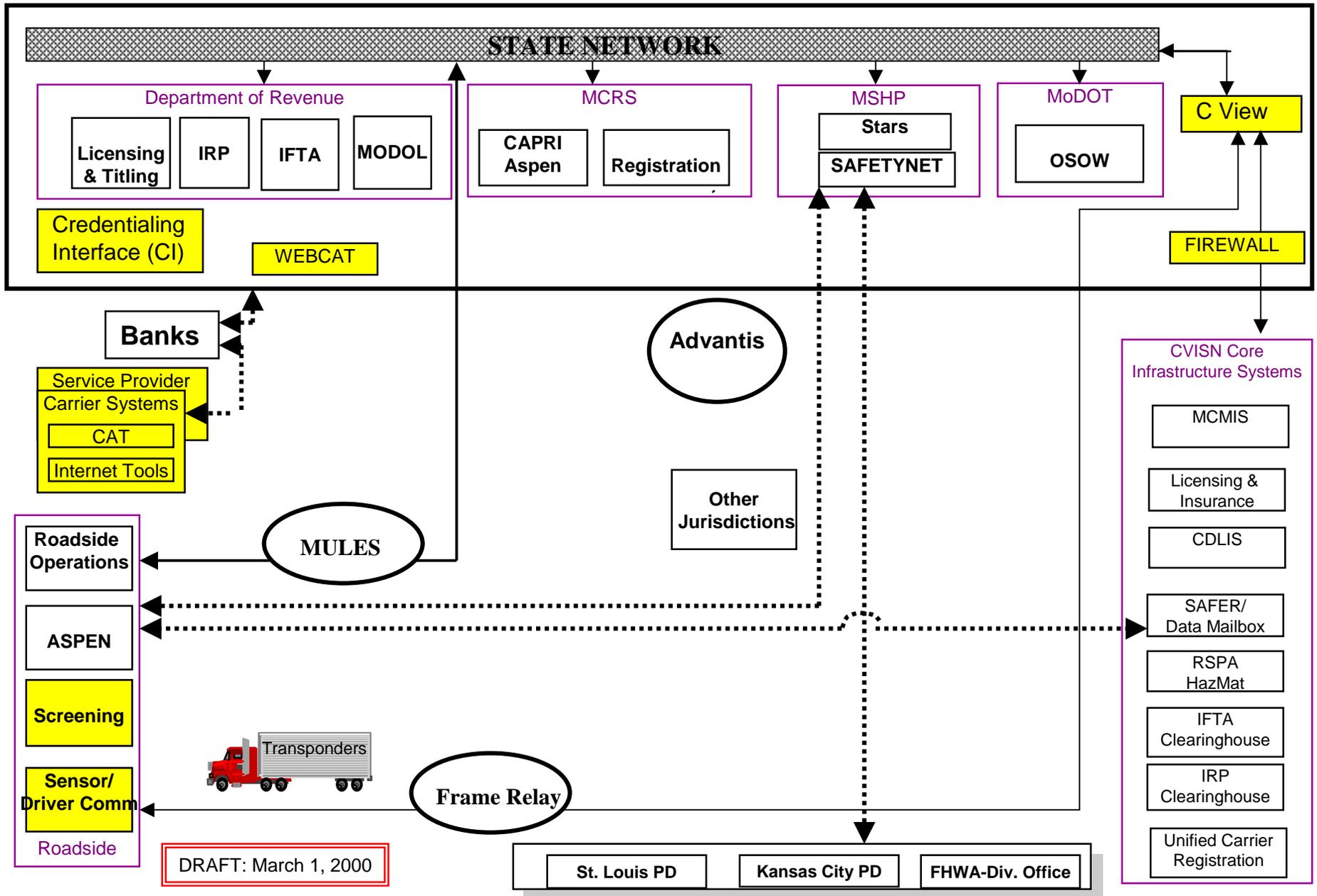
The Motor Carrier Railroad Safety (MCRS), a Division of the Department of Economic Development, is responsible for the administration of the Single State Registration System (SSRS). MCRS also conduct driver/vehicle inspections and conducts compliance reviews on intrastate carriers and interstate carriers as assigned by the FMCSA. Commercial carriers using systems compatible with the state's Credential Interface will be able to apply for, and renew SSRS and Intrastate operating credentials necessary for operation in and through the State of Missouri. Two means of carrier access into the credential interface are to be supported, modem dialup as well as Internet connectivity. Carriers will be able to submit applications for SSRS and intrastate operating authority to MCRS for review and if necessary returned to the carrier for correction. Once accepted MCRS can notify the carriers of the necessary fees required to secure the proper credentials, and send payment method information and notice of receipt of payment back to the carrier/service provider. MCRS will have and maintain a direct connection to the MCMIS in order to assign Missouri DOT numbers to Missouri based carriers.

Operational Scenario:

MCRS Network Template

Through the existing state's network, MCRS will be connected to the CVIEW. This path will allow MCRS to input and or update data necessary to establish and maintain intrastate carrier snapshots. MCRS will be able to provide CVIEW with information needed to allow carriers participating in the Electronic Pre-Clearance Program to bypass weigh stations or be denied bypass based upon credential information. CVIEW will provide a path to the CVISN Core Infrastructure System to look, if necessary, at interstate carriers safety snapshots. As mentioned, MCRS perform driver/vehicle inspections using the ASPEN and Compliance Reviews using Capri software packages. Completed inspections and compliance reviews are uploaded to the SAFETYNET System located within the Missouri State Highway Patrol's Commercial Vehicle Enforcement Division using modem dialup or through the Internet for preparation and upload to MCMIS. MCRS investigators can, through ASPEN dial into SAFER in order to obtain a interstate carrier snapshot or past inspection that reside within SAFER for 45 days.

Missouri State Highway Patrol Network Template



Operational Scenario:

Missouri State Highway Patrol Network Template

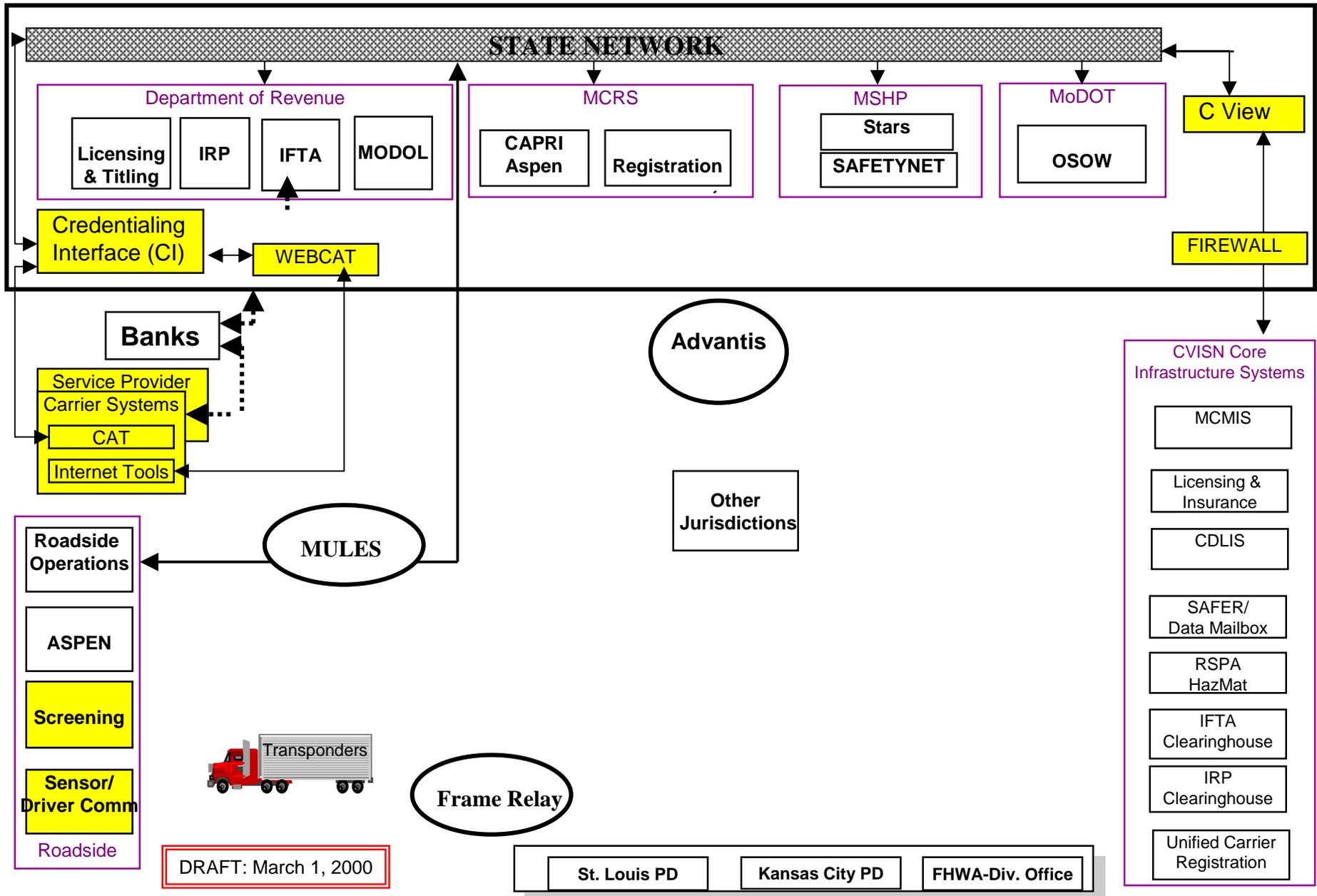
The Missouri State Highway Patrol, Commercial Vehicle Enforcement Division is responsible for the management of the SAFETYNET System, operation of fixed weigh stations and has twenty two mobile portable units. The fixed weigh stations and mobile units conduct driver/vehicle inspections using the ASPEN software. Completed inspections are uploaded to the bulletin board for process and preparation for upload to MCMIS via SAFER Data Mail Box. Roadside operations allows for modem dialup, through the ASPEN software, to SAFER for interstate carrier safety snapshots and past inspections. The roadside system enables officers to obtain intrastate carrier safety snapshots that are stored and maintained in the CVIEW system with connectivity through the Frame Relay Network. CVIEW will have intrastate snapshot information. If the officer needs to access the databases of driver license, vehicle license and or operating authority information he/she can query the department files through the Missouri Uniform Law Enforcement System (MULES).

Operational Scenario:

Missouri State Highway Patrol Network Template

MULES has a link to National Crime Information Center (NCIC) for out of state driver and vehicle records. The Missouri State Highway Patrol, Traffic Division houses the Statewide Traffic Accident Records System (STARS) and the Fatality Analysis Reporting System (FARS). Commercial vehicle related crash reports are entered into STARS and imported into SAFETYNET for processing and preparation for upload to MCMIS via SAFER. Saint Louis Metropolitan Police Department and the Kansas City Police Department participate in the driver/vehicle inspection program using ASPEN software. Completed inspections are uploaded to the SAFETYNET System for processing and preparation for upload to MCMIS via SAFER.

MoDOT Network Template



Operational Scenario:

MoDOT Network Template

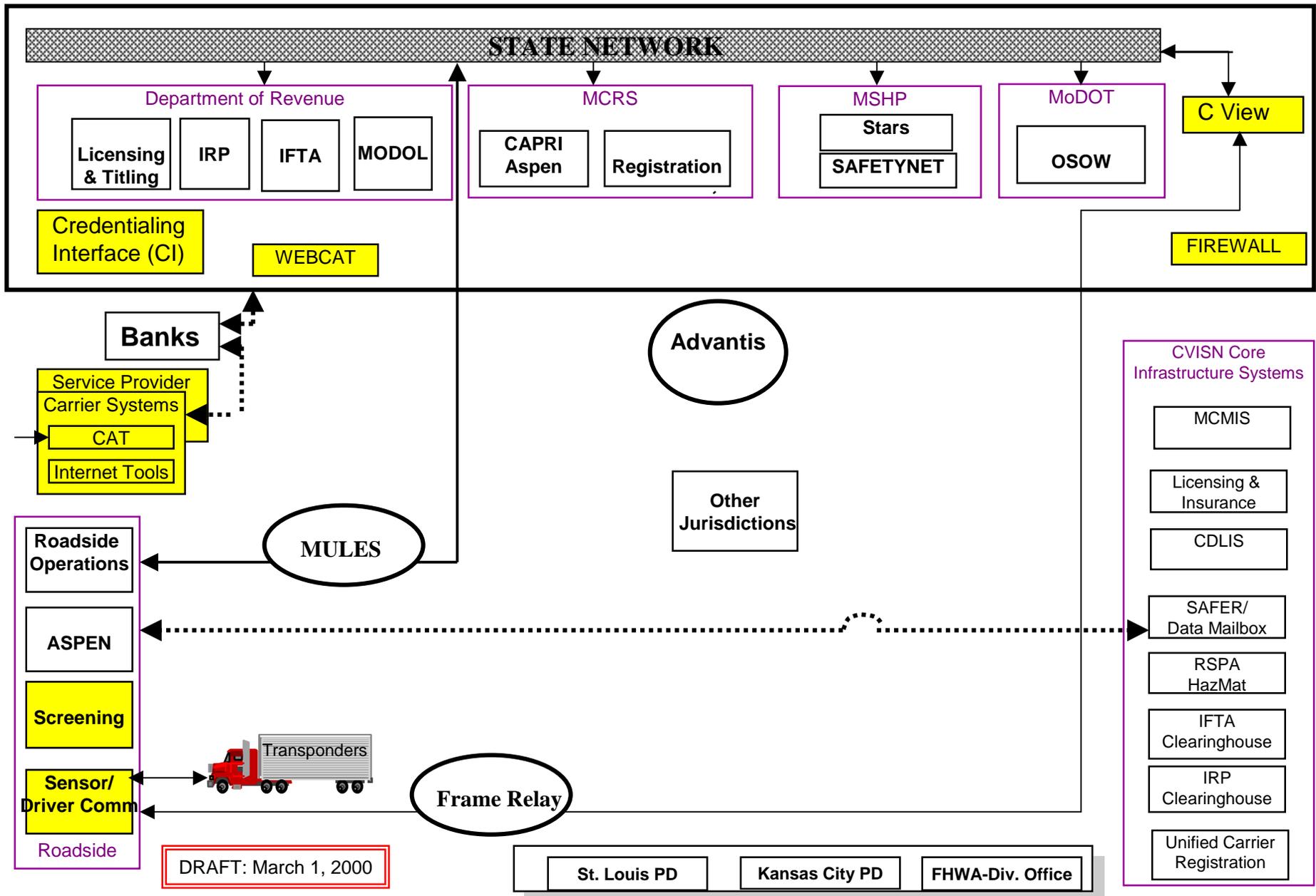
The Missouri Department of Transportation, Traffic Division, Motor Carrier Services Unit is responsible for Oversize/Overweight (OS/OW) Permits. Commercial carriers/service providers using systems compatible with the State's Credential Interface will be able to make application for OS/OW permits for operation in and through the State of Missouri. Two means of carrier access into the credential interface are to be supported, modem dialup as well as Internet connectivity. MoDOT can review and if necessary return application for corrections or issue the required permits. Once accepted MoDOT can notify the carriers of the necessary fees required to secure the proper permits, send payment method information, notice of receipt of payment back to the carrier/service provider and monthly statement of debits, credits and account balance.

Operational Scenario:

MoDOT Network Template

Through the existing state's network MoDOT will be connected to the CVIEW. MoDOT will provide CVIEW with permit information needed to allow carriers participating in the Electronic Pre-Clearance Program to bypass or be denied bypass privileges based upon permit restrictions that will be measured at the roadside screening system. The Missouri State Highway Patrol can also access CVIEW to verify permit information at roadside when needed. CVIEW will provide a path to the CVISN Core Infrastructure System to look, if necessary, at interstate carrier safety snapshots

Electronic Screening Network Template



Operational Scenario:

Electronic Screening Network Template

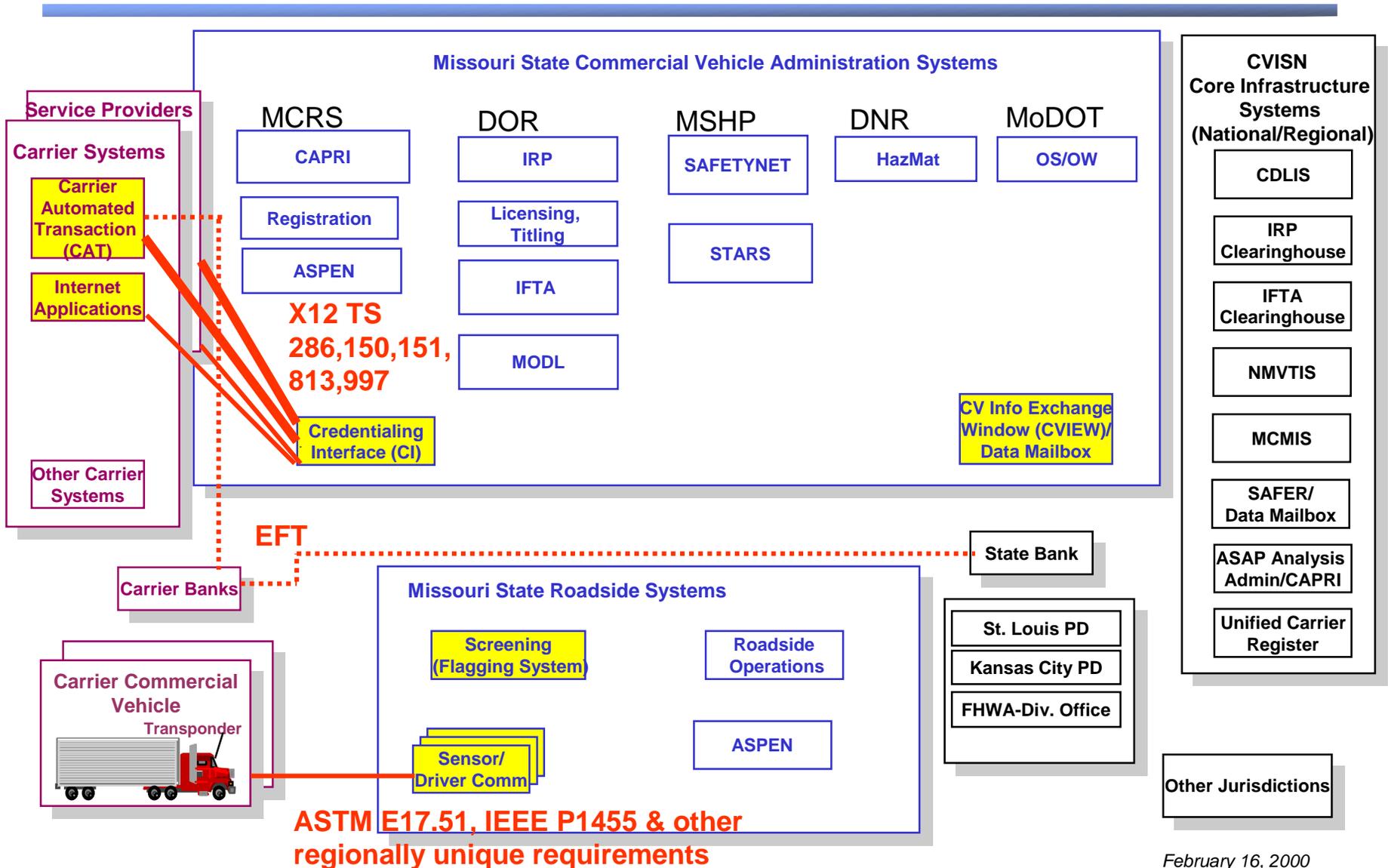
Missouri Electronic Pre-Clearance Program will incorporate mainline, high speed weigh-in-motion (WIM) scales, and vehicle classifiers. It remains Missouri's intention to incorporate both "Passive" and "Active" Readers in support of the ITS/CVO initiative and Missouri's continued commitment to intergrate local regional automated vehicle identification systems. These elements of the electronic screening program are depicted on the template as Screening and Sensor/Driver Communication Systems. Transponder equipped commercial vehicles identified and enrolled in Missouri's program are weighed, classified and the transponder identifier is passed through the Pre-Screening Controllers on to the Carrier/Vehicle ID Flagging System to determine the vehicles eligibility to by-pass the weigh station.

Operational Scenario:

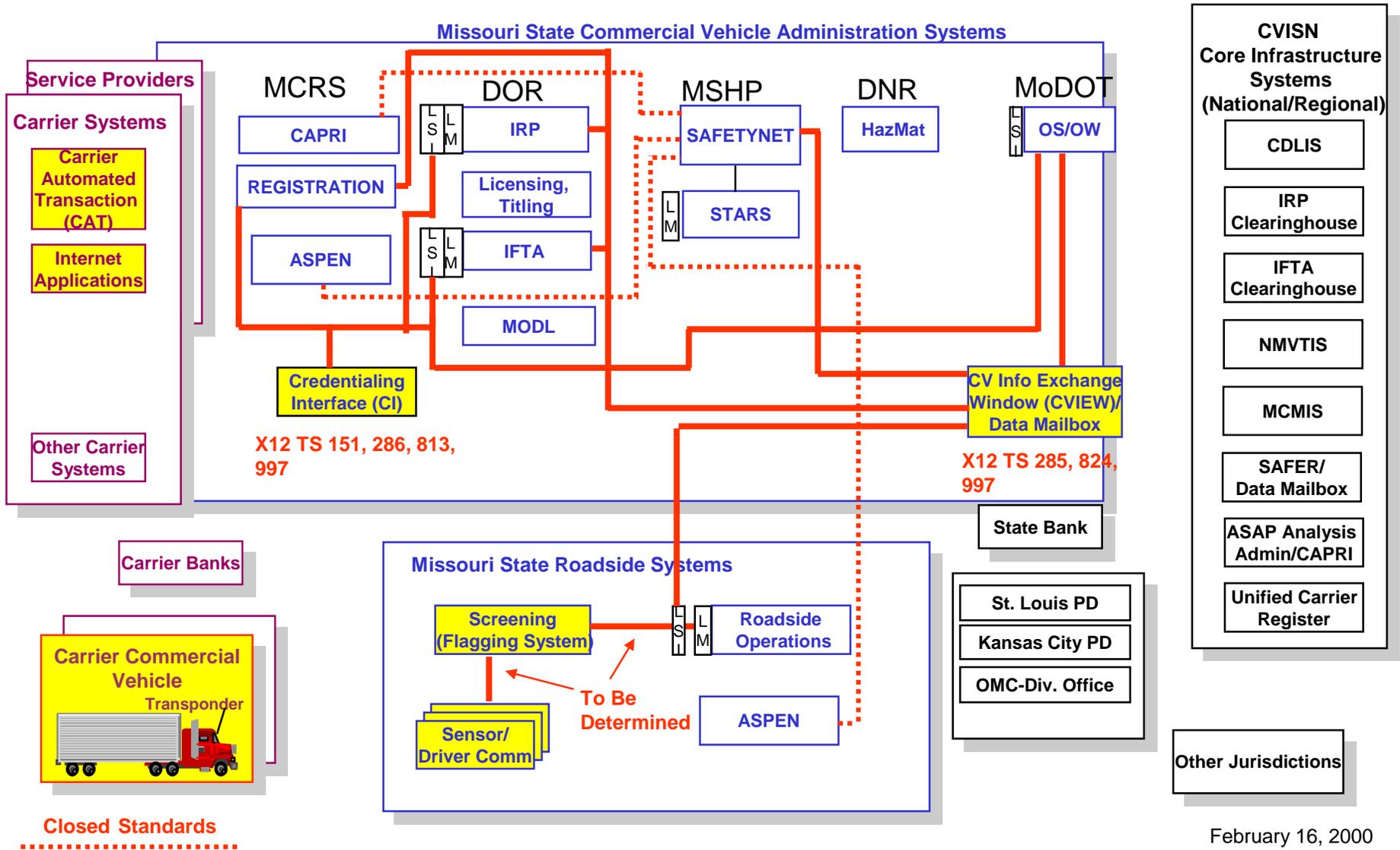
Electronic Screening Network Template

Transponder sends Carrier/Vehicle ID to Pre-Screening Controllers. The Pre-Screening Controllers send Carrier/Vehicle ID to Screening (Flagging System). Screening (Flagging System) queries database for decision “Pass”/”No Pass” based on pre-clearance criteria. “Pass”/”No Pass” decision is relayed to the Vehicle. The Screening System then sends a “Pass”/”No Pass” message to Roadside Operations which in turn generates a query to CVIEW for “No Pass” Carrier Snapshot(s). CVIEW refreshes Safety & Credential pre-clearance criteria in Screening (Flagging System).

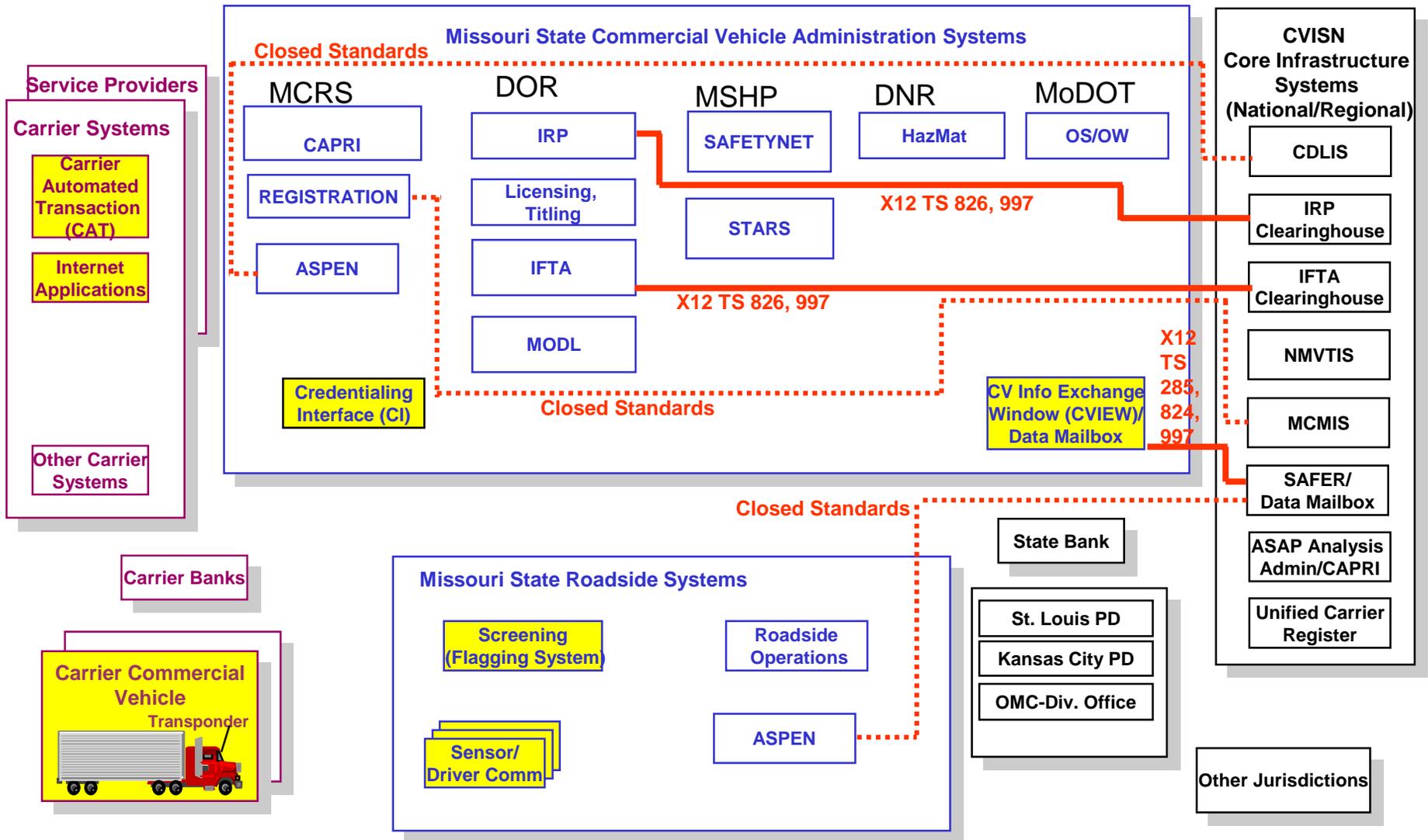
MISSOURI CARRIER-RELATED INTERFACES



MISSOURI INTERFACES WITHIN STATE



MISSOURI STATE INTERFACES WITH CVISN CORE INFRASTRUCTURE



5.0 Program Work Breakdown Structure

The section will provide which Missouri agencies have been active in the CVISN progress to date and provide organizational charts, which outline the coordinating efforts of these agencies, and what each agency is responsible for.

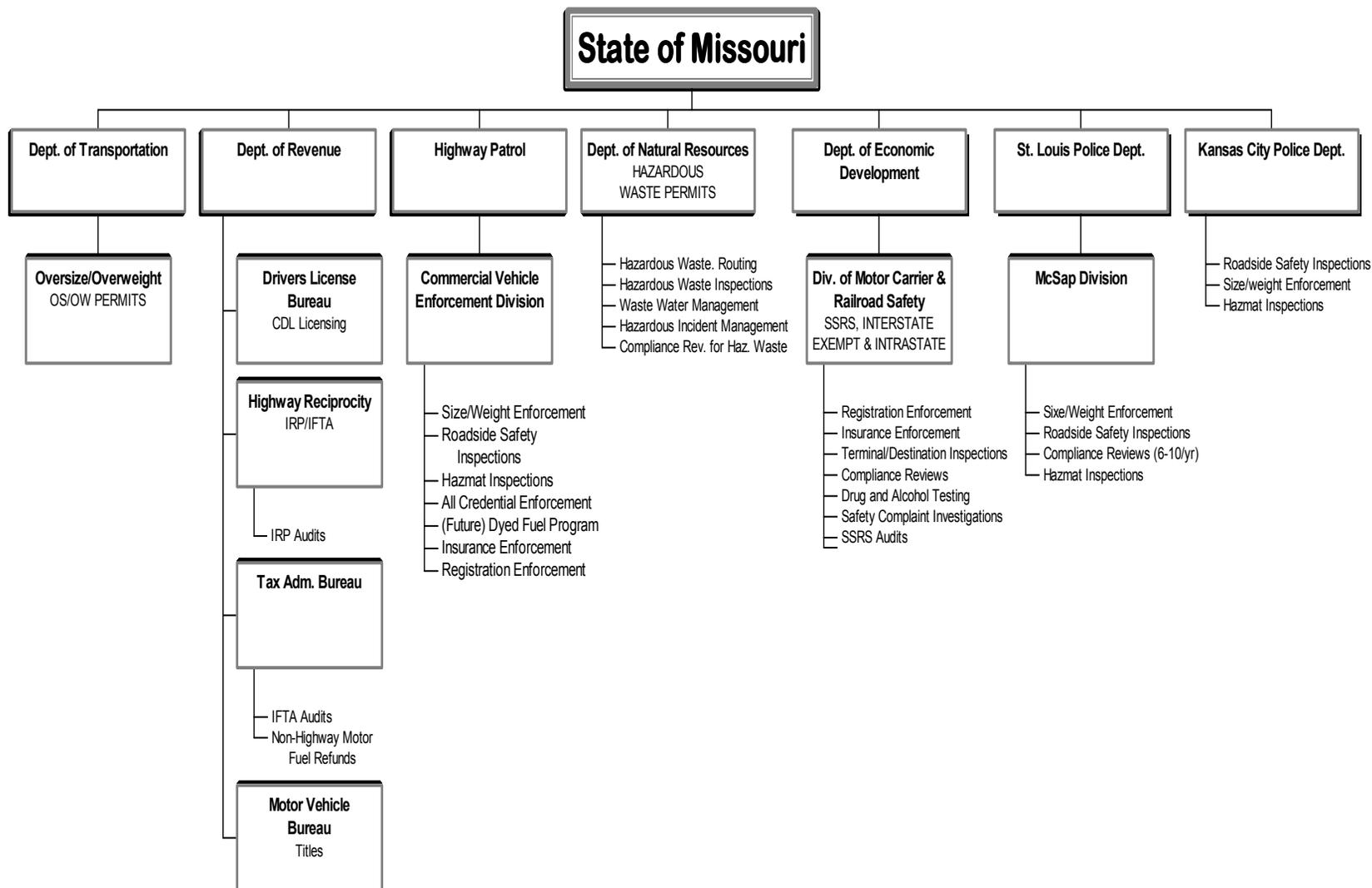
The Missouri Work Breakdown Structure (WBS) is also included in this section. The Standing Committee has put extensive efforts into this document. It will be the driving force for CVISN efforts in Missouri. It outlines the tasks and activities within the different areas of CVISN. This document provides timelines and milestones for the Missouri CVISN effort and outlines the resource names that are responsible for each task or activity.

The WBS will provide the proposed timelines of such efforts as Highway Reciprocity's effort in developing a new IFTA/IRP system, Motor Carrier and Railroad Safety's efforts with their "paperless office", Missouri State Highway Patrol's effort in ASPEN and links to SAFER and Missouri Department of Transportation's efforts with the North American International Trade Corridor multi-jurisdictional planning study which they are the lead agency. The WBS also provides links to different activities of the different agencies when there is a needed task such as the Commercial Information Exchange Window (CVIEW), which will provide the snapshot exchanges within the state infrastructure and with Federal and other State Infrastructure. For example, CVIEW is needed to be coordinated because of the impact that it has on several different processes.

Also, included in this document are outreach efforts to date and planned for the future. These efforts are also important to provide the customers and stakeholders of the CVISN effort informed and supportive of these efforts.

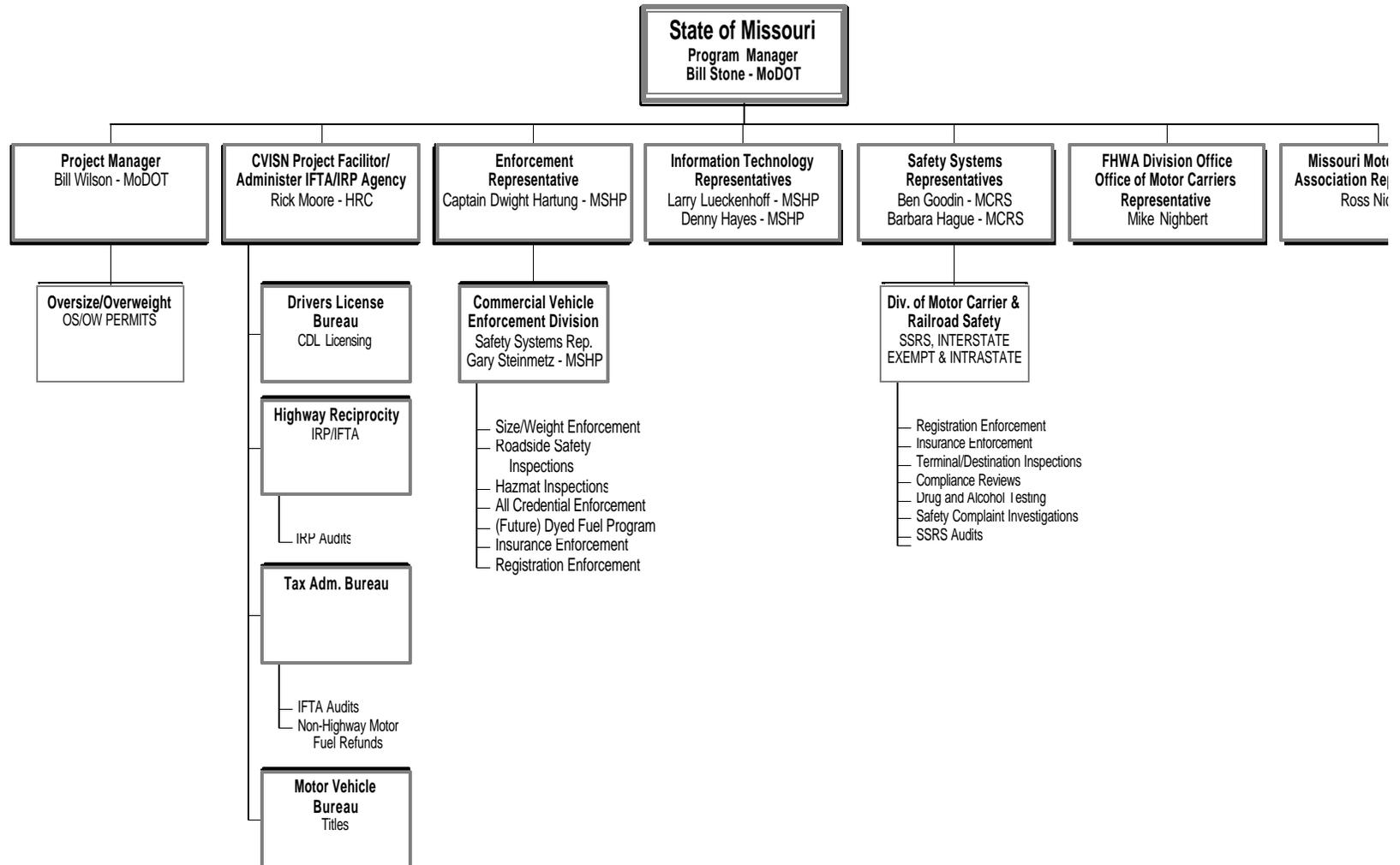
This WBS document will be a "Living" document that will need to update frequently. This will provide the State of Missouri the important schedules and milestones to provide the proper planning information for budgeting, procurement and deployment. It will also provide a means to properly document the progress of the entire CVISN effort in Missouri.

Figure 4.1 Summary Table of Agencies Responsibilities for CVO



Missouri CVISN Organizational Chart

(November 30, 1999)



ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
1		1	Program Management	1172 days	Wed 04/07/99	Tue 09/30/03	22%		
2		1.1	Planning & Coordination	41 days	Fri 07/21/00	Fri 09/15/00	100%		
3		1.1.1	Update Business Plan and Prepare Program Plan	41 days	Fri 07/21/00	Fri 09/15/00	100%		CVO Standing Committee (Barb Hague/Bill Stone)
4		1.1.1.1	Identify Items of Business Plan/Program Plan that need to be incorporated into Project Plan	41 days	Fri 07/21/00	Fri 09/15/00	100%		Bill Stone
5		1.1.1.2	Draft to CVO Standing Comm. For Comment and Approval	1 day	Fri 09/01/00	Fri 09/01/00	100%		CVO Standing Committee
6		1.1.1.3	Finalize Update to Program Plan	8 days	Wed 09/06/00	Fri 09/15/00	100%	5	Barb Hague
7		1.2	Stakeholder Showcases & Outreach	1172 days	Wed 04/07/99	Tue 09/30/03	3%		
8		1.2.1	Carrier Outreach	650 days	Wed 04/07/99	Fri 09/28/01	6%		
9		1.2.1.1	Develop Mechanisms for Informing Carriers of Service Delivery Plans	328 days	Wed 06/28/00	Fri 09/28/01	5%		Bill Stone
10		1.2.1.2	Visited small group of carriers in the Joplin area to discuss the goals and objectives of the committee.	2 days	Wed 04/07/99	Thu 04/08/99	100%		Standing Committee
11		1.2.2	Legislative Outreach	261 days	Mon 07/02/01	Mon 07/01/02	2%		
12	 	1.2.2.1	Develop Mechanisms for Informing Legislators of Service Delivery Plans	261 days	Mon 07/02/01	Mon 07/01/02	2%		Bill Stone
13		1.2.3	Judicial Outreach	327 days	Mon 07/01/02	Tue 09/30/03	0%		
14	 	1.2.3.1	Develop Mechanisms for Informing Courts of Service Delivery Plans	327 days	Mon 07/01/02	Tue 09/30/03	0%		Bill Stone
15		1.3	Regional Coordination	1026 days	Thu 10/28/99	Tue 09/30/03	28%		
16		1.3.1	Coordinate ITS/CVO Activities with surrounding states of Oklahoma and Kansas	364 days	Fri 06/09/00	Wed 10/31/01	0%		

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
17		1.3.1.1	Contact OK & KS DOT & Toll Authorities regarding MOA	1 day	Fri 06/09/00	Fri 06/09/00	100%		Bill Stone
18		1.3.1.2	Enter into an MOA with OK & KS DOT's and Toll Authorities	364 days	Fri 06/09/00	Wed 10/31/01	0%		
19		1.3.2	Operations & Maintenance Planning for CVISN Activities	672 days	Mon 03/05/01	Tue 09/30/03	0%		Gary Steinmetz
20		1.3.3	Inter-Departmental Cred. Task Force Coordination	699 days	Thu 10/28/99	Fri 06/28/02	58%		
21		1.3.3.1	Formation of the Task Force	699 days	Thu 10/28/99	Fri 06/28/02	100%		
22		1.3.3.2	Move state agencies into a single location that deal with motor carrier requirements	520 days	Mon 07/03/00	Fri 06/28/02	2%		
23		1.3.4	International Trade Corridor Plan / Study	414 days	Mon 04/03/00	Thu 11/01/01	9%		
24		1.3.4.1	Phase 1: Establish Corridor Baseline	130 days	Mon 04/03/00	Fri 09/29/00	33%		Contractor - BAH
25		1.3.4.2	Phase 2: Define Corridor Processes and Requirements	172 days	Mon 08/07/00	Tue 04/03/01	0%		Contractor - BAH
26		1.3.4.3	Phase 3: Develop Corridor Plans	153 days	Mon 04/02/01	Wed 10/31/01	0%		Contractor - BAH
27		1.3.4.4	Study Completion	1 day	Thu 11/01/01	Thu 11/01/01	0%		
28		2	System Engineering & Integration	998 days	Tue 12/07/99	Tue 09/30/03	1%		
29		2.1	System Requirements Definition	1 day	Tue 05/01/01	Tue 05/01/01	0%		
30		2.2	System Design	1 day	Tue 12/07/99	Wed 05/02/01	5%	29	
31		2.3	Architecture Conformance	1 day	Wed 05/02/01	Thu 05/03/01	0%	30	
32		2.4	System Integration and Test	822 days	Mon 08/07/00	Tue 09/30/03	1%		

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
33		2.5	Interoperability Testing	217 days	Mon 12/02/02	Tue 09/30/03	0%		
34		3	Safety Information Exchange Systems	1199 days	Mon 03/01/99	Tue 09/30/03	11%		
35		3.1	Project Management Selection	44 days	Thu 06/01/00	Tue 08/01/00	0%		
36		3.2	Systems Engineering & Integration	822 days	Mon 08/07/00	Tue 09/30/03	0%		
37		3.3	Subcontract & Procurement Management	587 days	Mon 07/02/01	Tue 09/30/03	0%		
38		3.4	CV Information Exchange Window (CVIEW)	446 days	Mon 10/02/00	Mon 06/17/02	0%		
39		3.4.1	Each Agency Define Requirements for Missouri CVIEW System	60 days	Mon 10/02/00	Fri 12/22/00	0%		CVO Standing Committee
40		3.4.2	Finalize CVIEW Requirements	17 days	Mon 12/25/00	Tue 01/16/01	0%	39	Larry Lueckenhoff
41		3.4.3	Evaluate Federal, other State, and Commercial CVIEW Systems	44 days	Wed 01/17/01	Mon 03/19/01	0%	40	CVO Standing Committee
42		3.4.4	Build, Customize, or Procure CVIEW System	260 days	Tue 05/01/01	Mon 04/29/02	0%		Standing Committee, Vendor (TBD)
43		3.4.5	Establish CVIEW to SAFER Connection	11 days	Mon 06/03/02	Mon 06/17/02	0%		Vendor (TBD)
44		3.5	ASPEN	482 days	Mon 03/01/99	Fri 12/29/00	56%		MSHP ISD, MSHP CVE, MCRS
45		3.5.1	Use existing 16 bit ASPEN to report inspections from MCRS to MSHP	66 days	Mon 03/01/99	Mon 05/31/99	100%		MCRS
46		3.5.2	Use existing 16 bit ASPEN to report inspections	1 day	Tue 12/07/99	Tue 12/07/99	100%		MSHP
47	 	3.5.3	Equip all inspectors with 16 bit ASPEN	199 days	Wed 09/01/99	Thu 06/01/00	100%		
48		3.5.3.1	Evaluate Existing Equipment for 32 bit Capabilities	38 days	Thu 12/02/99	Fri 01/21/00	100%		MSHP CVE

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
49		3.5.3.2	Procure Equipment for Statewide Rollout	110 days	Wed 09/01/99	Tue 02/01/00	100%		MSHP ISD
50		3.5.3.3	Install equipment & 16 bit ASPEN statewide	67 days	Wed 03/01/00	Thu 06/01/00	100%		MSHP ISD
51		3.5.4	Upgrade ASPEN (32 bit) Statewide	30 days	Fri 09/01/00	Thu 10/12/00	0%		MSHP ISD,MCRS
52		3.5.5	Establish an ASPEN to Roadside Connection (MSHP)	65 days	Fri 09/01/00	Thu 11/30/00	0%		MSHP ISD
53		3.5.6	Supply roadside users with snapshots via. Web	65 days	Mon 10/02/00	Fri 12/29/00	0%		MSHP ISD
54		3.5.7	Supply deskside users with snapshots via. Web	65 days	Mon 10/02/00	Fri 12/29/00	0%		MSHP ISD
55		3.6	SAFETYNET	559 days	Wed 07/12/00	Mon 09/02/02	5%		
56		3.6.1	Carrier Automated Performance Review Information (CAPRI)	38 days	Wed 07/12/00	Fri 09/01/00	37%		
57		3.6.1.1	Build Interface for submitting CAPRI Snapshots to SAFETYNET	14 days	Wed 07/12/00	Mon 07/31/00	100%		MSHP CVE,DED - MCRS
58		3.6.1.2	Uploading Compliance Reviews to the Patrol for FMCSA	24 days	Tue 08/01/00	Fri 09/01/00	0%	57	DED - MCRS
59		3.6.2	SAFETYNET 2000 Implementation (LAN)	151 days	Mon 09/04/00	Mon 04/02/01	0%	56	MSHP ISD,MSHP CVE
60		3.6.2.1	Install SAFETYNET 2000	60 days	Mon 09/04/00	Fri 11/24/00	0%		Denny Hayes
61		3.6.2.2	Build Interface to STARS	90 days	Mon 11/27/00	Fri 03/30/01	0%	60	Denny Hayes
62		3.6.2.3	Retire HP20	1 day	Mon 04/02/01	Mon 04/02/01	0%	30,61	Denny Hayes
63		3.6.3	Establish SAFETYNET to SAFER Connection	1 day	Tue 04/03/01	Tue 04/03/01	0%	59	MSHP CVE
64		3.6.3.1	Establish Agreement between MSHP and VOLPE	1 day	Tue 04/03/01	Tue 04/03/01	0%		MSHP CVE

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
65		3.6.4	Build SAFETYNET to CVIEW Interface	90 days	Tue 04/30/02	Mon 09/02/02	0%	59,63	MSHP ISD,MSHP CVE
66		3.7	Roadside Operations	998 days	Tue 12/07/99	Tue 09/30/03	8%		MSHP CVE
67		3.7.1	Define Roadside Operations Applications and Activities Top Level Design	53 days	Tue 12/07/99	Tue 02/15/00	100%		Standing Committee
68		3.7.2	Build or Modify Roadside Operations User Interface Application (DOR, MCRS, & MoDOT)	457 days	Tue 12/07/99	Mon 09/03/01	1%		MSHP ISD,MSHP CVE
69		3.7.2.1	Existing Staff Input Query Connection	2 days	Tue 12/07/99	Wed 12/08/99	100%		MSHP ISD,MSHP CVE
70		3.7.2.2	Automate Query Activity	133 days	Thu 03/01/01	Mon 09/03/01	0%		MSHP ISD,MSHP CVE
71		3.7.3	Build Roadside Operations to CVIEW Connection	372 days	Mon 04/29/02	Tue 09/30/03	0%		MSHP ISD,MSHP CVE
72		3.7.4	Build Roadside Operations to Screening / Flagging System Connection	133 days	Wed 01/03/01	Fri 07/06/01	0%		MSHP ISD,MSHP CVE
73		4	Credentials Project	915 days	Thu 07/01/99	Tue 12/31/02	16%		
74		4.1	Project Management	1 day	Tue 12/07/99	Tue 12/07/99	0%		
75		4.2	Systems Engineering & Integration	1 day	Tue 12/07/99	Tue 12/07/99	0%		
76		4.3	Contract & Procurement Management	1 day	Tue 12/07/99	Tue 12/07/99	0%		
77		4.4	Develop end-to-end electronic registration for IRP & IFTA	806 days	Thu 12/02/99	Tue 12/31/02	3%		
78		4.4.1	Develop initial Functional Requirements for IRP/IFTA System	66 days	Thu 12/02/99	Tue 02/29/00	50%		DOR HRC
79		4.4.2	Develop & Issue RFI for IRP/IFTA System	76 days	Tue 01/04/00	Fri 04/14/00	0%		DOR HRC
80		4.4.3	Finalize Functional Requirements for IRP/IFTA System	175 days	Mon 04/17/00	Fri 12/15/00	0%		DOR HRC

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
81		4.4.4	Develop RFP for IRP/IFTA	107 days	Thu 02/01/01	Sat 06/30/01	0%		DOR HRC
82	 	4.4.5	Issue RFP for IRP/IFTA System	45 days	Mon 07/02/01	Sat 09/01/01	0%	79	DOR HRC
83		4.4.6	Select Vendor for Development of IRP/IFTA System	21 days	Mon 09/03/01	Mon 10/01/01	0%	82	DOR HRC
84		4.4.7	Contract Awarded	0 days	Wed 10/31/01	Wed 10/31/01	0%		DOR HRC
85		4.4.8	Develop IRP/IFTA System	305 days	Wed 10/31/01	Tue 12/31/02	0%	81	Vendor (TBD)
86		4.4.9	Conduct System Testing Activities	260 days	Wed 01/02/02	Tue 12/31/02	0%		DOR HRC
87		4.4.10	Implement IRP/IFTA System	1 day	Tue 12/31/02	Tue 12/31/02	0%		DOR HRC, Vendor (TBD)
88		4.4.11	IRP / IFTA Project Completed	0 days	Tue 12/31/02	Tue 12/31/02	0%		
89		4.5	Develop compatibility for IRP/IFTA Clearinghouse	1 day	Tue 12/31/02	Tue 12/31/02	0%		
90		4.6	Development of a single multi-agency web application	349 days	Wed 03/01/00	Mon 07/02/01	5%		
91		4.7	Develop end-to-end electronic application for OS/OW	468 days	Wed 11/01/00	Fri 08/16/02	0%		
92		4.7.1	Develop Requirements for proposed MoDOT OS/OW System	50 days	Wed 11/01/00	Tue 01/09/01	0%		Bill Stone, Administrator-Motor Carrier Services
93		4.7.2	Develop RFP for proposed MoDOT OS/OW System	50 days	Wed 01/10/01	Tue 03/20/01	0%	92	Bill Stone, Administrator-Motor Carrier Services
94		4.7.3	Issue RFP for proposed MoDOT OS/OW System	77 days	Wed 03/21/01	Thu 07/05/01	0%	93	Bill Stone, Administrator-Motor Carrier Services
95		4.7.4	Select Vendor for proposed MoDOT OS/OW System	30 days	Fri 07/06/01	Thu 08/16/01	0%	94	Bill Stone, Administrator-Motor Carrier Services
96		4.7.5	Contract Negotiations with Vendor for MoDOT OS/OW Permit system	45 days	Mon 08/20/01	Fri 10/19/01	0%		Vendor (TBD), MHTC

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
97		4.7.6	Development of MoDOT OS/OW Permit System	205 days	Mon 11/05/01	Fri 08/16/02	0%		Vendor (TBD)
98		4.8	Credentialing Interface (CI)	560 days	Mon 10/02/00	Fri 11/22/02	0%		
99	 	4.8.1	Define Requirements for Missouri CI System	131 days	Mon 10/02/00	Mon 04/02/01	0%		Standing Committee
100		4.8.2	Evaluate Federal and Other State CI Systems	60 days	Tue 04/03/01	Mon 06/25/01	0%	99	Standing Committee
101		4.8.3	Build or Customize CI System	365 days	Mon 07/02/01	Fri 11/22/02	0%		Standing Committee, Vendor (TBD)
102		4.9	Motor Carrier Home Page & Web Credentialing	365 days	Mon 07/02/01	Fri 11/22/02	2%		Inter-Agency Task Force
103		4.10	Carrier Credentialing Systems (CAT)	365 days	Mon 07/02/01	Fri 11/22/02	0%		Standing Committee, Vendor (TBD)
104		4.11	Intrastate Registration	807 days	Thu 07/01/99	Thu 08/01/02	47%		
105		4.11.1	Develop "Paperless Office" System	194 days	Fri 01/07/00	Mon 10/02/00	94%		DED - MCRS
106		4.11.1.1	Select Vendor - Initiate start of project	128 days	Fri 01/07/00	Fri 06/30/00	100%		DED - MCRS
107		4.11.1.2	Purchase Scanning, OPTICA and Workflow Software	1 day	Wed 02/16/00	Wed 02/16/00	100%		DED - MCRS
108		4.11.1.3	Purchase System Hardware	40 days	Mon 01/10/00	Wed 03/01/00	100%		DED - MCRS
109		4.11.1.4	Write Programs to integrate Mainframe, Cash Receipt System and Access database	88 days	Wed 03/01/00	Fri 06/30/00	100%		DED - MCRS
110		4.11.1.5	Test new program	80 days	Mon 06/12/00	Fri 09/29/00	75%		DED - MCRS
111		4.11.1.6	Full implementation	1 day	Mon 10/02/00	Mon 10/02/00	0%	110	DED - MCRS
112		4.11.2	Replace Carrier ID Numbering System with US DOT Numbering System	339 days	Thu 07/01/99	Mon 10/16/00	85%		DED - MCRS

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
113		4.11.2.1	Establish Agreement with FMCSA	0 days	Thu 07/01/99	Thu 07/01/99	100%		DED - MCRS
114		4.11.2.2	Conduct MCMIS Training	1 day	Fri 10/15/99	Fri 10/15/99	100%		DED - MCRS
115		4.11.2.3	Required Promulgation of New Rules	155 days	Wed 09/01/99	Fri 03/31/00	100%		DED - MCRS
116		4.11.2.4	Legacy System Modification to MCRS System	37 days	Thu 02/10/00	Fri 03/31/00	100%		DED - MCRS
117		4.11.2.5	Test Carrier ID Numbering System	10 days	Mon 03/20/00	Fri 03/31/00	100%		DED - MCRS
118		4.11.2.6	Mail Motor MO MCS-150 Form to Motor Carriers	1 day	Thu 03/16/00	Thu 03/16/00	100%		DED - MCRS
119		4.11.2.7	Issue US Dot Numbers to Intrastate Carriers	141 days	Mon 04/03/00	Mon 10/16/00	63%	117	DED - MCRS
120		4.11.3	Build Interface from MCRS System to State Bank (Electronic Commerce)	131 days	Mon 07/02/01	Mon 12/31/01	0%		DED - MCRS
121		4.11.4	Pilot Program for Filing "Proof of Insurance" via. Internet	267 days	Mon 09/13/99	Fri 09/15/00	60%		DED - MCRS
122		4.11.4.1	Sign agreement to participate in test	1 day	Mon 09/13/99	Mon 09/13/99	100%		DED - MCRS
123		4.11.4.2	Provide Listing of Missouri Carriers for pilot testing	1 day	Fri 06/23/00	Fri 06/23/00	100%		DED - MCRS
124		4.11.4.3	Test internet application	83 days	Mon 02/07/00	Wed 05/31/00	100%		DED - MCRS
125		4.11.4.4	Sign agreement for a year participation and accept electronic insurance filings	57 days	Thu 06/29/00	Fri 09/15/00	0%		DED - MCRS
126		4.11.5	Interstate Registration (UCR)	554 days	Mon 06/19/00	Thu 08/01/02	2%		
127		4.11.5.1	Participation in promulgation and passage of legislation for implementation of UCR	206 days	Mon 06/19/00	Mon 04/02/01	5%		DED - MCRS
128		4.11.5.2	Implementation of new UCR Program	348 days	Tue 04/03/01	Thu 08/01/02	0%	127	

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
129		5	Electronic Screening Program	1133 days	Tue 06/01/99	Tue 09/30/03	7%		
130		5.1	Program Management	1133 days	Tue 06/01/99	Tue 09/30/03	0%		Bill Stone
131		5.2	Systems Engineering & Integration	371 days	Mon 07/16/01	Mon 12/16/02	0%		
132		5.3	Contract & Procurement Management	1133 days	Tue 06/01/99	Tue 09/30/03	20%		
133		5.4	Open Enrollment to Screening Process for all Carriers	390 days	Mon 07/03/00	Fri 12/28/01	0%		
134	 	5.4.1	Establish Agreements with Existing ITS/CVO Prog Administrators	390 days	Mon 07/03/00	Fri 12/28/01	0%		MoDOT
135		5.4.2	Establish Agreements with Local & Regional Toll Systems	390 days	Mon 07/03/00	Fri 12/28/01	0%		MoDOT
136		5.4.3	Identify Transponder Administrator	390 days	Mon 07/03/00	Fri 12/28/01	0%		Standing Committee
137		5.5	Test Active/Passive Technology Co-Location	543 days	Tue 06/01/99	Tue 06/26/01	10%		
138		5.5.1	Develop RFP for Active/Passive Transponder Tech. Feasibility	90 days	Tue 06/01/99	Mon 10/04/99	100%		Bill Stone
139		5.5.2	RFP Proposals Due	1 day	Wed 12/29/99	Wed 12/29/99	100%		
140		5.5.3	Proposal Review & Contractor Award	46 days	Wed 12/29/99	Mon 02/28/00	100%		Standing Committee
141		5.5.4	Contract Awarded	0 days	Mon 10/16/00	Mon 10/16/00	0%		
142		5.6	Joplin Active/Passive Pilot Project, Phase I	345 days	Wed 03/01/00	Tue 06/26/01	0%		
143		5.6.1	Conduct Tests for Reading Active/Passive Transponder Reads	261 days	Wed 03/01/00	Wed 02/28/01	0%		Vendor (TBD)
144		5.6.2	Conduct Bench Test	181 days	Tue 10/17/00	Tue 06/26/01	0%	141	Vendor (TBD)

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
145		5.6.3	Bench Test Completed	0 days	Mon 10/16/00	Mon 10/16/00	0%		
146		5.6.4	Develop Final Report of Results	129 days	Fri 09/01/00	Wed 02/28/01	0%		Vendor (TBD)
147		5.6.5	Develop Shop Drawings & Wiring Diagrams from Test	129 days	Fri 09/01/00	Wed 02/28/01	0%		Vendor (TBD)
148		5.6.6	Conduct CVISN consistency/interoperability checks	129 days	Fri 09/01/00	Wed 02/28/01	0%		Vendor (TBD)
149		5.6.7	Determine Joplin Site Architecture	129 days	Fri 09/01/00	Wed 02/28/01	0%		Vendor (TBD)
150		5.6.8	Identify Typical site function and technical specifications	129 days	Fri 09/01/00	Wed 02/28/01	0%		Vendor (TBD)
151		5.6.9	Develop 5-year Cost Plan (Initial & Reoccurring)	129 days	Fri 09/01/00	Wed 02/28/01	0%		Vendor (TBD)
152		5.6.10	Joplin Pilot Project Phase I Completed	0 days	Wed 02/28/01	Wed 02/28/01	0%		
153		5.7	Joplin Active/Passive Pilot Project, Phase II	113 days	Thu 07/01/99	Tue 12/07/99	0%		
154		5.7.1	Site Preparation/Location of Active/Passive Readers & WIM	1 day	Tue 12/07/99	Tue 12/07/99	0%		MoDOT
155		5.7.2	Develop Interface between WIM & Readers	1 day	Tue 12/07/99	Tue 12/07/99	0%		Vendor (TBD)
156		5.7.3	Install WIM	0.5 days	Tue 12/07/99	Tue 12/07/99	0%		Vendor (TBD),MoDOT
157		5.7.4	Develop Interface between Classifier & WIM	1 day	Tue 12/07/99	Tue 12/07/99	0%		Vendor (TBD)
158		5.7.5	Install Classifiers (Advanced & Compliance)	1 day	Tue 12/07/99	Tue 12/07/99	0%		MoDOT
159		5.7.6	Evaluate Equipment for Screening Vehicle L,W,H	1 day	Tue 12/07/99	Tue 12/07/99	0%		Standing Committee
160		5.7.7	Link mainline screening equipment w/roadside Computer	1 day	Tue 12/07/99	Tue 12/07/99	0%		Vendor (TBD)

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
161		5.7.8	Select Carriers for Test Participation, CFI	0 days	Thu 07/01/99	Thu 07/01/99	100%		
162		5.7.9	Joplin Pilot Project Phase II Completed	1 day	Tue 12/07/99	Tue 12/07/99	0%		
163		5.8	Roadside Operations	1 day	Tue 12/07/99	Tue 12/07/99	0%		
164		5.8.1	Define Roadside Software Requirements	1 day	Tue 12/07/99	Tue 12/07/99	0%		MSHP CVE,MSHP ISD
165		5.8.2	Build Roadside System	1 day	Tue 12/07/99	Tue 12/07/99	0%		MSHP CVE,MSHP ISD
166		5.8.3	Activate Roadside to SAFER Connection	1 day	Tue 12/07/99	Tue 12/07/99	0%		
167		5.8.4	Activiate Roadside to CVIEW Connection	1 day	Tue 12/07/99	Tue 12/07/99	0%		
168		5.9	Electronic Screening Operational (Statewide Rollout)	1 day	Tue 12/07/99	Tue 12/07/99	0%		
169		5.9.1	Establish Screening System to Pre-Screening Controller System Interface	1 day	Tue 12/07/99	Tue 12/07/99	0%		MSHP CVE,MSHP ISD
170		5.9.2	Establish Screening System to Roadside Operations System Interface	1 day	Tue 12/07/99	Tue 12/07/99	0%		MSHP CVE,MSHP ISD
171		5.9.3	Establish Screening System to CVIEW Interface	1 day	Tue 12/07/99	Tue 12/07/99	0%		MSHP CVE,MSHP ISD
172		5.9.4	Site Preparation	1 day	Tue 12/07/99	Tue 12/07/99	0%		
173		5.9.5	Carrier Screening Enrollment	1 day	Tue 12/07/99	Tue 12/07/99	0%		
174		5.9.6	Implement Electronic Screening Level 1 (Joplin)	1 day	Tue 12/07/99	Tue 12/07/99	0%		
175		6	Workshop	203 days	Thu 07/01/99	Thu 04/06/00	100%		
196		6.1	Attend CVISN Workshops I, II, III	195 days	Tue 07/13/99	Thu 04/06/00	100%		

ID		WBS	Task Name	Duration	Start	Finish	% Cmp	Pred	Resource Names
197		7	Action Items	116 days	Fri 02/04/00	Thu 07/13/00	97%		
198	 	7.1	Clarify Long-Term Plans for Safety Inspection Exchange	7 days	Fri 02/04/00	Fri 02/11/00	100%		Gary Steinmetz,Larry Lueckenhoff,Capt. Hartung
199	 	7.2	Does IFTA and IRP have a need to Query CVIEW for any Purpose?	10 days	Wed 02/16/00	Tue 02/29/00	100%		Rick Moore
200		7.3	Determine WHERE the Flagging System will physically reside	1 day	Tue 04/04/00	Tue 04/04/00	0%		Standing Committee
201	 	7.4	Determine how CASERITE affects MCRS Thread Diagram	73 days	Tue 04/04/00	Thu 07/13/00	100%		DED - MCRS
202	 	7.5	Determine if Credentialing will be allowed via. WebCAT and Internet Tools & Include in Threads and Network Diagram	1 day	Tue 04/04/00	Tue 04/04/00	0%		Standing Committee
203		7.6	Question thread from Carrier Bank to CI on Electronic IRP Renewal	1 day	Tue 04/04/00	Tue 04/04/00	0%		Rick Moore
204		8	Decisions	1 day	Tue 02/15/00	Tue 02/15/00	100%		

6.0 Procurement Strategy

The tasks and projects outlined in this program plan do require a level of commitment by the Missouri State Regulatory Agencies. To accomplish the tasks and projects outlined in this program plan will be the requirement of funding. Missouri has different agencies, which are responsible for different credentialing and enforcement activities of Commercial Vehicle Operations. These agencies include the Missouri Department of Transportation-Motor Carrier Services Unit, Department of Revenue-Highway Reciprocity Commission, Department of Economic Development-Division of Motor Carrier and Railroad Safety and the Department of Public Safety-Missouri State Highway Patrol, Commercial Vehicle Enforcement Division.

Missouri has been successful in the past in receiving some Federal funding. Missouri was the lead in Midwest Mainstreaming and received funding for this activity. There was a Fiscal Year 1999 earmark for the advancement of CVISN activities awarded to Missouri in the amount of \$350,000. The Corridor Project outlined in the Program Plan received \$800,000 in funding in Federal Fiscal Year 1999 from the Borders and Corridors Program. However, none of these funding sources is enough for the State of Missouri to achieve its goals that are outlined in this Program Plan.

Each agency has been working to include the activities outlined in this Program Plan that they are responsible in their respective agencies' Strategic Plan or Business Plan. With each agency having separate budgets this is the strategy that has been outlined in this Program Plan.

The Standing Committee works as a very cohesive group to outline the activities needed to meet the Missouri goals. Each Standing Committee member works individually within their agency budget request process to provide the funding for activities their agency is responsible. The Standing Committee will continue to look for Federal Funding sources. These include MCSAP, Borders and Corridors Program and other Federal Funding sources.

7.0 Program Processes

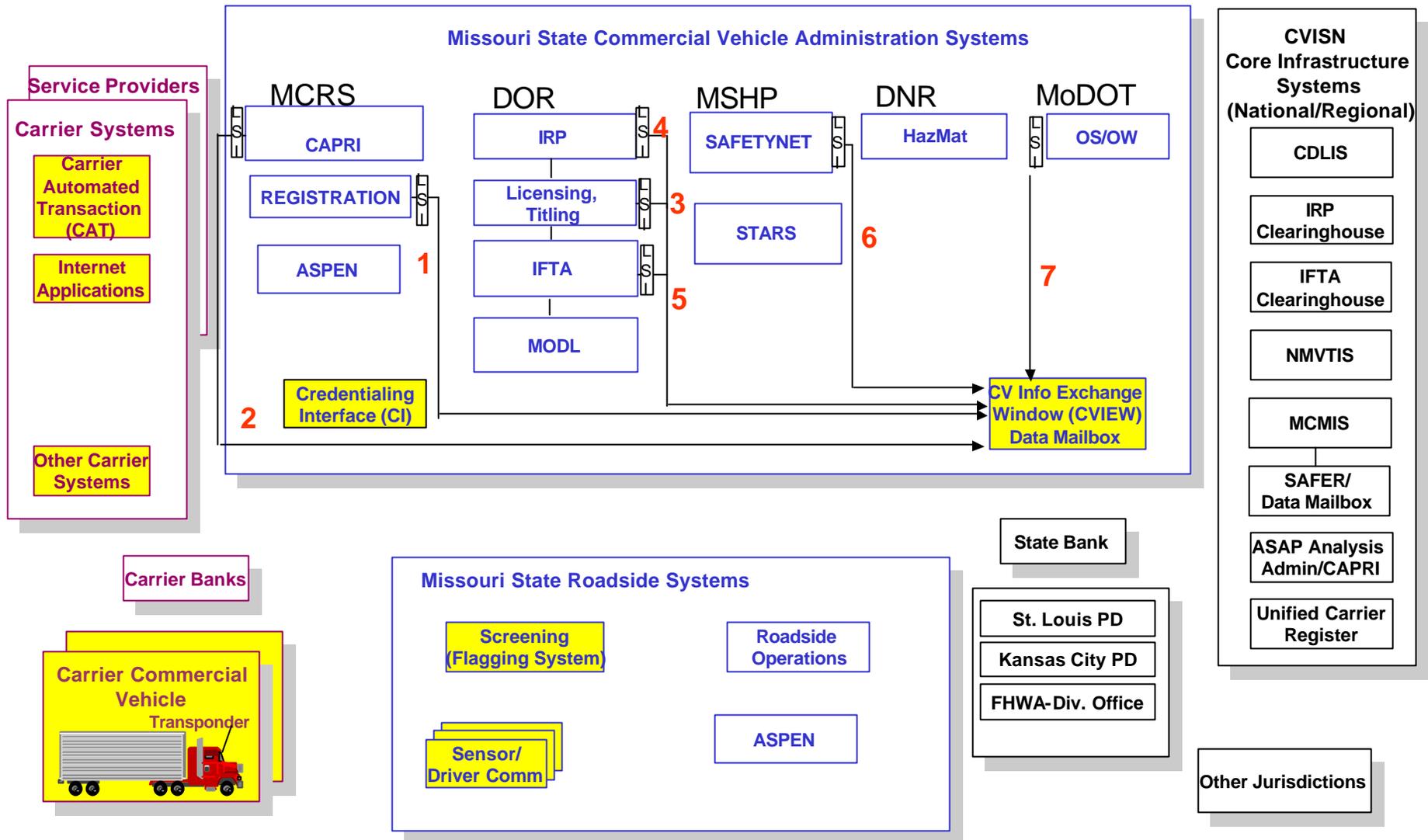
The following section details the different processes that have been identified by the Standing Committee to accomplish CVISN. This work details the processes using proposed templates and text to describe the activities and processes needed to develop CVISN in the state of Missouri. This section will assist in outlining how the agencies will work together pictorially using these templates. For information on a top-level view as to how the agencies work together see Section 4.0 Program Requirements and Design.

There is an item in this section outlining the Joplin Prototype Project (Section 7.16). This is a collocation study that Missouri is developing to study the use of “Active” and “Passive Transponder technologies at the I-44 eastbound weigh station facility near Joplin Missouri.

Also included in this section is a CVISN guide document entitled as COACH 2. It is used to explain planning and management processes.

7.1 MO PROPOSED THREAD DIAGRAM

MAINTAIN CARRIER AND VEHICLE SNAPSHOTS FOR INTRASTATE OPERATORS



Operational Scenario:

Missouri Proposed CVIEW Snapshot Maintenance Operations

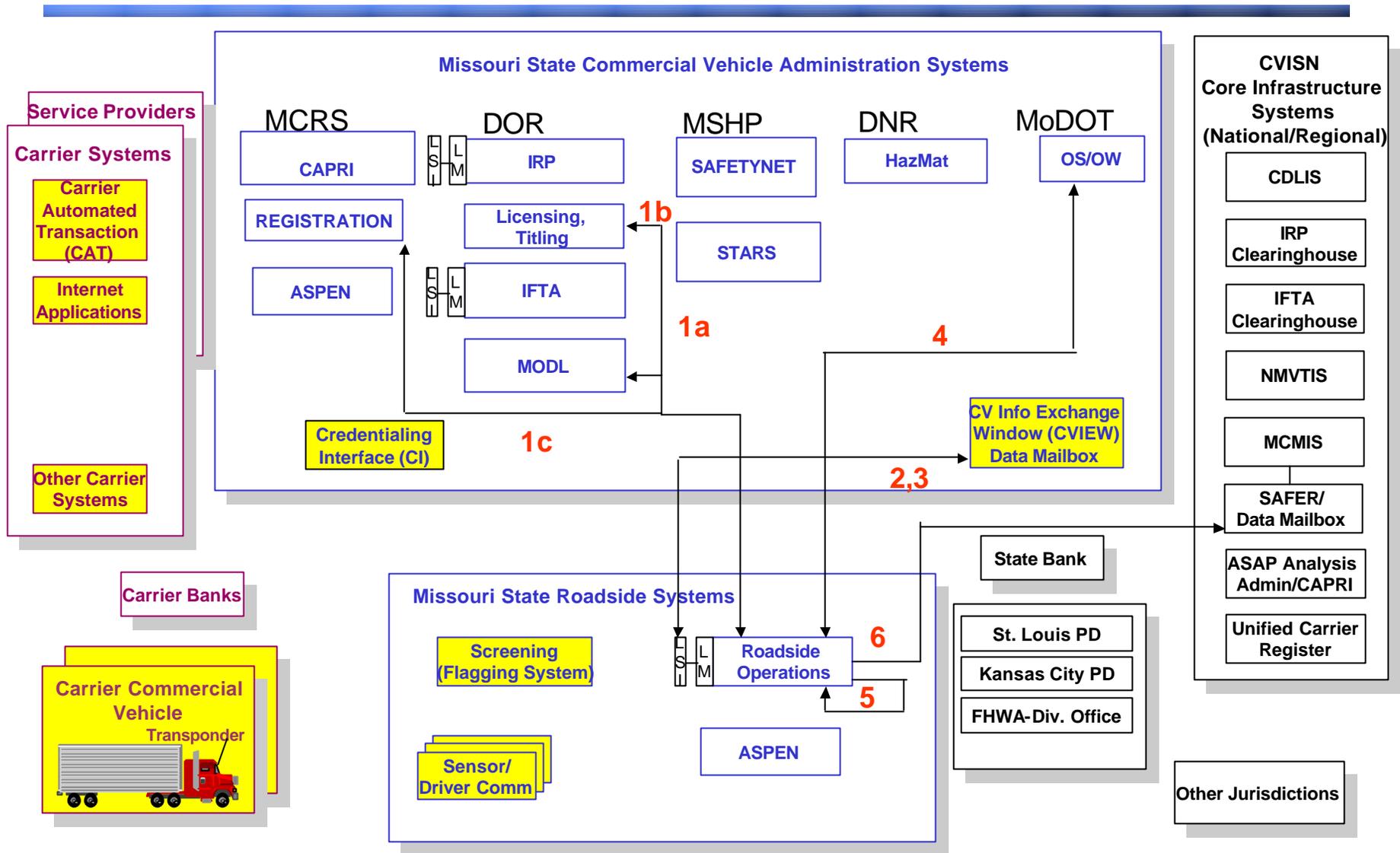
1. MCRS updates CVIEW Snapshot with Registration Information.
2. MCRS updates CVIEW Snapshot with Compliance Review Information.
3. DOR updates CVIEW Snapshot with License / Titling Information.
4. DOR updates CVIEW Snapshot with IRP Credential Information.
5. DOR updates CVIEW Snapshot with IFTA Credential Information.

Operational Scenario:

Missouri Proposed CVIEW Snapshot Maintenance Operations

6. MSHP updates CVIEW Snapshot with Inspection / Accident Information.
7. MODOT updates CVIEW Snapshot with OS/OW Permit Information.

7.2 MO PROPOSED THREAD DIAGRAM ROADSIDE OPERATIONS



Operational Scenario:

Missouri Proposed Roadside Operations

1. Roadside Operations queries DOR for Driver / Vehicle information via. MULES.
 - 1a. MULES queries MODL for Drivers License Information.
 - 1b. MULES queries FASTR for License/Titling Information.
 - 1c. MULES queries MCRS for registration/insurance information.
2. Roadside Operations requests carrier snapshot(s) from CVIEW (Credentials / Safety / Permits).
3. CVIEW returns current carrier snapshot(s) to Roadside Operations.
4. Roadside submits an Administrative Message to MODOT (via MULES) that carrier permit has been confiscated

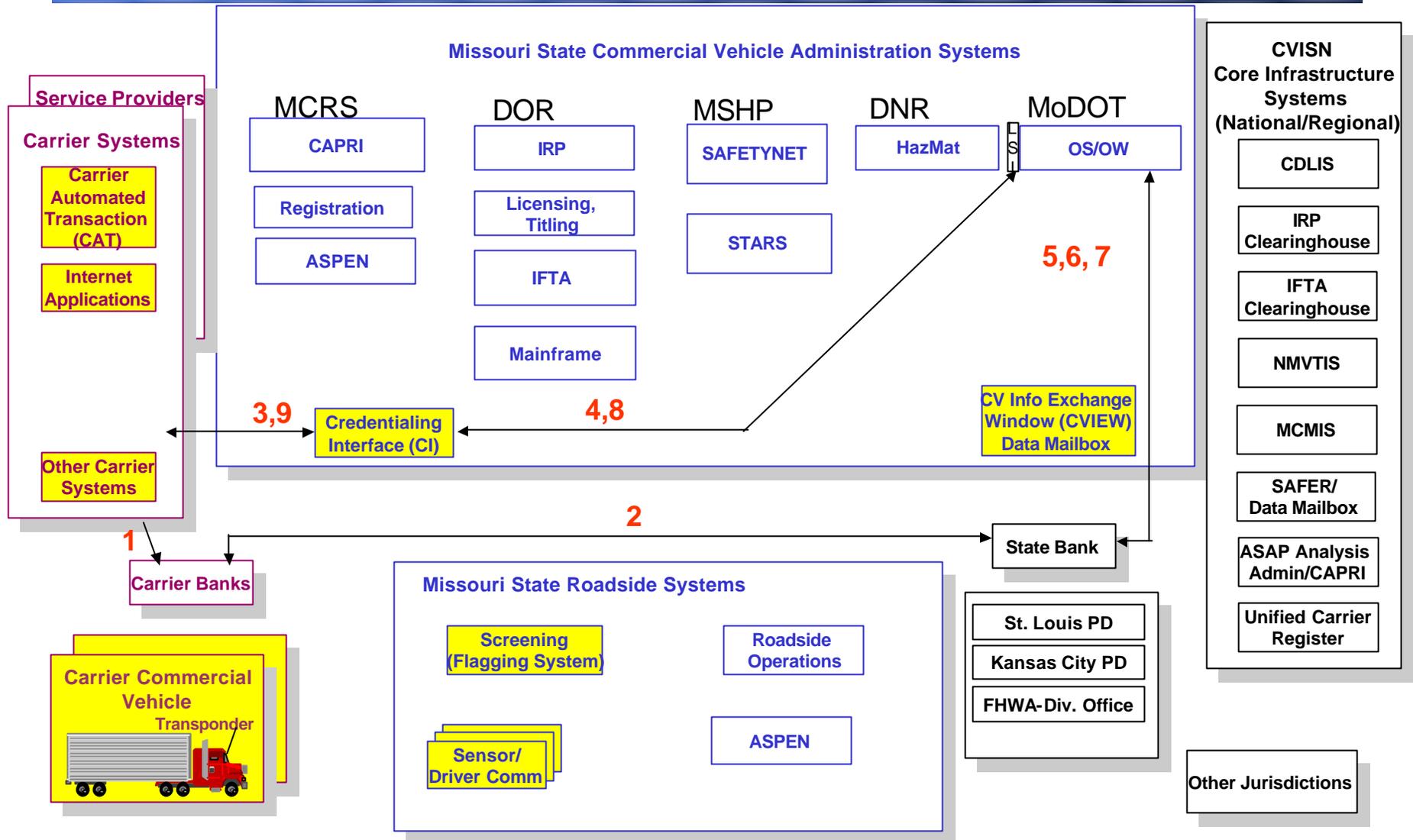
Operational Scenario:

Missouri Proposed Roadside Operations

5. Roadside Operations queries ISS (Inspection Selection System) to determine if an inspection is warranted.
6. Roadside Operations queries SAFER (via. Internet) for copies of past inspections.

7.4 MISSOURI PROPOSED SYSTEM DESIGN TEMPLATE

Oversize/Overweight Permit Application (From Carrier)

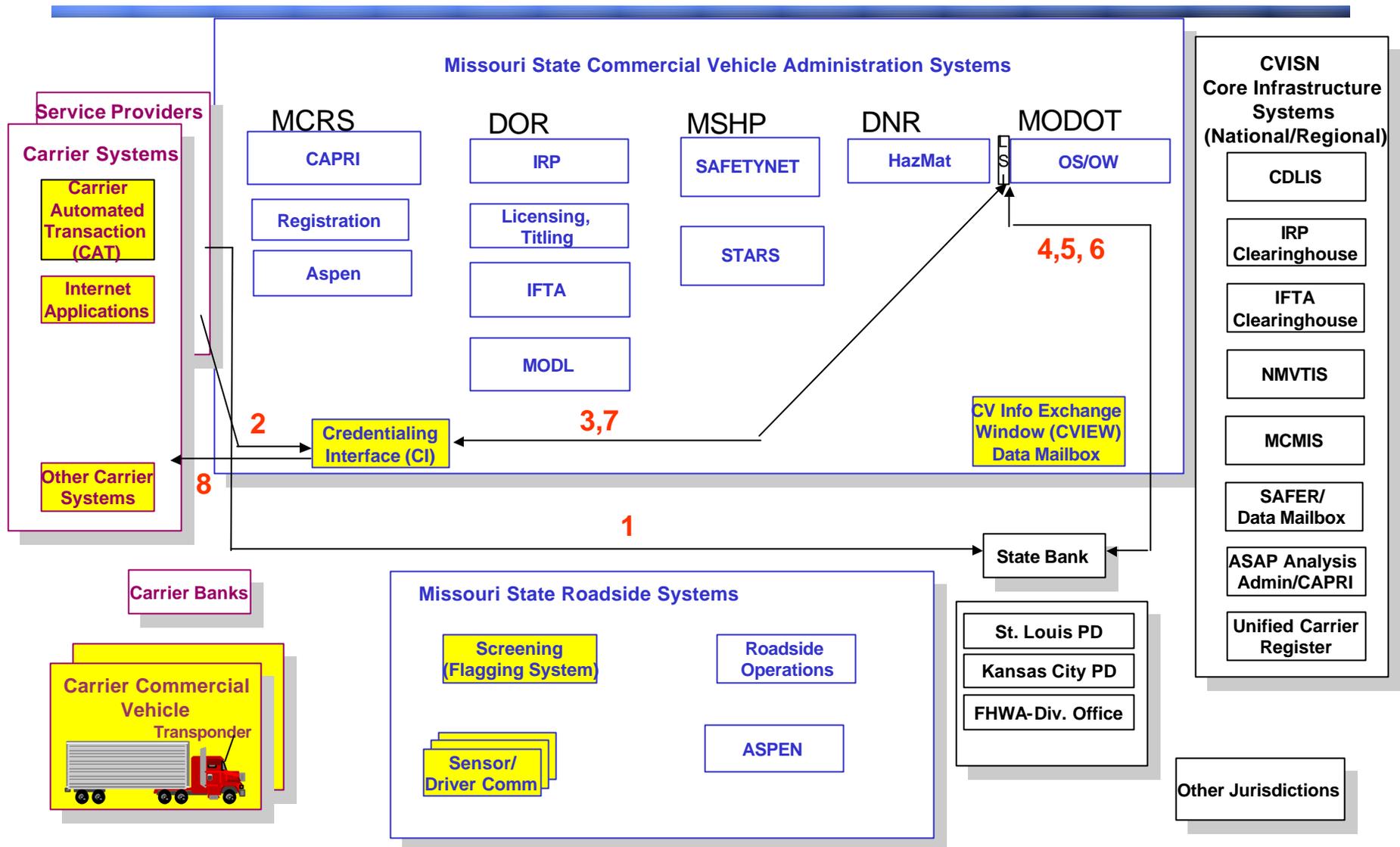


Operational Scenario:

PROPOSED MISSOURI SYSTEM DESIGN TEMPLATE OVERSIZE/OVERWEIGHT PERMIT APPLICATION FROM CARRIER

1. Carrier deposits funds for permit fee.
2. Carrier bank transmits funds to state bank.
3. Carrier makes application through credentialing interface.
4. Oversize/overweight permit office acknowledges application.
5. Oversize/overweight permit office checks to ensure funds are available for permit fee.
6. Verifies that funding is available (Yes or No).
7. Fee is assessed against the account.
8. Permit sent back to credentialing interface.
9. Permit transmitted to carrier.

7.5 MISSOURI PROPOSED SYSTEM DESIGN TEMPLATE Oversize/Overweight Permit Application (SERVICE PROVIDER)

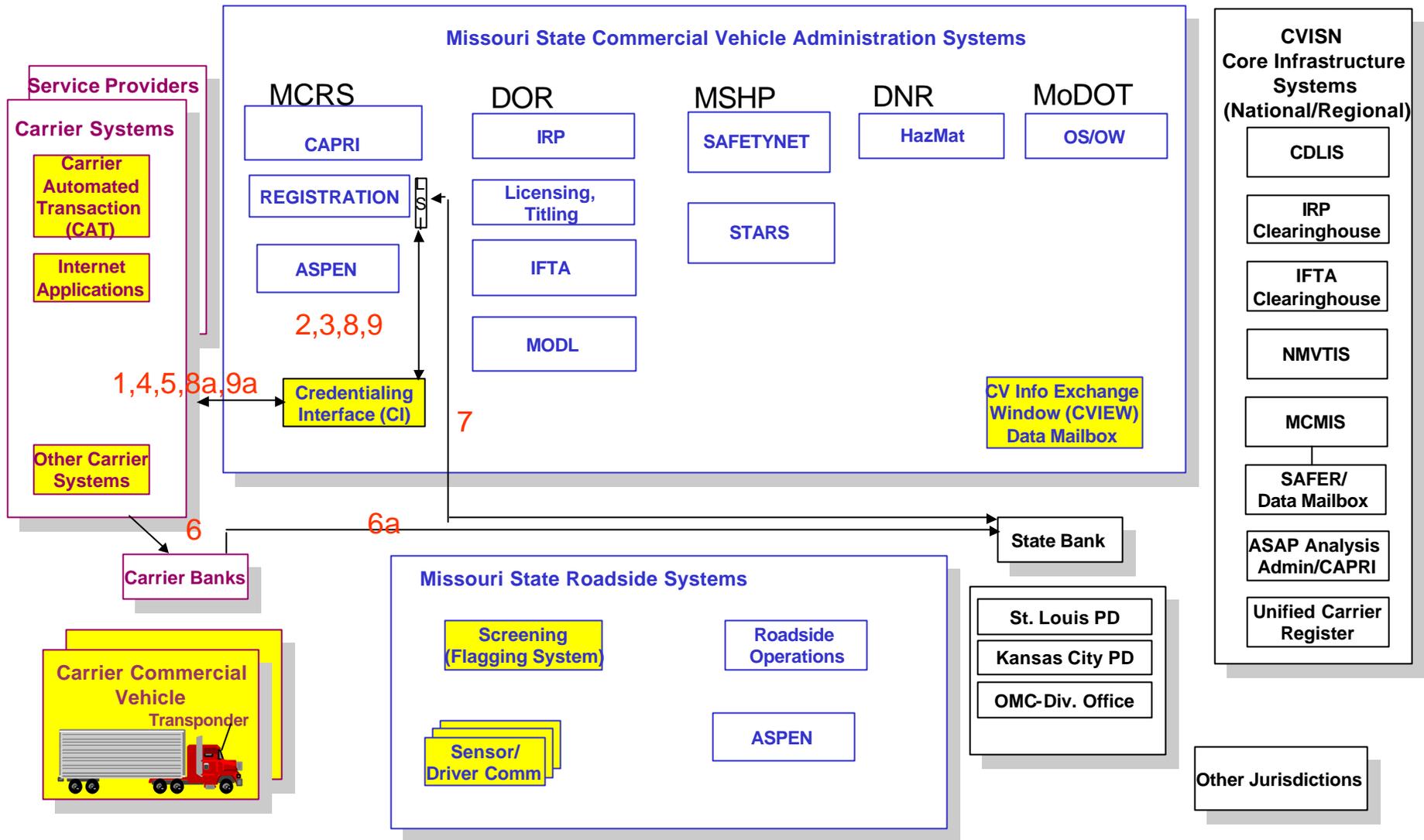


Operational Scenario:

PROPOSED MISSOURI SYSTEM DESIGN TEMPLATE OVERSIZE/OVERWEIGHT PERMIT APPLICATION FROM SERVICE PROVIDER

1. Service Provider deposits funds for permit fee.
2. Service Provider makes application through credentialing interface.
3. Oversize/overweight permit office acknowledges application.
4. Oversize/overweight permit office checks to ensure funds are available for permit fee.
5. Verifies that funding is available (Yes or No).
6. Fee is assessed against the account.
7. Permit sent back to credentialing interface.
8. Permit transmitted to carrier.

7.6 MO PROPOSED THREAD DIAGRAM INTRASTATE REGULATORY LICENSE RENEWAL



Operational Scenario:

INTRASTATE REGULATORY LICENSE RENEWAL

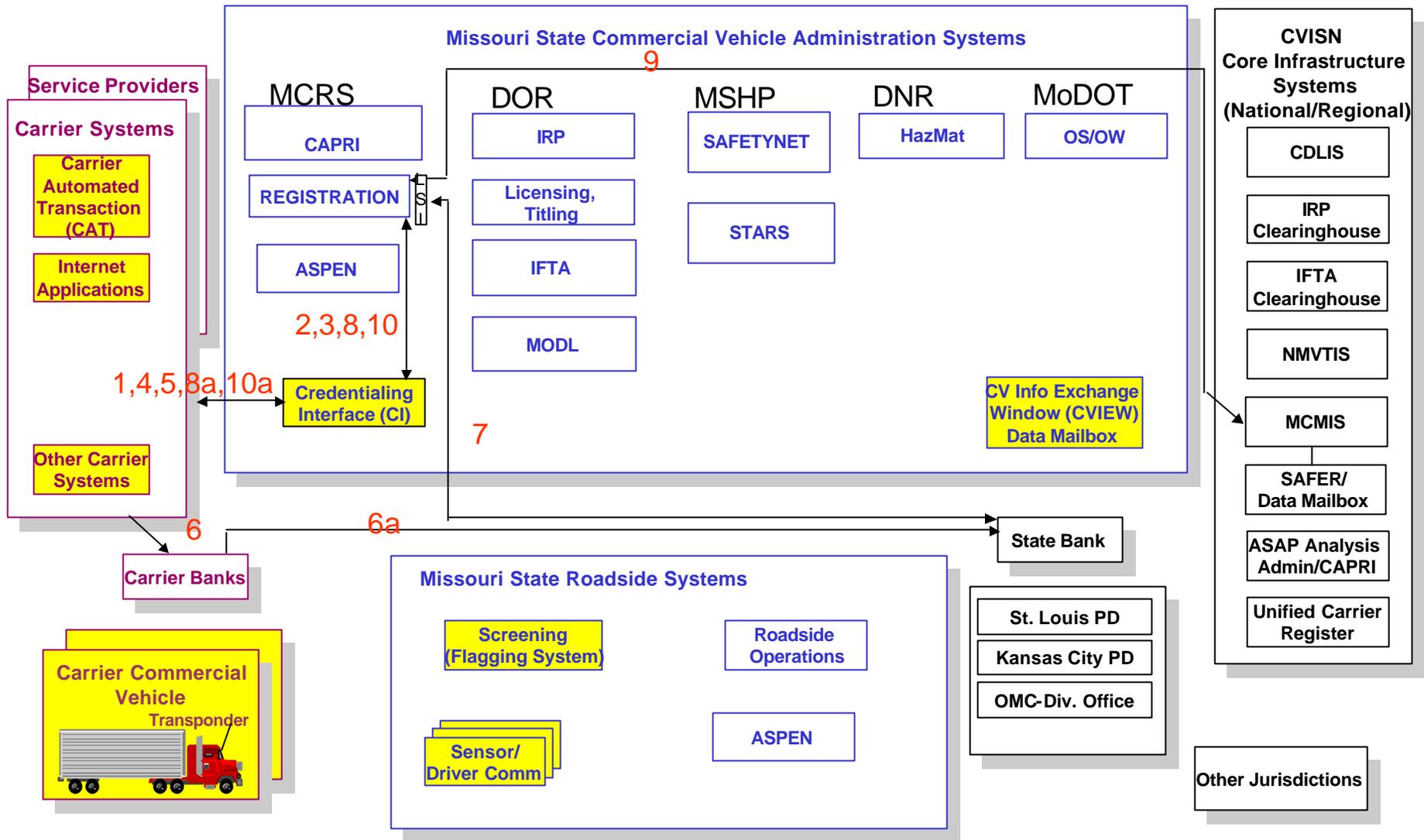
1. Carrier enters the renewal application via a Carrier Automated Transaction (CAT) system or an Internet application which submits it to the Credentialing Interface (CI) as an EDI X12 TS 286.
2. The CI submits a query to the Commercial Motor Carrier Information System (CMCIS) to perform preliminary checks as part of evaluating the application.
3. The CMCIS reports the status, i.e., flags and condition to the CI.
4. The carrier receives notice of the complete application and notice of payment needed via EDI X12 TS 286.
5. The CAT sends payment method information to the CI via EDI X12 TS286.
6. 6a. If the carrier elects a bank to bank transfer, the carrier notifies its bank to transmit an electronic payment to the state bank as an EDI X12 TS 286.
7. Notice is received from the state bank that monies have been received.
8. 8a. The CMCIS sends notice back to the CAT via the CI that payment has been received.

Operational Scenario:

INTRASTATE REGULATORY LICENSE RENEWAL

9. 9a. If the renewal is correct, the CMCIS sends a notice to the CAT thru the CI via EDI X12 TS 286 that the renewal process has been completed.

7.7 MO PROPOSED THREAD DIAGRAM INTRASTATE REGISTRATION



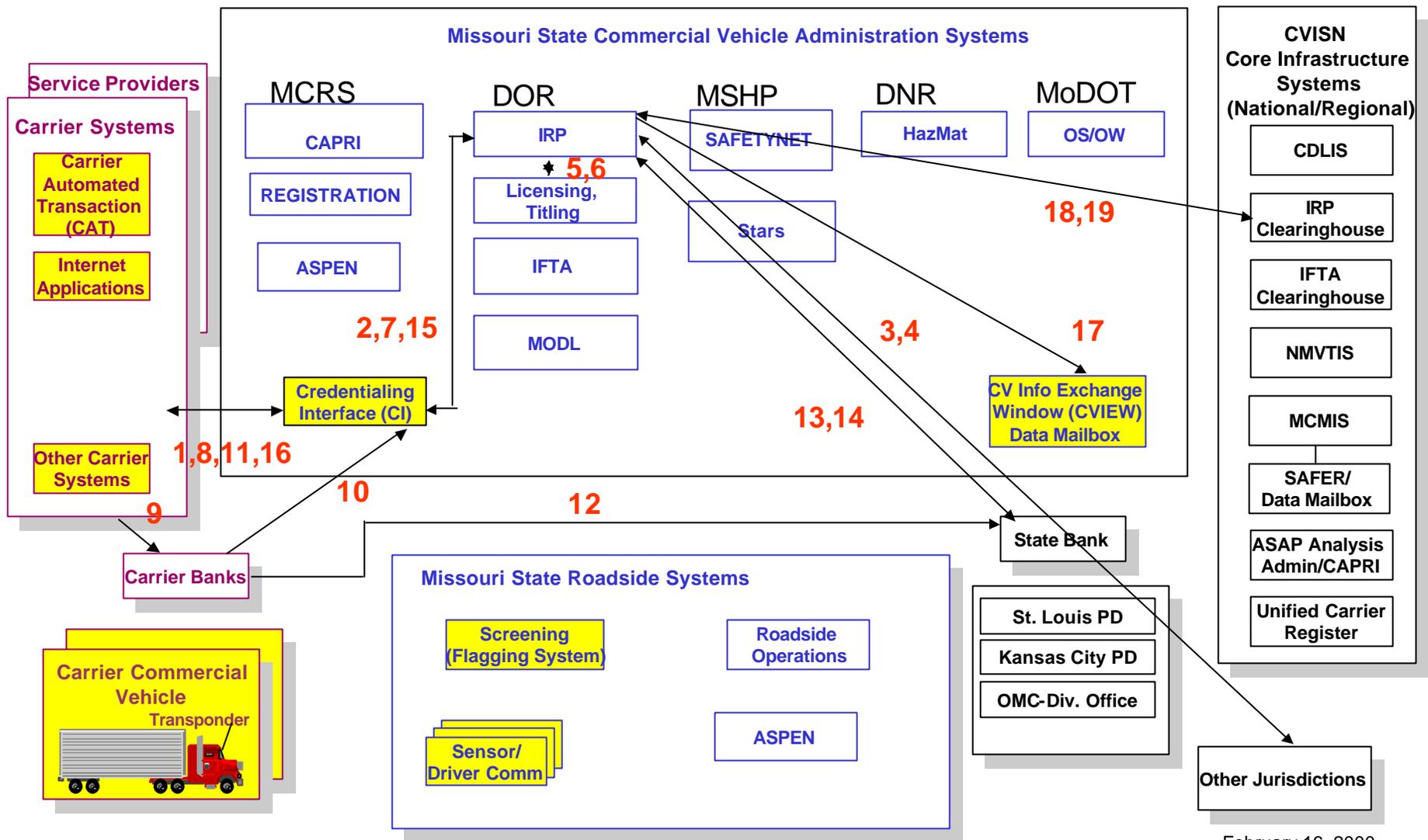
Operational Scenario: INTRASTATE REGISTRATION

1. Carrier enters an intrastate application via a Carrier Automated Transaction (CAT) system or an Internet application which submits it to the Credentialing Interface (CI) as an EDI X12 TS 286.
2. The CI submits a query to the Commercial Motor Carrier Information System (CMCIS) to perform preliminary checks as part of evaluating the application.
3. The CMCIS reports the status, i.e., flags and condition to the CI.
4. The carrier receives notice of the complete application and notice of payment needed via EDI X12 TS 286.
5. The CAT sends payment method information to the CI via EDI X12 TS286.
6. 6a. If the carrier elects a bank to bank transfer, the carrier notifies its bank to transmit an electronic payment to the state bank as an EDI X12 TS 286.
7. Notice is received from the state bank that monies have been received.
8. 8a. The CMCIS sends notice back to the CAT via the CI that payment has been received.

Operational Scenario: INTRASTATE REGISTRATION

9. If the intrastate application is ready to be filed, information is entered into the MCMIS system to obtain a US DOT number.
10. 10a. If the intrastate authority is granted, the CMCIS sends a notice to the CAT thru the CI via EDI X12 TS 286 that the application process has been completed and operations can begin.

7.8 MO PROPOSED THREAD DIAGRAM IRP PROCESS



Operational Scenario: IRP Process

1. Carrier system or service provider electronically submits application to state through credentialing interface.
2. Credentialing interface transfers information to IRP system at DOR.
3. IRP system requests payment verification from counties and IRS.
4. Validation / confirmation / denial sent back from counties and IRS.
5. Simultaneous verification of VINs using DOR motor vehicle system, HRC system, and/or VIN “edit” software.
6. Verification / validation information returned from DOR system / HRC system and/or VIN “edit” software.

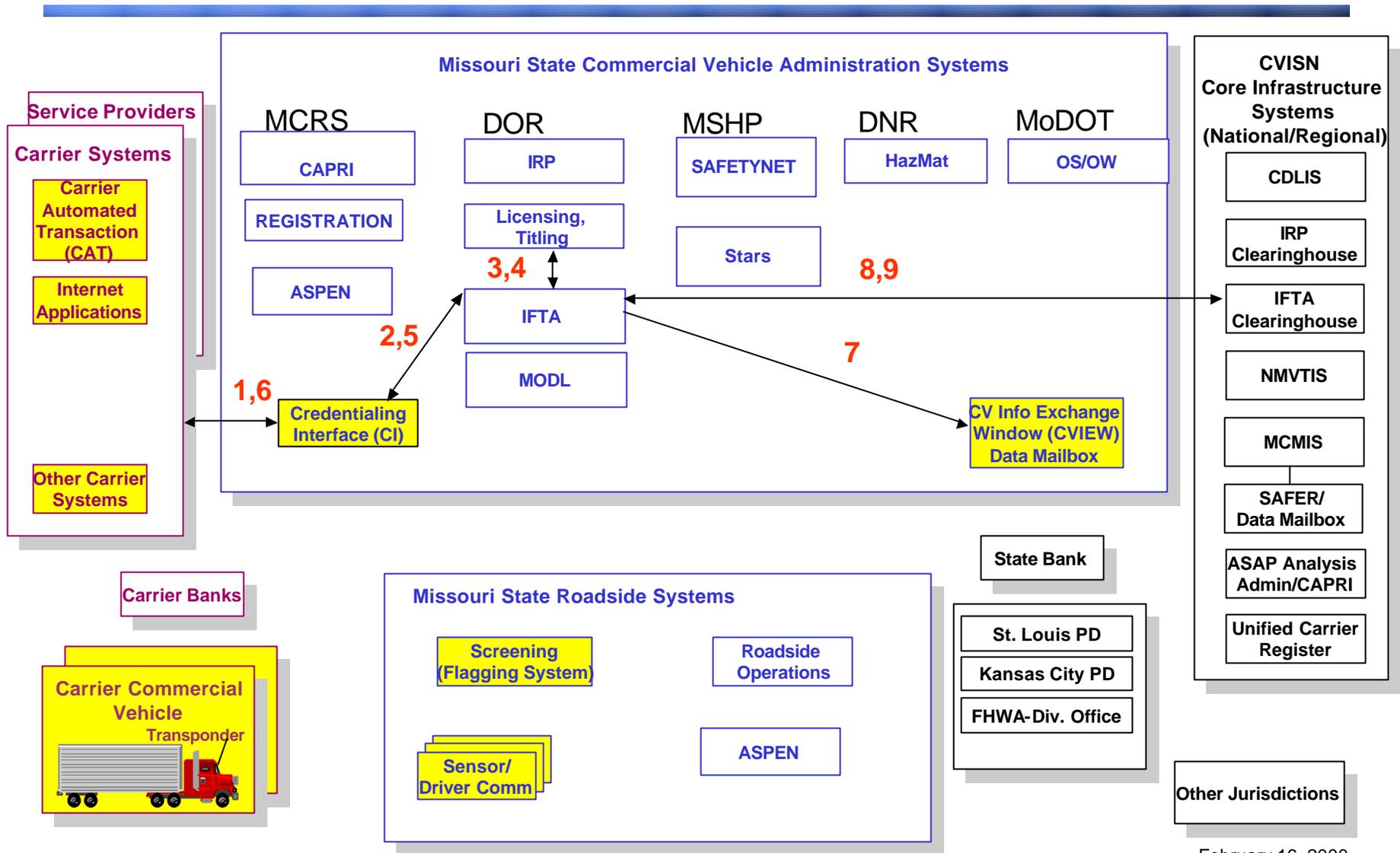
Operational Scenario: IRP Process

7. IRP system sends approval / amount due / info needed message to credentialing interface.
8. Credentialing interface edits / screens message and forwards it to carrier for action.
9. *If needed*, carrier notifies carrier bank of transaction.
10. *If needed*, carrier bank advises carrier interface of transaction.
11. *If needed*, carrier interface advises carrier of pending bank transaction.
12. *If needed*, carrier bank and state's bank perform electronic exchange.

Operational Scenario: IRP PROCESS

13. If needed, state's bank advises IRP of transaction.
14. *If needed*, IRP sends detail information back to finalize transaction.
15. *If needed*, IRP sends verified and detailed bank transaction information to carrier / carrier interface.
16. *If needed*, carrier interface forwards dollar information from transaction to carrier.
17. IRP sends updated information to **CVIEW**.
- 18 / 19. IRP Clearinghouse validation of registration information.

7.9 MO PROPOSED THREAD DIAGRAM IFTA REGISTRATION & RENEWAL

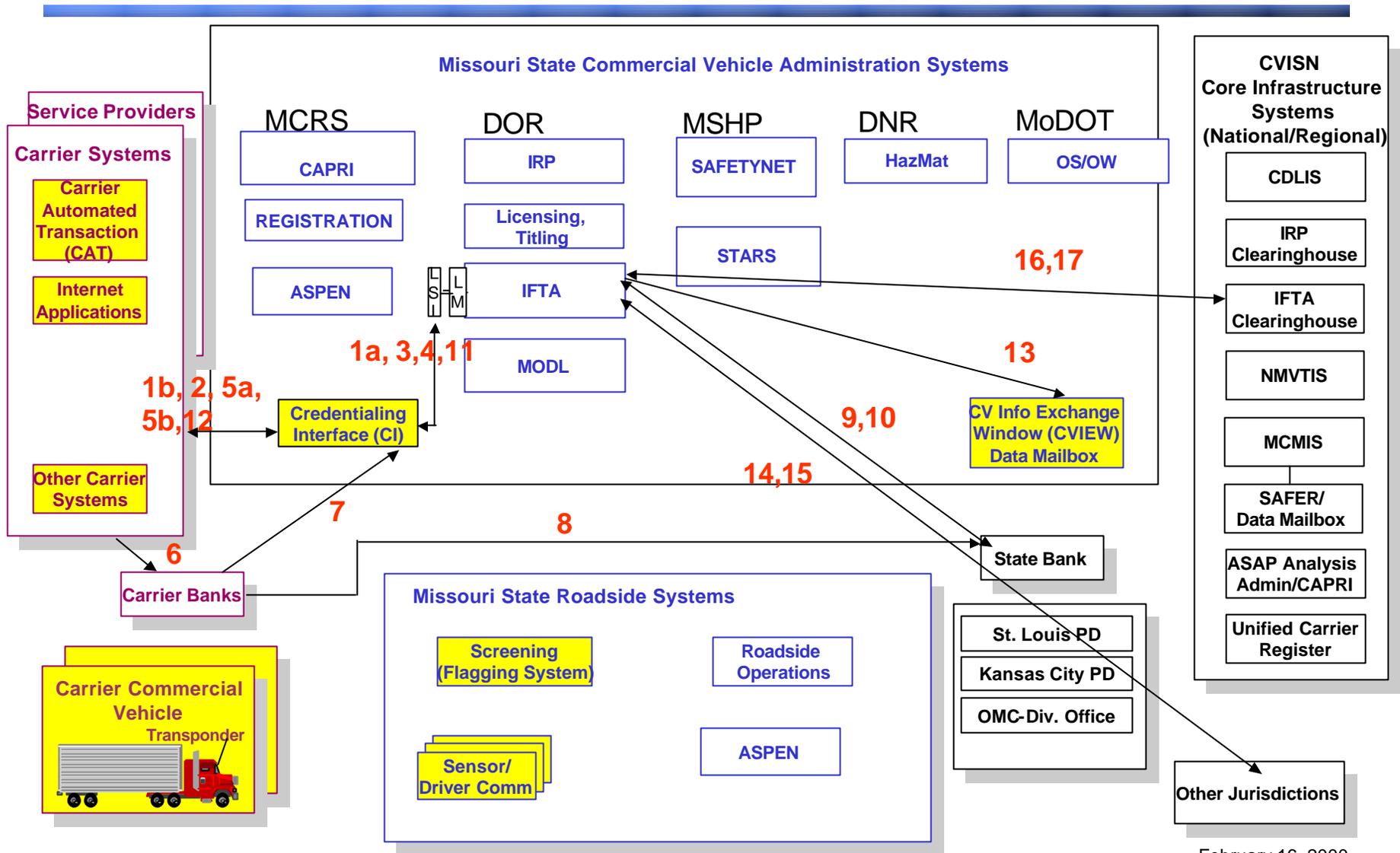


Operational Scenario:

IFTA REGISTRATION & RENEWAL

1. Carrier electronically submits application to state (either directly or through credentialing interface / carrier service).
2. Carrier / Carrier Service to Credentialing Interface which submits information to IFTA system at Department of Revenue (DOR)
3. Simultaneous verification of VIN's using DOR motor vehicle system, HRC system, and/or VIN "edit" software.
4. Verification / validation information returned from DOR system / HRC system and/or VIN "edit" software.
5. IFTA system sends approval info needed message to credentialing interface.
6. Credentialing interface edits/screens message and forwards it to carrier for action.
7. IFTA sends updated information to *CVIEW*
8. IFTA Clearinghouse validation of registration information. Two way exchange (also includes 8 & 9 on template)

7.10 MO PROPOSED THREAD DIAGRAM IFTA QUARTERLY TAX RETURN



Operational Scenario:

IFTA QUARTERLY TAX RETURN

1. (1A and 1B) HRC sends through the credentialing interface IFTA information that is currently on file.
 2. Carrier completes / submits return to state through credentialing interface.
 3. Carrier / carrier service / credentialing interface submits information to IFTA system at DOR.
 4. IFTA system sends approval / amount due / info needed message to carrier to credentialing interface.
- (5A and 5B) IFTA information is transferred from the credentialing interface to the carrier system or service provider.

Operational Scenario:

IFTA QUARTERLY TAX RETURN

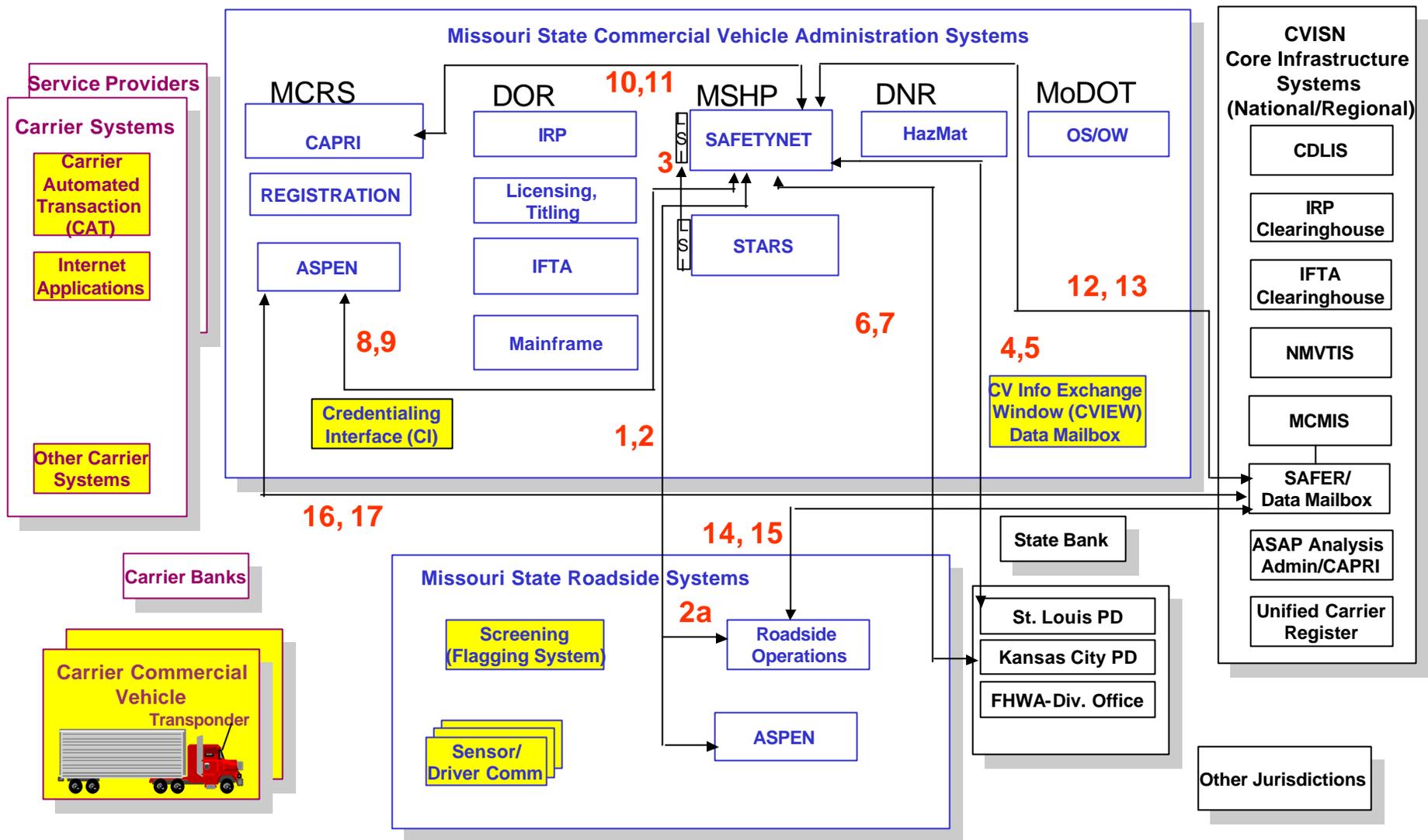
6. Carrier system or service provider sends carrier bank information to initiate payment transaction.
7. Carrier bank submits necessary information to CI to begin financial transaction.
8. Carrier bank submits transaction information to state's bank.
9. State's bank and IFTA system communicate to verify financial transaction.
10. Transaction verification.
11. IFTA system begins communication to Credentialing interface.

Operational Scenario:

IFTA QUARTERLY TAX RETURN

12. CI sends payment verification information from credentialing interface to carrier system or service provider.
13. IFTA updates CVIEW.
14. IFTA initiates communication / distribution information with other jurisdictions not participating in Clearinghouse.
15. Other jurisdictions not participating in Clearinghouse communicate / validate distribution information.
- 16/ 17. IFTA sends / receives updated information

7.11 MO PROPOSED THREAD DIAGRAM INSPECTION/ACCIDENT REPORTING (SAFETYNET)



Operational Scenario:

Missouri Inspection/Accident Reporting (SAFETYNET)

1. Inspections are uploaded to SAFETYNET from ASPEN.
2. ISS (Inspection Selection System) is refreshed on ASPEN from SAFETYNET.
 - A. ISS stand alone applications refreshed from SAFETYNET
3. Commercial Vehicle Accidents are downloaded to SAFETYNET from STARS (TR03).
4. Inspections are uploaded to SAFETYNET from SLPD ASPEN.
5. ISS (Inspection Selection System) is refreshed on SLPD ASPEN from SAFETYNET.

Operational Scenario:

Missouri Inspection/Accident Reporting (SAFETYNET)

6. Inspections are uploaded to SAFETYNET from KCPD ASPEN.
7. ISS (Inspection Selection System) is refreshed on KCPD ASPEN from SAFETYNET.
8. Inspections are uploaded to SAFETYNET from MCRS ASPEN.
9. ISS (Inspection Selection System) is refreshed on MCRS ASPEN from SAFETYNET.
10. MCRS sends Compliance Reviews from CAPRI to SAFETYNET.
11. SAFETYNET sends confirmation/error message to MCRS.

Operational Scenario:

Missouri Inspection/Accident Reporting (SAFETYNET)

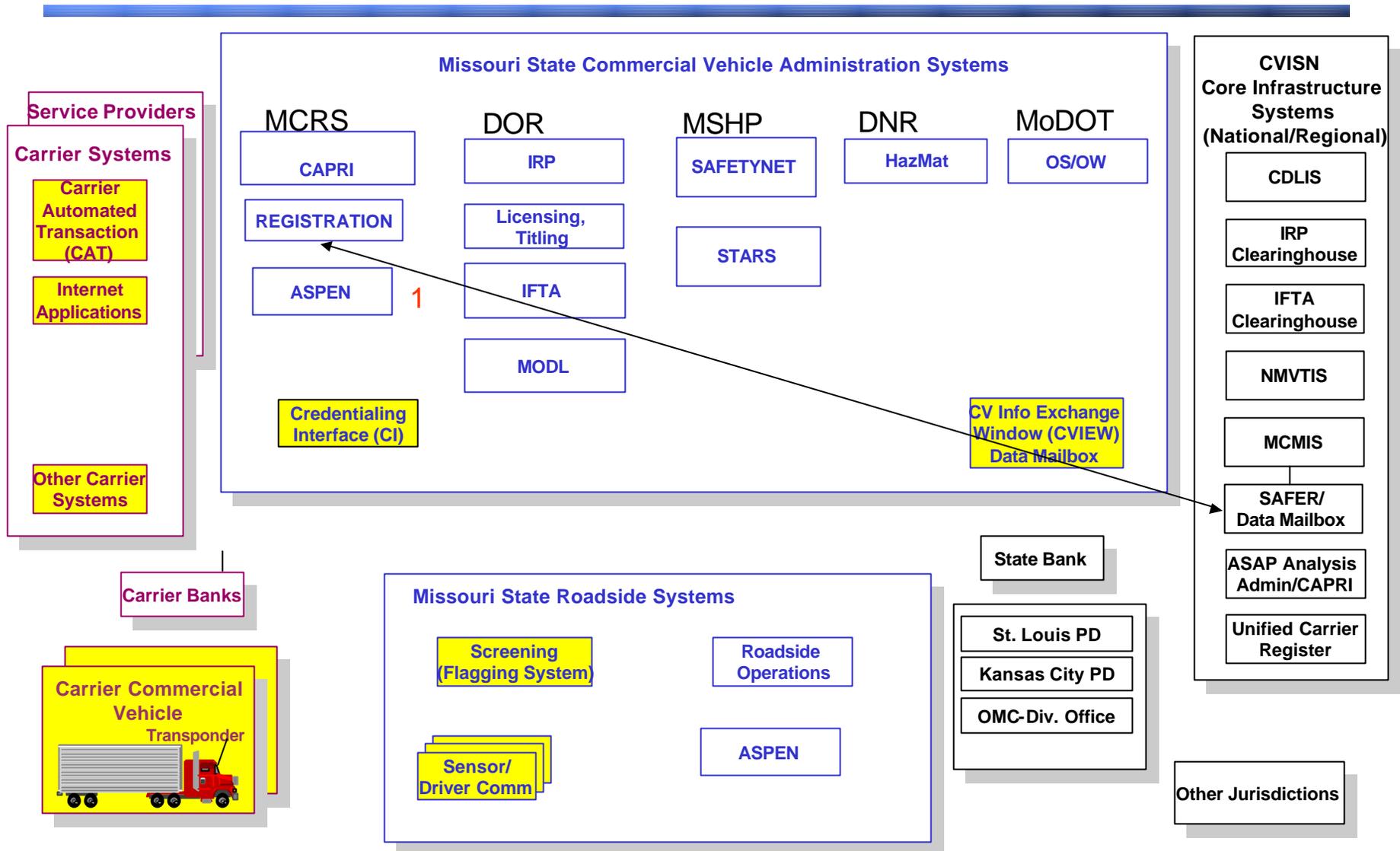
12. Upload of Inspection and Accident reports from SAFETYNET to SAFER.
13. SAFER sends confirmation / error message and MCMIS refresh information to SAFETYNET.
14. Roadside Operations queries SAFER for past inspection information.
15. SAFER sends past inspection response to Roadside Operations.
16. MCRS queries SAFER for past inspection information.

Operational Scenario:

Missouri Inspection/Accident Reporting (SAFETYNET)

17. SAFER sends past inspection response to MCRS.

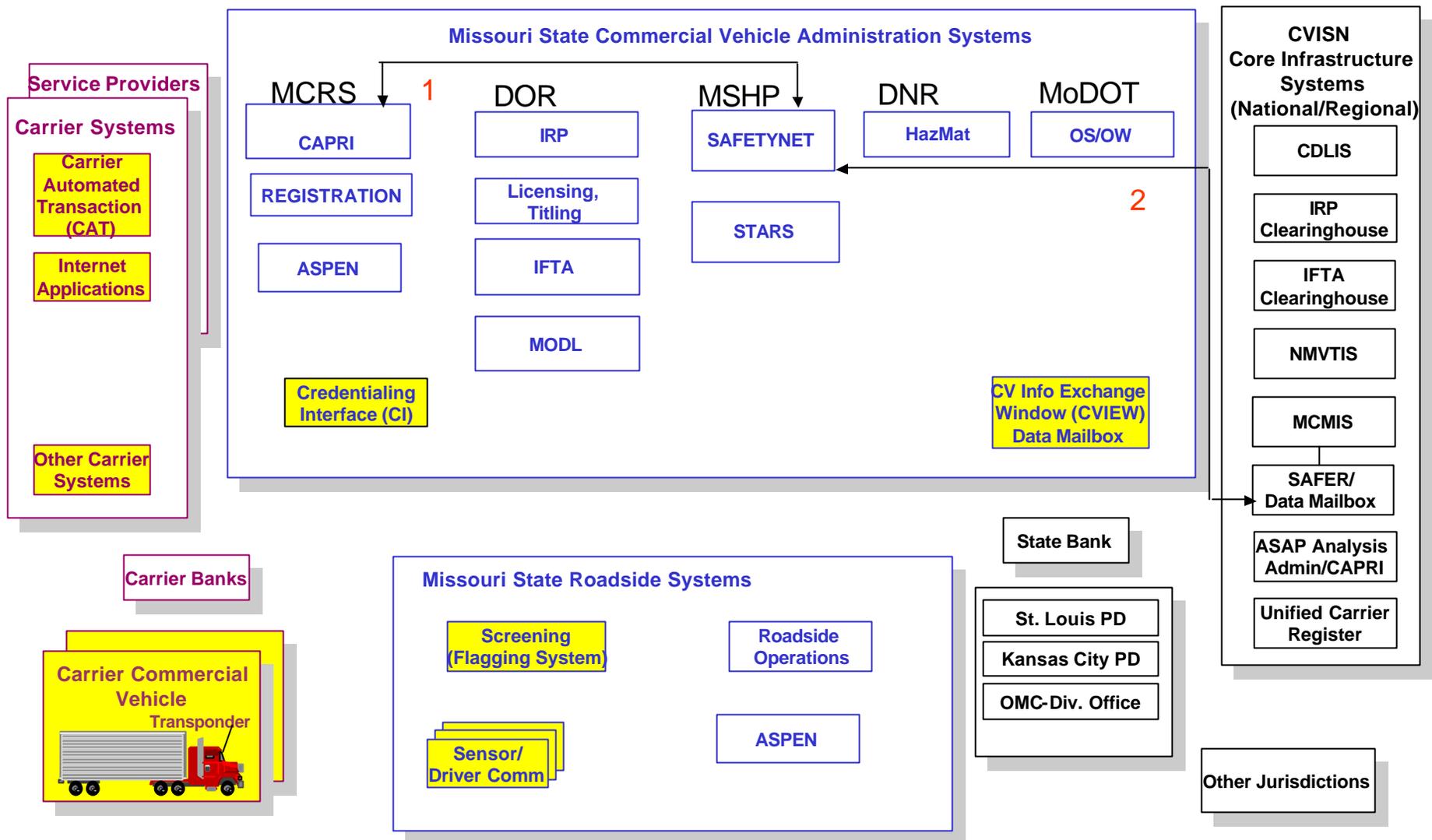
7.12 MO EXISTING THREAD DIAGRAM INTERSTATE REGISTRATION



Operational Scenario: INTERSTATE REGISTRATION

1. Information received is reviewed with information stored in SAFER.

7.13 MO PROPOSED THREAD DIAGRAM CARRIER AUTOMATED PERFORMANCE REVIEW INFORMATION (CAPRI)

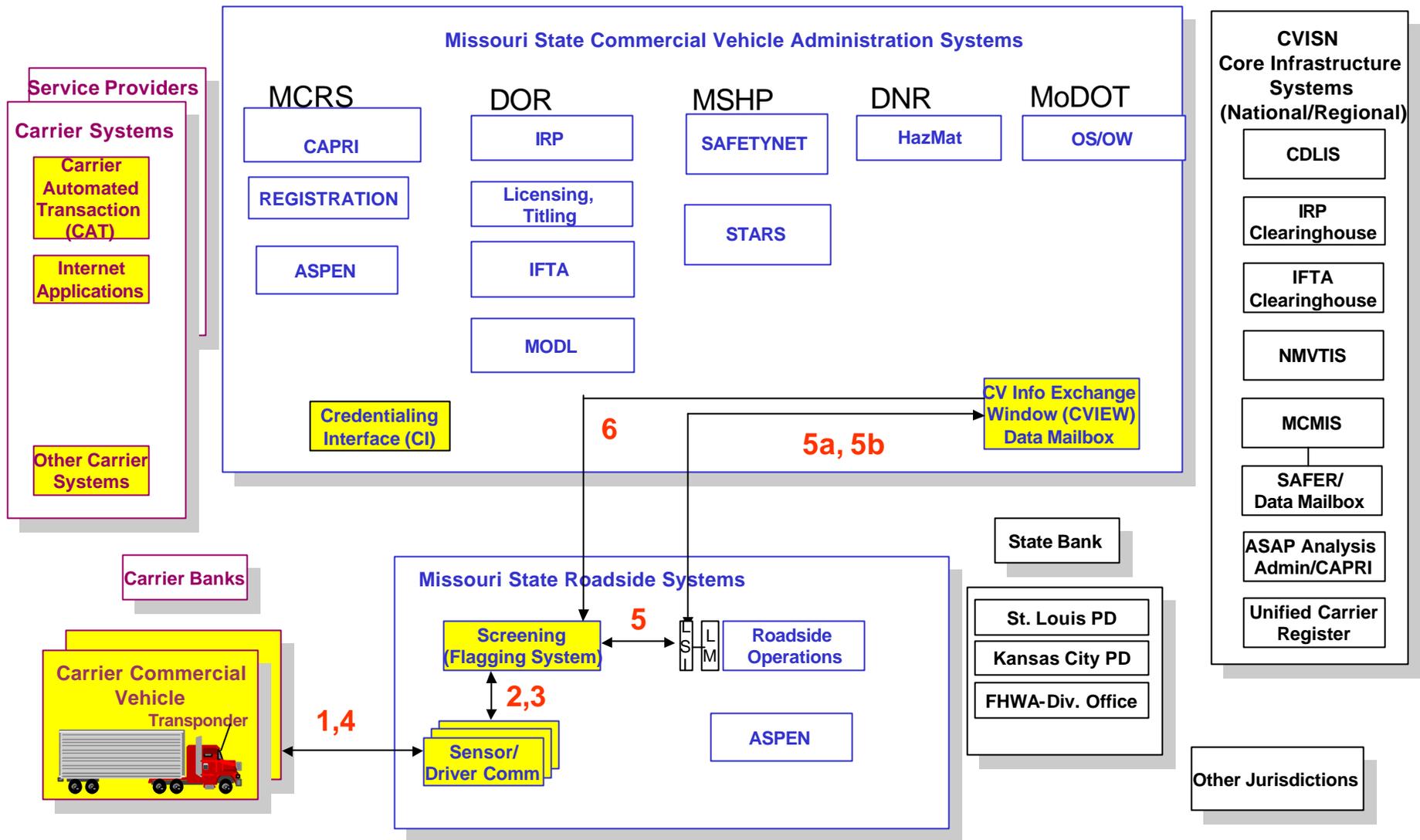


February 15, 2000

Operational Scenario: CAPRI PROPOSED

1. When the Compliance Reviews are completed, they are entered into CAPRI and uploaded to SafetyNet.
2. Intestate and HM Intrastate Compliance reviews prepared for upload to FMCSA via SAFER.

7.14 MO PROPOSED THREAD DIAGRAM ELECTRONIC SCREENING OPERATIONS



Operational Scenario:

Missouri Proposed Electronic Screening Operations

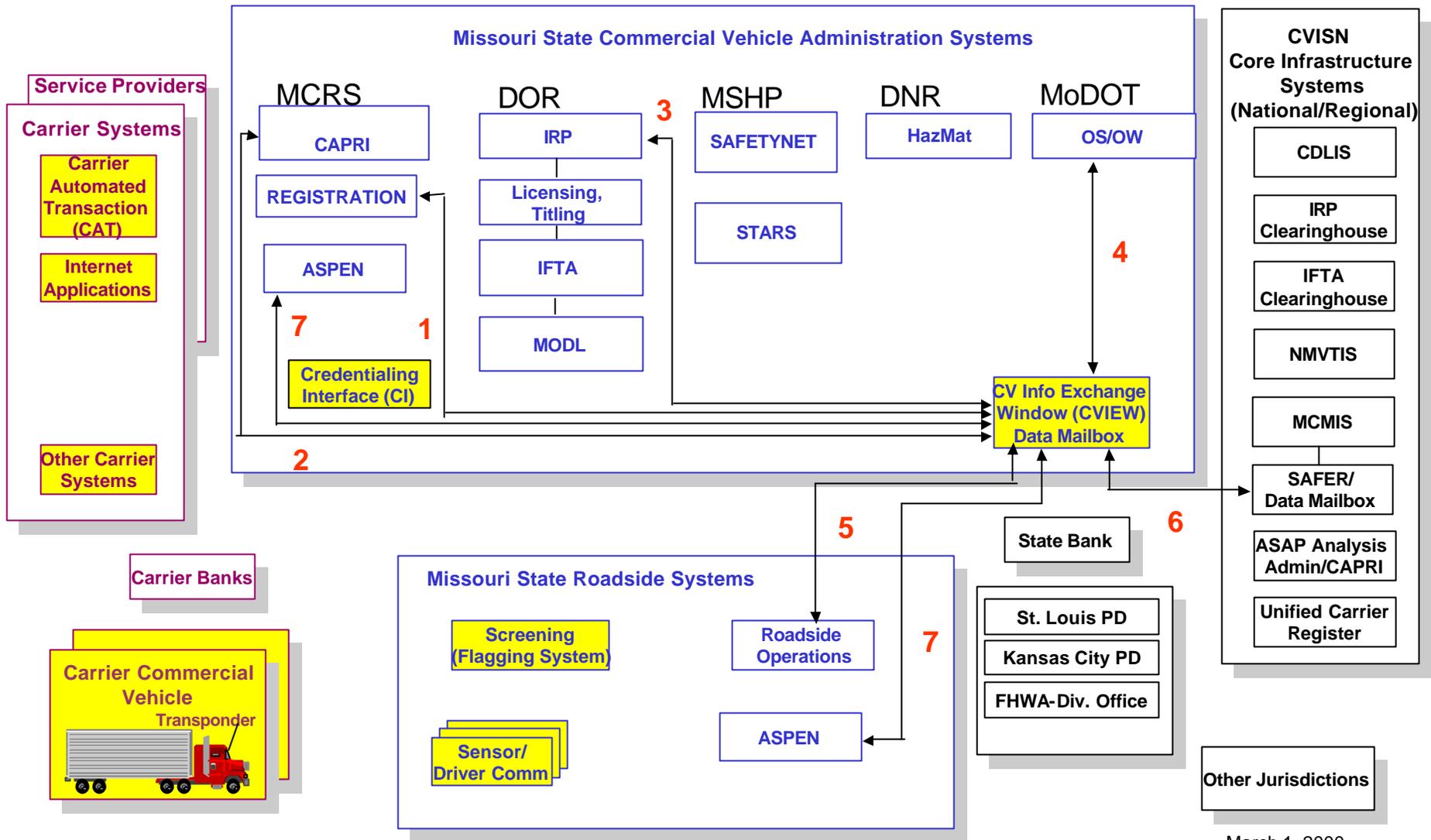
1. Transponder send Carrier/Vehicle ID to Pre-Screening Controllers.
2. Pre-Screening Controllers sends Carrier/Vehicle ID to Flagging System.
3. Screening System sends screening decision to Pre-Screening Controllers.
4. Pre-Screening Controller sends screening decision to vehicle.
5. Screening System sends "Pass"/"No Pass" message to Roadside Operations

Operational Scenario:

Missouri Proposed Electronic Screening Operations

- 5a. Roadside Operations generates a query to CVIEW for “No Pass” Carrier Snapshot(s).
- 5b. CVIEW sends Carrier Snapshot(s) to Roadside Operations.
6. CVIEW refreshes Safety & Credential flags on Flagging System.

7.15 MO PROPOSED THREAD DIAGRAM QUERY FOR A SNAPSHOT



Operational Scenario: QUERY FOR A SNAPSHOT

1. MCRS queries CVIEW for carrier safety snapshot to determine suitability for registration purposes.
2. MCRS queries CVIEW for carrier safety snapshot for compliance review purposes.
3. IRP queries CVIEW for safety responsibility and insurance (Action item 7.2).
4. MODOT queries Cview for carrier safety and credentialing snapshot prior to issuing OS/OW permits.
5. Roadside queries CVIEW for carrier safety snapshot.
6. Agencies request interstate carrier or vehicle information. Safer also queries CVIEW for other state inquiries.
7. Aspen-32 requests Intrastate carrier Snapshot from CVIEW

7.16 Joplin Prototype Project

The Missouri Highway and Transportation Commission (MHTC) is seeking to develop a prototype test in the electronic screening of commercial vehicles. This proposal is being developed to provide the functional specifications, technical specifications, and site design for an electronic screening prototype at the Joplin, Missouri weigh station facility. This prototype will include the implementation of both "Active" and "Passive" Automatic Vehicle Identification (AVI) technology. This project will provide the system compatibility and interoperability with existing national commercial vehicle clearance systems and local regional toll collection systems. . The project to be evaluated will be located in the eastbound outside lane of Interstate 44 at the existing Joplin, Missouri weigh station.

The volumes of commercial vehicles have increased to the point that current weigh station facilities can not handle the volumes of vehicles exiting the highways into the facility. This forces station facility staff to close the station, so that the vehicles within the facility are cleared before the facility is reopened. Thus, due to capacity of the station and safety concerns many vehicles are able to pass without any type of regulatory screening. This poses the question of how to provide a safer and more efficient facility. This is where Intelligent Transportation System (ITS) technologies and in particular electronic screening is targeted as a possible solution to this dilemma. Electronic screening is a mechanism in which commercial vehicles can be weighed and have their credentials checked on the mainline highway at highway speeds using communication technology of electronic devices known as "transponders".

A goal of the state of Missouri is to provide this electronic screening that has compatibility and interoperability with existing national commercial vehicle clearance systems and local regional toll collection systems. The development of these technology issues to reach this interoperability are the basis of this project.

The following principles were outlined in the Request for Proposal for the Joplin Prototype and hold true for the Missouri Electronic Screening Program:

Joplin Prototype Principles

Missouri goal is to read all transponders of commercial vehicles that are equipped with transponder technology

Missouri to operate an electronic screening program that is interoperable and CVISN compatible

Missouri will do credential software that identifies yes/no flags that will be stored in scale house database

Missouri will own subsystem hardware

Missouri to maintain and upgrade all hardware and software

Missouri **NOT** interested in becoming the provider or supplier of transponders to the motor carrier industry. Missouri to outsource this function to third party.

Missouri will **NOT** maintain and upgrade transponders

Joplin site to include interface with weigh-in-motion scale.

The following are deliverables that Missouri is seeking as a result of the Joplin Project:

Proof of Concept Phase

The design team is to provide a proof of concept test report. This report is to detail the testing procedure and the results of this phase of the project. The design team is also being asked to provide the following details in the proof of concept phase of the proposal

Test Design

Provide results from Laboratory Test or Controlled Test

Preliminary Site Design for Joplin

CVISN Consistency Check & Interoperability Check

Joplin Field Test

The design team is to provide proposed site layouts. These layouts should include locations for installation of single or multiple mast arms required for the mounting of Active and Passive antennas and recommended locations for installation of readers. The design team is to provide the separation distance necessary for installation of antennas on the single mast arm which is the desired outcome. If this outcome is not possible, the minimum distances necessary for installation of antennas and mast arms should separation of mast arms be required.

Test Design

Conduct Test

Test Results in the form of a final report

Shop Drawings and wiring diagrams from Test

CVISN Consistency Check & Interoperability Check

Site Specifications and Cost Estimates

The Missouri Department of Transportation is also requesting the design team to provide a brief plan, which is to include site specifications and estimated costs for operating and maintaining Joplin site for a 5 year period to have continued collocation operation after the field test is complete. This brief plan describing the operation and maintaining of equipment at Joplin to be no more than 20 pages.

Site Architecture

Typical site functional and technical specifications (including shop drawings and wiring diagrams)

Typical Site Initial and anticipated recurring costs for a 5 year period

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The design team is to provide a proof of concept test report. This report is to detail the testing procedure and the results of this phase of the project. The design team is also being asked to provide the following details in the proof of concept phase of the proposal

Test Design

Provide results from Laboratory Test or Controlled Test

Preliminary Site Design for Joplin

CVISN Consistency Check & Interoperability Check

Joplin Field Test

The design team is to provide proposed site layouts. These layouts should include locations for installation of single or multiple mast arms required for the mounting of Active and Passive antennas and recommended locations for installation of readers. The design team is to provide the separation distance necessary for installation of antennas on the single mast arm which is the desired outcome. If this outcome is not possible, the minimum distances necessary for installation of antennas and mast arms should separation of mast arms be required.

Test Design

Conduct Test

Test Results in the form of a final report

Shop Drawings and wiring diagrams from Test

CVISN Consistency Check & Interoperability Check

Site Specifications and Cost Estimates

The Missouri Department of Transportation is also requesting the design team to provide a brief plan, which is to include site specifications and estimated costs for operating and maintaining Joplin site for a 5 year period to have continued collocation operation after the field test is complete. This brief plan describing the operation and maintaining of equipment at Joplin to be no more than 20 pages.

Site Architecture

Typical site functional and technical specifications (including shop drawings and wiring diagrams)

Typical Site Initial and anticipated recurring costs for a 5 year period

CVISN Consistency Check & Interoperability Check

Notes

Commitment Level - Filled in by your state to Indicate the degree of commitment to each line item.

(F) Full commitment. At least 80% of the activities associated with this checklist item will comply.

(P) Partial commitment. 50% - 80% of the activities associated with this checklist item will comply.

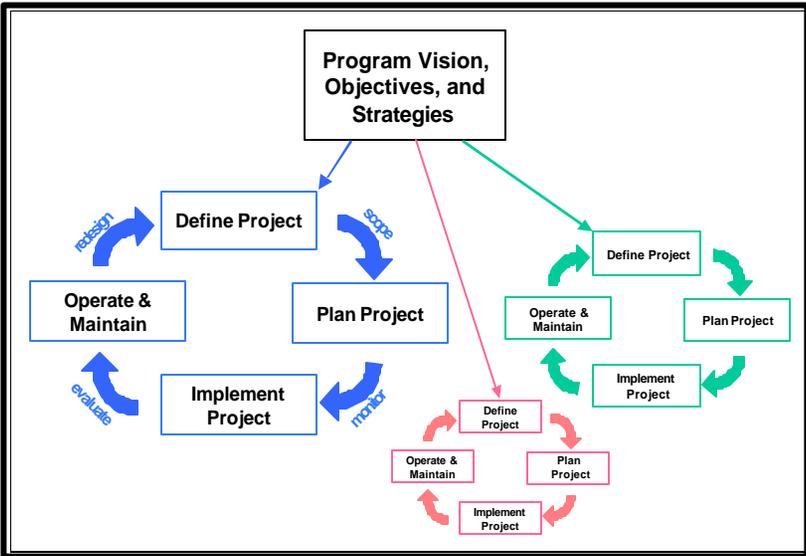
(N) No commitment. Less than 50% of the activities associated with this checklist item will comply.

Being committed implies that there will be a process in place to perform the intended actions.

Taking on the CVISN Program sets in motion a mixture of projects that deploy utility and performance in the three major functional areas, as shown in the figure below.

"Program" Defined -- A group of related projects managed in a coordinated way to obtain benefits not available from managing them individually. Programs usually include an element of ongoing activity. For example, publishing a newspaper is a program; each individual issue is a project. CVISN is a program.

"Project" Defined-- A temporary endeavor undertaken to create a unique product or service. Electronic screening at one weigh station is a project.



A. Management Checklist

Missouri Program/Project Management Checklist		
Commit Level (F/P/N)	Intended Actions	Preparer Comments
F	1. Establish program executive sponsorship. For example an agency head or chief information officer; or a group such as an executive-level steering committee.	Already have established a Standing Committee of the State agencies involved with CVISN activities
F	2. Empower a Program Manager, dedicated to the program at least 30% of the time on average. More time is needed in the startup phase, when a team is new, and if there are many simultaneous projects under the CVISN umbrella. (One state with 20 projects has a full-time Program Manager.)	
F	3. Engage a System Architect, dedicated to the program approximately 80% of the time on average.	Have approval to bring a System Architect on Board
F	4. Engage a facilitator/scheduler/administrator, dedicated to the program approximately 50% of the time on average.	
F	5. When multiple state agencies are involved, establish an inter-agency coordinating council.	Have established a Standing Committee
F	6. Obtain an approved memorandum of agreement among all involved state agencies.	MOA has been signed by all Agencies and Governor
F	7. Establish a state carrier advisory council.	Missouri Motor Carriers Assoc member of Standing Committee
F	8. Recruit interstate, intrastate, and owner-operator carriers to participate in the program before production deployment (both motor carriers and motor coach companies).	
F	9. Where appropriate initiate separate deployment projects under the scope of the CVISN program. For example, deployments in disparate domains such as credentials administration vs electronic screening are likely to be developed by different teams operating as distinct projects.	
P	10. Assign a Project Leader for each separate deployment project, dedicated to each project at least 30% of the time on average. More time is needed in the startup phase.,	
F	11. Provide adequate training opportunities to project team members, such as attendance at FHWA's CVISN training courses and CVISN workshops.	
F	12. Ensure all team members acquire a broad and common understanding of CVISN activities, architecture, and design guidance -- for example, by reading the CVISN Guides, and noting lessons-learned by other states.	
F	13. Foster a sense of professional fellowship and teamwork. Likely to require teambuilding interventions such as a partnering workshop; and periodic face-to-face meetings of geographically dispersed teams.	
F	14. Adopt the strategy of incrementally developing and deploying products in 3-6 month phases, where each phase adds additional CVISN capabilities. This is called the "spiral" development model as opposed to the "linear" model. Refer to the CVISN Guide to Phase Planning & Tracking.	
F	15. Establish a configuration management process for controlling changes to the system baseline; this typically includes a Configuration Control Board. Utilize state's existing configuration control process wherever possible.	
N	16. Set up a program library; obtain needed references identified in the CVISN Guide to Program & Project Planning.	
F	17. Maintain a list of action items, decisions, and issues. (By definition action items require formal	
F	18. Delineate needs for external communications with stakeholders (including the state legislature), and with related projects.	
F	19. Conduct monthly team meetings and status assessments.	
F	20. Track progress versus schedule monthly; strategize accordingly.	
P	21. Conduct quarterly stakeholder progress reviews before a wider audience.	When appropriate
F	22. Monitor actual costs and resource expenditures relative to estimates.	

B. Planning Checklist

Missouri Program/Project Planning Checklist		
<i>This is performed for each project, and aggregated for the CVISN program.</i>		
Commit Level	Intended Actions	Preparer Comments
(F/P/N)		
F	1. Review state's ITS/CVO strategic plan and business plan.	
F	2. Define objectives for CVISN Program.	
F	3. Derive requirements for deployment projects.	
F	4. Establish project development standards, such as design margin as a function of development lifecycle.	
F	5. Define project-specific processes, such as required design reviews, or how to close an action item.	
F	6. Establish a system design baseline. (See the CVISN Guide to Top-Level Design.)	
F	7. Create a program Work Breakdown Structure.	
F	8. Delineate program deliverables, including support documentation and training.	
F	9. Establish a program organization structure, with clear roles and responsibilities.	
F	10. Assign each element of the work breakdown structure to an element of the program organization structure.	
F	11. Develop project-specific "partnering charters" covering four areas: mission statement; communication objectives (e.g. decision-making at lowest possible level); performance objectives (e.g. complete the project without litigation); issue resolution system (e.g. management levels and timeframes).	
F	12. Develop a flexible procurement strategy. Allocate sufficient calendar time for the required steps.	
F	13. Establish a top-level schedule divided into phases; ensure milestones are measurable.	
F	14. Outline high-level objectives for each phase; express in a 1-2 page phases chart that explains capabilities from a user's point of view.	
F	15. Set the stage for the transition to production use and support; such as database backup and restoration, and a user "help" desk.	
F	16. Identify project external dependencies, with their need-by date.	
F	17. Estimate cost and resource requirements first using summary top-down methods, such as historical analogy and manager's judgement. This will initiate the process and set targets.	
F	18. Estimate cost and resource requirements using bottoms-up detailed methods, such as resource-type quantities for each element of the WBS. This will get 'buy in' from the staff, and validate the top-down estimates.	
F	19. Determine potential funding sources and obtain funding commitments	
F	20. Identify both programmatic and technical issues and develop a resolution plan.	
	21. Obtain approval, publish, and distribute program plan document. Include completed COACH Part 2 checklists as an appendix.	Distribute to Whom?
	22. Maintain on each project a Project Leader's notebook with up-to-date copies of essential key charts and diagrams.	Will document, may not be in notebook
	23. Maintain a Program Manager's notebook with up-to-date copies of essential key charts and diagrams.	Will document, may not be in notebook
F	24. Once a year or more often, re-figure the estimate-to-completion.	Part of Budget Process

Missouri Phase Planning & Incremental Development Checklist

This is performed for each project, and aggregated for the CVISN program.

Commit Level (F/P/N)	Intended Actions	Preparer Comments
F	1. Sustain a system perspective -- a vision of the overall CVISN architecture and deployment strategy.	
F	2. Plan, develop, and release incrementally, such that at the end of each phase useful end-to-end functionality is delivered in a way that subsequent phases can build upon.	
F	3. Choose and format the elements of the phase plan such that they are naturally useful for presenting status. For example, the list of deliverables could also include columns for dates, current standing, reasons for change.	
F	4. Employ the rolling wave planning technique, with more detail for the near-term tasks and progressively less detail for the far-term tasks.	Good Idea
F	5. Involve the project staff in the phase planning process, for example in a team-oriented planning session.	
F	6. Review items on the issues list; resolve to the extent possible.	
F	7. Close open action items, to the extent possible.	
F	8. Review items on the decisions list -- as a reminder and to verify they are still relevant and correct.	
F	9. Set phase objectives.	
F	10. Flesh out the applicable lowest-level details of the Work Breakdown Structure.	
F	11. Derive phase requirements; refer to COACH Part 1 checklists and the Program Plan as starting points. Look for alternative design and development approaches.	
F	12. Itemize phase deliverables.	
F	13. Indicate which elements of the system design baseline are to be deployed; update presentation diagrams accordingly.	
F	14. Perform studies to determine whether to make, buy, or modify subsystem components.	
F	15. Develop a detailed schedule for the work to be accomplished during the current phase. Most effectively done by identifying and linking activities per the critical path method, utilizing a desktop scheduling tool. The output can be printed as both a Gantt (bar) chart and a PERT (network) chart.	Will look to a tool, may not be the two listed
F	16. Identify named individuals who will perform the activities in the detailed schedule.	
F	17. Update project external dependencies, with their need-by date.	
F	18. Update the master program phases chart.	?????
F	19. Complete the detailed design for all components and interfaces to be developed or modified in the phase. Start with the top-level design and phase objectives. Use COACH Part 3 checklists as guidance, plus the Scope and Design Workshops.	Will determine when Missouri reviews COACH Part 3 Checklists when they become available
F	20. Define subsystem and component control and data interfaces. Utilize COACH Part 4 for functional allocation.	Will determine when Missouri reviews COACH Part 4 Checklists when they become available
F	21. Conduct technical reviews in order to catch problems as early as possible in the development life cycle.	
F	22. Maintain a strict version numbering system for all products.	
F	23. Maintain stakeholder commitment via visibility into progress by physical demonstrations of useful capability, and by regular management status reporting.	
F	24. Define system acceptance criteria; use COACH Part 5 checklists as guidance.	Will determine when Missouri reviews COACH Part 5 Checklists when they become available
F	25. Conduct operational acceptance tests at the end of each phase; specify re-work if necessary.	
F	26. Conduct a lessons learned session at the end of each phase (as part of planning the next phase).	

8.0 CVISN Products

The Credential Interface and CVIEW will reside within the State information system and physical location will be determined through recommendations of the ITS/CVO Steering Committee. The integrity of both the Credential Interface and the CVIEW will be protected by installing firewalls which also serve to protect the states information network. These firewalls allow connectivity between State Governments, Carrier/Service Providers, Credential Interfaces as well as the CVISN Core Infrastructure Systems.

The Credential Interface (CI) will be accessible to organizations and industry outside Missouri State Government such as Carrier and Carrier Service Providers. The Credential Interface will provide functionality to make application for and secure credentials, permits and operating authority through Internet access using Internet tools or modem dialup via a Carrier Automated Transaction (CAT) system. Access to the Credential Interface using Internet Tools will pass through a WEB CAT linked to the Credential Interface located within the States Network. Carriers through the use of a CAT or WEB CAT will be able to apply for and receive IRP, IFTA, SSRS, Intrastate Operating Authority, OS/OW Permits and send payment information to the appropriate agency and notice of receipt of payment will be provided to the carrier/service provider. The Credential Interface also will allow interested carriers to make application for participation in Missouri Electronic Pre-Clearance program.

CVIEW will be the system used by the state agencies participating in the CVISN program to request a, build and/or refresh intrastate carrier snapshots and reside within the States information system. Agency Division Offices can as well request a interstate carrier snapshots by utilizing CVIEW's connectivity to SAFER as well as the other CVISN Core Infrastructure Systems. This will also allow other states to make specific carrier/vehicle snapshot requests by passing the request through SAFER to the Missouri CVIEW. CVIEW will as well house information on carriers participating in the electronic screening program and will be linked to roadside operations through the patrol's Frame Relay network and the Electronic Screening Flagging System.

CVIEW will refresh carrier's safety and credential per-clearance flags as the information pertaining to carriers/vehicle changes or is updated by the participating agencies. Utilizing the CVIEW as the storage device for safety and credential per-clearance information will enable us to minimize the amount of information needed to be stored and updated at the Electronic Screening Flagging System. The CVIEW will supply officers at roadside with information as to why a carrier/vehicle was denied by-passing the inspection/weighing facilities.

The Highway Reciprocity Commission (HRC), a Division of the Missouri Department of Revenue, is responsible for the administration of the International Registration Plan (IRP) and The International Fuel Tax Agreement (IFTA). Commercial carriers using systems compatible with the state's Credential Interface will be able to apply for, renew, and in the case of IFTA report quarterly in order to obtain renew and maintain credentials

necessary for operation in and through the State of Missouri. Two means of carrier access into the credential interface are to be supported, modem dialup as well as Internet connectivity. Carriers will be able to submit applications to HRC for review and if necessary returned to the carrier for correction. Once accepted HRC can notify the carriers of the necessary fees required to secure the proper credentials, and send payment information and notice of receipt of payment back to the carrier/service provider.

HRC will have and maintain a direct connection to the IRP and IFTA Clearinghouses in order to pass and or update carrier credentialing information and status. This direct connection will as well allow payment information to be forwarded to the clearinghouses and notice of receipt of payment back to HRC. Through the existing state's network HRC will be connected to the CVIEW. This path will allow HRC to input and or update data necessary to establish and maintain intrastate carrier snapshots. As well HRC will be able to provide CVIEW with information needed to allow carriers participating in the Electronic Pre-Clearance Program to bypass weigh stations or be denied bypass based upon credential information. CVIEW will provide a path to the CVISN Core Infrastructure System, if necessary, to look at Interstate carriers safety snapshots.

The Motor Carrier Railroad Safety (MCRS), a Division of the Department of Economic Development, is responsible for the administration of the Single State Registration System (SSRS). MCRS also conduct driver/vehicle inspections and conducts compliance reviews on intrastate carriers and interstate carriers as assigned by the FMCSA. Commercial carriers using systems compatible with the state's Credential Interface will be able to apply for, and renew SSRS and Intrastate operating credentials necessary for operation in and through the State of Missouri. Two means of carrier access into the credential interface are to be supported, modem dialup as well as Internet connectivity. Carriers will be able to submit applications for SSRS and intrastate operating authority to MCRS for review and if necessary returned to the carrier for correction. Once accepted MCRS can notify the carriers of the necessary fees required to secure the proper credentials, and send payment method information and notice of receipt of payment back to the carrier/service provider. MCRS will have and maintain a direct connection to the MCMIS in order to assign Missouri DOT numbers to Missouri based carriers.

Through the existing state's network, MCRS will be connected to the CVIEW. This path will allow MCRS to input and or update data necessary to establish and maintain intrastate carrier snapshots. MCRS will be able to provide CVIEW with information needed to allow carriers participating in the Electronic Pre-Clearance Program to bypass weigh stations or be denied bypass based upon credential information. CVIEW will provide a path to the CVISN Core Infrastructure System to look, if necessary, at interstate carriers safety snapshots. As mentioned, MCRS perform driver/vehicle inspections using the ASPEN and Compliance Reviews using Capri software packages. Completed inspections and compliance reviews are uploaded to the SAFETYNET System located within the Missouri State Highway Patrol's Commercial Vehicle Enforcement Division using modem dialup or through the Internet for preparation and upload to MCMIS. MCRS investigators can, through ASPEN dial into SAFER in order to obtain an interstate carrier snapshot or past inspection that reside within SAFER for 45 days.

The Missouri State Highway Patrol, Commercial Vehicle Enforcement Division is responsible for the management of the SAFETYNET System, operation of fixed weigh stations and has twenty-two mobile portable units. The fixed weigh stations and mobile units conduct driver/vehicle inspections using the ASPEN software. Completed inspections are uploaded to the bulletin board for process and preparation for upload to MCMIS via SAFER Data MailBox. Roadside operations allow for modem dialup, through the ASPEN software, to SAFER for interstate carrier safety snapshots and past inspections. The roadside system enables officers to obtain intrastate carrier safety snapshots that are stored and maintained in the CVIEW system with connectivity through the Frame Relay Network. CVIEW will have intrastate snapshot information. If the officer needs to access the databases of driver license, vehicle license and or operating authority information he/she can query the department files through the Missouri Uniform Law Enforcement System (MULES).

Through the existing state's network MoDOT will be connected to the CVIEW. MoDOT will provide CVIEW with OS/OW permit information needed to allow carriers participating in the Electronic Pre-Clearance Program to bypass or be denied bypass privileges based upon permit restrictions that will be measured at the roadside screening system. The Missouri State Highway Patrol can also access CVIEW to verify permit information at roadside when needed. CVIEW will provide a path to the CVISN Core Infrastructure System to look, if necessary, at interstate carrier safety snapshots.

There will need to be other products developed in conjunction with the CVIEW and Credentialing Interface efforts. Some of these efforts will also be determined whether there can be legacy modifications or Legacy Interfaces need to be developed. The multi-agency task force that is listed in the WBS is working on efforts to identify the best course of action for the state of Missouri. This effort may have a direct impact on the functionality of the CVIEW and Credentialing Interface efforts listed above.

Another item to be developed is the flagging software at roadside to process the vehicles that voluntarily participate in Missouri's Electronic Screening Program. This is another item which will be needed at roadside to develop to query the database of carriers based on the identification number received from the transponder's in the vehicles to determine compliance YES/NO whether to be allowed to by-pass a weigh station facility. There are some other software packages available nationally (NORPASS and Oregon Green Light) which will be investigated, however with Missouri's interest to read all transponders this will need to incorporate efforts from the Joplin Prototype study that is outlined in Section 7.16 of this document.

9.0 Missouri Issues to be Resolved

Throughout the compilation of this document there has been issues identified which the Standing Committee believes that need to be addressed for the CVISN program to be successful not only on the state level but some of these issues have an impact on a national perspective. Some of the issues are within the states influence to resolve others are for others on a national level to resolve.

The first issue is the *Lack of National Standards and Support*. This work is ongoing however it appears that there are many ITS deployments in CVISN and other ITS initiatives that are being developed without standards. The Missouri Joplin Project is one example where there is no standard for transponder technology, which has then developed another issue with *Compatibility of all the Systems*. The national electronic clearance programs such as Heavy Vehicle Electronic License Plate (HELP) and Norpass are not compatible with the toll systems of Oklahoma and Kansas. Thus, the need for a collocation project such as developed by Missouri at the Joplin.

Building versus buying is another issue to be resolved. Some of the products such as the CVIEW, Credentialing Interface, and Flagging Software Processing for Electronic Screening have been developed by other states and private sources. Some are available to be used by other States. Missouri as stated in the Work Breakdown Structure will develop the requirements of their system then review the other available systems and determine if they meet their needs or if developing a new Missouri product is the best alternative.

Clearinghouse participation is something that the Highway Reciprocity Commission has identified as of a concern. Are the states getting what they desire from these Clearinghouses. Missouri is developing a system that will meet the requirements of these Clearinghouses, however there will at some point need to be a budgetary determination made as to whether we participate or not.

Lack of adequate funding is another issue that must be resolved. As mentioned in the Procurement Strategy (Section 6.0), funding needs to be made available. This is both on the state and federal level of funding. The effort to secure funding for the CVISN effort will also require *Enhance Involvement of Management*. Each agency has been working to include the activities outlined in this Program Plan that they are responsible in their respective agencies' Strategic Plan or Business Plan. This effort needs to be coordinated by each agency because of the common links and timelines addressed in the WBS

Desire of industry to put product on the street is the last issue that will be identified in this document. There is a lot of technology available to industry and they are very interested in the State that will allow them to conduct their business more efficiently. At the same time the State must ensure that the processes and technologies being developed in CVISN do not create more burdens on the Motor Carrier Industry.