



Public Utilities Commission of Ohio



Ohio Dept. of Taxation



Ohio Dept. of Transportation



Ohio Dept. of Public Safety

- Ohio State Highway Patrol
- Ohio Bureau of Motor Vehicles

# OHIO \*CVISN BUSINESS PLAN

\*Commercial Vehicle  
Information Systems and  
Networks

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## **EXECUTIVE SUMMARY**

Ohio has aggressively initiated and participated in a variety of ITS/CVO initiatives in recent years. The successes of these projects provide the impetus and enthusiasm to pursue higher forms of technology in addressing issues relating to CVO. This document provides a concise summary of long term strategic concepts, goals, objectives and projects as well as a decision making framework within the context of the ITS/CVO program for Ohio.

### **Ohio's Mission for Commercial Vehicle Operations**

- To achieve safe and efficient commercial transportation operations on public highways and at transportation facilities through effective implementation of motor carrier safety, registration and taxation provisions while maintaining efficiency and effectiveness in motor carrier operations.
- To enhance the growth of commerce in Ohio, the region and the nation through improvements in CVO productivity.
- To ensure quality and equitable service for commercial carriers and the public by maintaining a safe, efficient, accessible and integrated transportation system.

Ohio's ITS/CVO mission is supported by five defined vision elements:

- I. Improve efficiency and effectiveness of CVO through "paperless" electronic credentialing and taxation processes, while maintaining privacy and confidentiality of information.
- II. Improve highway safety through efficient and timely data exchange to help eliminate unsafe and illegal operations.
- III. Enhance CVO productivity, efficiency and effectiveness by improving efficiency in roadside screening for inspections, thereby providing incentives for safe operations.
- IV. Support state, regional and national economic growth and global competitiveness through improvements in CVO productivity.
- V. Facilitate voluntary regulatory CVO compliance of motor carriers by creating a user-friendly environment for agency and industry interactions.

## **Strategic Analysis**

Strategic analysis developed the strengths and weaknesses of the existing systems in Ohio and identified the opportunities and threats for future ITS/CVO program in Ohio. The following key CVO problems and opportunities were identified.

### **Problems**

- Certain aspects of the current credentialing processes are cumbersome, slow and time consuming and involve excessive amounts of paperwork.
- The number of IRP application sites in Ohio is limited and renewal periods are restrictive.
- Safety inspections are not completely uniform or consistent. Carrier selection for safety inspections is not based solely on safety-performance criteria.
- Commercial vehicles may experience long delays at roadside inspections. Unnecessary delays are sometimes imposed on compliant carriers.

### **Opportunities**

- Ohio's regulatory and enforcement processes can be more efficient and effective.
- Higher technology options are available and can be deployed.
- A paperless credentialing environment can be created through electronic one-stop shopping.
- Safety can be improved by targeting high risk carriers more effectively.
- Higher technology will enhance uniformity and consistency in safety inspections.
- Delays at inspection sites can be reduced.
- Enforcement resources can be efficiently utilized.
- Voluntary compliance with safety and economic regulations will be encouraged.
- Increased industry awareness can improve acceptance and participation.

## **Projects**

The following projects are identified to address the problems and opportunities in Ohio.

- Provide on-line, real time motor carrier safety and credentialing information from state, regional and national information bases to enforcement officers at the roadside
- Provide data exchange system utilizing current "snapshots" of carrier, driver, and vehicle data from various agencies to be provided to government and private entities needing the data.
- Upgrade use of roadside screening hardware and software that use safety and credentialing criteria for electronic clearance in the enforcement of safety and economic regulations
- Electronic one-stop shop to fully automate the credentialing, taxation, permitting and payment process and participate in regional and national credentialing (IRP and IFTA) clearinghouses

## 1.0 INTRODUCTION

The purpose of the Ohio ITS/CVO business plan is to develop a safe, effective, efficient and productive system in Ohio that fits within frameworks of regional and national ITS/CVO initiatives. The business plan serves as a concise program summary that achieves consensus on ITS/CVO policies among state agencies and the motor carrier industry and that will allow development and deployment of ITS/CVO projects in a coordinated manner. The business plan identifies specific projects to be undertaken to address the specific CVO problems and achieve the ITS/CVO vision for Ohio.

The business plan was originally organized and developed by the Battelle Memorial Institute in association with a Steering Committee consisting of representatives of the state agencies and the motor carrier industry and associations in Ohio. The Business Plan was subsequently revised by the Steering Committee. The Public Utilities Commission of Ohio (PUCO) is the administrative lead agency in the business plan development effort. The Departments of Taxation, Safety (Bureau of Motor Vehicles and State Highway Patrol), Transportation, and the Ohio Trucking Association supported the development of the business plan. The development of Ohio's ITS/CVO business plan was supported by a grant from the FHWA ITS/CVO mainstreaming funds.

### 1.1 CVISN Background

As part of a national policy initiative, the U.S. Department of Transportation has expressed its intent to spend considerable funds in the next several years to relieve traffic congestion and improve highway safety through the use of electronic technologies. The term “**intelligent transportation systems (ITS)**” is being used to encompass the entire scope of electronic systems which may be utilized to address improvements in the nation's transportation systems.

The ITS concept is broken down into seven major elements:

- ◆ Travel & Transportation Management
- ◆ Travel Demand Management
- ◆ Public Transportation Management
- ◆ Electronic Payment
- ◆ **Commercial Vehicle Operations (ITS/CVO)**
- ◆ Emergency Management
- ◆ Advanced Vehicle Control & Safety Systems

The ITS/CVO element includes the ITS technologies which uniquely support Commercial Vehicle Operations (CVO). The **scope of CVO includes** the operations associated with moving goods and passengers via commercial vehicles over the North American highway system and the activities necessary to regulate these operations. It includes activities related to safety assurance, commercial vehicle credentials and tax administration, roadside operations, freight & fleet management, and vehicle operation. The term “commercial vehicle information systems and

networks (CVISN)” refers to the ITS information system elements that support CVO.

CVISN is essentially information system elements that support commercial vehicle operations. This includes information systems owned and operated by governments, motor carriers, and other stakeholders. CVISN is not a new information system, but rather a way for existing systems to exchange information through the use of standards and the US commercially available communications infrastructure. CVISN will enable government agencies, the motor carrier industry, and other parties engaged in CVO safety and regulation to exchange information and conduct business transactions electronically.

The proposed use of these new technologies to support commercial vehicle operations (CVO) centers on two primary areas:

- **Electronic exchange of business transactions** among motor carriers, government agencies, and related entities such as insurance companies and banks, and
- **“On highway” systems** to expedite and improve safety of motor carrier operations, such as electronic “pre-approval” for safe trucks to bypass weigh stations.

**The CVISN Program is proceeding in five major steps.** The first step develops the management (plans) and technical (architecture) frameworks necessary to coordinate the subsequent phases. The second step is to prototype the technology in an integrated way in two states (Maryland and Virginia) to demonstrate operational concepts and validate requirements. The third step, ongoing at this time, is to pilot the approach in a limited number of "model" states. This allows testing and evaluating in a project of manageable size before proceeding to widespread deployment. The fourth step, expansion, will expand from the model states to a number of partner states. This should be a smooth expansion, since each partner state will be coordinating with a model state in the same region. The final step allows for deployment to all interested states.

### **Expected Benefits for State Governments**

1. Data interchange among states, carriers, financial institutions, and insurance carriers will be electronic and efficient.
2. Administrators and enforcement personnel will have electronic access to required data.
3. Enforcement resources can be focused on high risk carriers and drivers.
4. Credentials issuance, taxation, inspections, and compliance reviews will be automated to proceed more efficiently.
5. Better enforcement of weight, size, safety, and tax regulations.
6. In the long term, re-engineered policies and practices can be based on measured data and careful analysis.

### **Expected Benefits for Motor Carriers**

1. Reduced administrative burden in regulatory compliance.
2. Vehicles of safe and legal carriers will incur less delay.
3. Technology investment can support multiple services.
4. Uniformity of services across North America.
5. Focus on unsafe carriers will “level the playing field.”
6. Reduction in exposure to lane change movements at inspection sites.
7. Increased commercial vehicle fuel efficiency.

## **2.0 BUSINESS PLAN DEVELOPMENT PROCESS**

*This section describes the steps involved in developing the ITS/CVO business plan for Ohio.*

The lead agency (PUCO) established a Steering Committee which consisted of representatives of the motor carrier industry and representatives of all state agencies with CVO responsibilities. The consultant worked closely with the Steering Committee in developing the business plan. The development of Ohio's ITS/CVO business plan involved five major steps as discussed below.

### **2.1 Development Of Strategic Concepts**

The first step developed the strategic concepts. This step consisted of defining the overall long-range mission statement for ITS/CVO for Ohio; developing the underlying assumptions ("guiding principles") for program development; outlining the broad achievements (goals) desired; and establishing specific objectives within the goals. The guiding principles were developed as elements of the vision for the future in ITS/CVO. The development of the strategic concepts formed the basis for the data collection effort and definition of projects in the subsequent steps.

### **2.2 Data Collection**

The second step was data collection. This consisted of five elements (i) kick-off workshop; (ii) literature review; (iii) interview; (iv) site visits; and (v) focus groups.

*Kick-off workshop:* The kick-off workshop was held for representatives of all stakeholders to present and discuss the strategic concepts and outline the potential benefits to the state agencies and motor carrier industry. This workshop was conducted to encourage participation and buy-in of stakeholders in the ITS/CVO program for Ohio. The workshop provided the opportunity for the stakeholders to start communicating. This effort was necessary to facilitate agreement on the guiding principles, common goals and objectives for the ITS/CVO program for Ohio.

*Literature review:* Available literature on ITS/CVO was reviewed to develop a "best practices" white paper of ITS/CVO implementation that focused on Ohio's vision. Recent developments including ITS early deployment plans, CVISN deployment plans in pilot states as well as business plans from other states were reviewed.

*Interview:* Data was gathered through interviews of state and industry representatives. The questionnaire was structured to capture information relating to current practices and responsibilities; type, level and plans for future deployment of technology relating to CVO; problems and concerns relating to ITS/CVO; and strategies or opportunities for overcoming barriers. Separate questionnaires were used for state agencies and motor carriers.

*Site visits:* As part of the data collection effort, on-site visits were made to weight and safety enforcement locations: one to a weigh scale that employs mainline automated screening (i.e., part of the Advantage CVO program) and one visit to a weigh scale that has no ITS/CVO technology.

These site visits provided first hand information on the functioning of the existing roadside systems, any technical problems and insights for future modifications. These visits also provided the opportunity to solicit opinions from the enforcement personnel and drivers.

*Focus groups:* Data collected through the interviews was then reviewed and refined through focus groups. Two focus groups were used, one for private sector CVO stakeholders and one for state agencies. These groups were identified in consultation with the Steering Committee. This effort was essential to ensure that there is reasonable agreement on the issues and concerns identified during the individual interviews. The results are summarized in Appendix A.

### **2.3 Data Analysis**

The third major step was the analysis of data. This involved procedural analysis to determine specific CVO problems from the agency and motor carrier standpoints in Ohio that can be addressed through ITS/CVO implementation. This was followed by strategic analysis to identify the strengths and weaknesses of the CVO systems in Ohio and the opportunities for addressing these problems and the potential threats. The Strength, Weakness, Opportunity and Threat (S.W.O.T.) analysis allowed the vision elements of Ohio's ITS/CVO program to be aligned to the opportunities, threats and CVO problems in Ohio. The strategic analysis develops the organizations strategic path towards realizing the vision elements. Results of the S.W.O.T. analysis are also attached in Appendix A.

### **2.4 Project Definition**

The fourth step defined the projects to address the CVO problems based on the S.W.O.T. analysis. This involved two items (1) identification of the relationship between the vision elements and the four major ITS/CVO functional areas; and (2) definition of projects under each major area. Concepts for the individual projects for each of the major areas are described as part of this task. Information from the "best practices" was used to develop the concepts. The use of "best practices" information is to ensure conformity and compatibility with the nationwide effort to create a coordinated information system for CVO. The projects were assessed based on a set of criteria relating to cost, resources, technology, simplicity, etc. A schedule for project deployment was then generated.

### **2.5 Report Writing**

The final step in the business plan development process combined the findings from the previous steps into a draft business plan. This was then reviewed and revised by the Steering Committee before a final report was prepared summarizing the ITS/CVO business plan for Ohio.

### **3.0 DESCRIPTION OF THE STATE**

*This section describes the existing systems relevant to the functional areas of ITS/CVO. The relationships to regional and national ITS/CVO initiatives are first outlined. The current CVO activities and issues and opportunities that impact CVO in Ohio are discussed.*

#### **The Nation**

As part of the national policy initiative, the U.S. Department of Transportation has expressed its intent to spend considerable funds in the next several years to relieve traffic congestion and improve highway safety through the use of intelligent highway system technologies. The scope of the CVO component of the ITS technologies includes operations associated with passenger and freight movement via commercial vehicles and the activities necessary to regulate these operations. The national ITS/CVO goals and objectives recognized four elements as producing benefits through improving highway safety, streamlining credentials and tax administration, reducing congestion costs for motor carriers, and ensuring regulatory compliance and equitable treatment. The national ITS/CVO goals are accomplished within a framework defined by safety assurance, credentials administration, electronic clearance, and carrier operations.

#### **The Region**

Ohio is a member of the Great Lakes truckshed, the Advantage CVO States and the Alliance CVO Mainstreaming. The geographic location of Ohio places it in a central position providing an essential link to East-West freight movement in the US and North-South international trade between the U.S. and Canada. The region is composed of industrial states in the Midwest and industrializing states in the Southeast. Ohio has established a record of working with public-private partnerships to accomplish CVO goals in the region. For example, the Advantage CVO (formerly Advantage I-75) project is a multi-state project in the region, and involves interactions between state agencies and governments with the motor carrier industry.

#### **The State**

With seven major Interstate highways (I-70, 71, 75, 76, 77, 80 and 90) and being situated in a primary East-West commercial traffic corridor, Ohio is a showcase of commercial highway transportation. Often referred to as the "crossroads of the Nation", Ohio is centered among U.S. commercial and population concentrations. Ohio's participation in regional and national ITS/CVO initiatives are expansions of the existing projects relating to applying ITS technologies to the regulations and enforcement of Federal safety regulations. *Ohio has established a "track record" of success in unique technology-related projects. These include: the Advantage I-75 mainline automated clearance project, initiation of the fax back customer service for carriers, piloting the multi-state adoption of the Single State Registration System (SSRS) projects, pilot state in the implementation of the ASPEN and ISS software, pilot state in the Uniform Hazardous Materials Transportation permit project, and introduction of an electronic application for oversize / overweight (OS/OW) permits.*

Approximately 365,000 general purpose non-International Registration Plan (IRP) commercial vehicles are registered in Ohio in addition to 47,000 truck tractors and 115,000 commercial trailers (527,000). Ohio has a total of 113,435 miles of highways. About 11,000 companies are registered in Ohio with the FHWA. Approximately 1,000 "for hire" busses are based in Ohio, along with over 2,000 private buses. State agencies and their responsibilities for the various administrative and enforcement processes of the motor carrier safety and economic regulations are discussed in the following sections.

### **3.1 Current State CVO Program**

This section outlines CVO programs in Ohio. Highlights of current administrative and enforcement procedures are provided. Existing CVO projects in Ohio that are ITS oriented are also listed. Currently, processing of various types of applications for permits, licenses and registrations for commercial motor vehicle are handled by four separate state agencies. Enforcement of the regulations is jointly handled by the PUCO and the Ohio State Highway Patrol Division of the Department of Public Safety. The agencies and their responsibilities are summarized in Table 3.1.

Transactions involving for-hire operating authority and insurance filings are handled via mail or facsimile by the PUCO. This includes the SSRS and the intrastate registration. The PUCO also administers Hazmat permits. As one of the original states in the Uniform Hazardous Materials Transportation Procedures ("The Alliance"), Ohio has developed extensive, unique data and administrative systems for base-state and federal registration of Hazmat carriers. These transactions are handled via mail and fax, but the extensive data system for state use has been developed with the intent of later utilization for a variety of "external" services for carriers and other potential users. The database referred to as the Hazmat Alliance Registration and Permitting System (HARPS) is being redesigned by RS Information Systems (RSIS) Inc., with funding from FHWA to conform with ITS standards.

Vehicle registration and operators' licenses are responsibility of the Bureau of Motor of Vehicles (BMV) of the Department of Public Safety, mostly through private-party deputy registrars under contract to BMV. The IRP transactions are handled through the Lockheed Martin Corporation IRP Center, and intrastate commercial vehicle registrations through the local deputy registrars. These transactions are handled via mail or in person. Lockheed Martin provides a "turn key" IRP center for the state; i.e., it provides all personnel, hardware, and software for IRP processing. Currently, there is no direct electronic communication between the IRP Center and carriers. The current BMV contract with Lockheed expires in 1999. Commercial vehicle driver licenses (CDL) are also processed in person by local deputy registrars.

The Ohio Department of Taxation (ODT) issues fuel use tax (FUT) and the International Fuel Tax Agreement (IFTA) permits and accepts related tax filings from carriers. ODT processes the information through Lockheed Martin Corporation. Data entry is performed by state employees, and Lockheed software is utilized for recordkeeping and calculations. These transactions are

handled via mail or facsimile. The Ohio Department of Transportation (ODOT) issues oversize / overweight (OS/OW) permits. The system allows for electronic application submissions and receipt for frequent-users. This system utilizes a software system developed for and operated by ODOT.

Electronic mainline screening of participating trucks is available at two scale sites in Ohio as part of the Advantage CVO program (Hancock and Wood counties). Mainline weigh-in-motion (WIM) is included. This experience has created the opportunity to develop strong cooperation with carriers that can be relied upon in developing and experimenting with new systems for roadside inspections.

Safety inspections and roadside enforcement are carried out by the Ohio State Highway Patrol in association with the PUCO. Ohio is the first state to utilize the ASPEN software to input all MCSAP roadside inspection data into portable computers at the roadside and to upload the information electronically to Safetynet. Currently, 75 inspectors utilize the ASPEN program to conduct about 65,000 safety inspections annually. Once the inspection data is uploaded to Safetynet at the state level, the information is automatically processed to generate fax-back copies to carriers requesting that service, and generate violation information for Ohio's unique civil forfeiture system.

Since motor coaches are not inspected at fixed scale sites in Ohio (destinations such as amusement parks, are used). those carriers are less affected by CVISN potential changes in roadside screening. However, passenger carriers will be able to take advantage of the same electronic one-stop shop features as other carriers in credentialing processes. The trade association representing motor coaches is being kept informed of potential CVISN developments and will participate in the planning process as needed.

**Table 3.1 Regulatory and Enforcement Functions of State Agencies**

<b>Function Area</b>	<b>State Agency</b>	<b>Responsibility</b>
<b>Administrative</b>	Department of Public Safety: Bureau of Motor Vehicles	<ul style="list-style-type: none"> <li>• IRP (Lockheed)</li> <li>• CDL</li> </ul>
	Department of Taxation	<ul style="list-style-type: none"> <li>• IFTA (Lockheed)</li> <li>• FUT (intrastate tax)</li> </ul>
	Department of Transportation	<ul style="list-style-type: none"> <li>• OS/OW permit</li> </ul>
	Public Utilities Commission of Ohio	<ul style="list-style-type: none"> <li>• SSRS</li> <li>• Hazmat permit</li> <li>• Intrastate registration</li> <li>• Operating authority</li> </ul>

<b>Enforcement</b>	Department of Public Safety: Ohio State Highway Patrol	<ul style="list-style-type: none"> <li>• Roadside inspections</li> <li>• OS/OW enforcement</li> </ul>
	Public Utilities Commission of Ohio	<ul style="list-style-type: none"> <li>• Safety inspections</li> <li>• Hazmat inspections</li> </ul>

ITS/CVO projects that are currently being implemented in Ohio include the following:

- Electronic application and issuance of OS/OW permits by the Department of Transportation,
- Participation in the Advantage CVO program involving mainline automated clearance systems (MACS) at two weigh stations,
- Deployment of lap-top computers and ASPEN, ISS, CDLIS software for almost all safety inspectors in Ohio,
- Hazmat inspection specialists equipped with lap top computers and ASPEN, CAPRI, CDLIS, MCREGIS and other FHWA programs
- Development of extensive data and administrative systems for base-state and federal registration of hazmat carriers. The system is being upgraded on contract by RS Information Systems (RSIS) with funding from FHWA to conform with ITS standards.

Ohio's ITS/CVO plans are defined as projects in this business plan. The major thrust is to move further to deploy systems that improve safety, efficiency and productivity in CVO through the development and deployment of technologies that improve efficiency in the state agencies' credentialing, safety information exchange and roadside inspections functions.

### ***3.2 Issues and Options***

Major issues that affect the administration and enforcement of CVO regulations may typically present both opportunities and obstacles to the application of ITS technologies. In Ohio, those issues include the following:

- The Department of Taxation has undertaken an in-house effort to completely redesign the structure and format of all databases included in the Department's system of tax information databases (ITAS). This effort presents an opportunity for the application of ITS technologies. The fact that the ITAS project has been undertaken, knowing full well that it will impact the most mission critical system of databases within the Department, indicates the existence of a top level commitment to change that can benefit the CVO initiative. The ITAS project provides an excellent opportunity to rework the IFTA and FUT databases consistent with the

national and regional CVISN standards.

- The Department of Taxation currently contracts with Lockheed Martin Corporation for the processing of IFTA applications. That contract expires in August of 1999. The expiration of that contract provides an opportunity to utilize ITS technology to change the method of processing IFTA applications without conflicting with contractual obligations.
- The Bureau of Motor Vehicles of the Department of Safety currently contracts with Lockheed Martin Corporation for the "turnkey" processing of IRP applications. Lockheed Martin Corporation is also the service provider for a number of states that are CVISN prototype or pilot states. The company's experience in developing CVISN compatible interfaces with state legacy systems provides a great opportunity for Ohio's ITS/CVO program.
- The Bureau of Motor Vehicles has not yet officially addressed the issue of electronic registration of motor vehicles; however, the value of this method is recognized and preliminary discussions have started. Electronic intrastate registration could impact the local deputy registrars (through possible reduction in their fees). The deputy registrars are a vital link in the BMV licensing and registration process.
- The Department of Transportation has developed an ITS strategic deployment plan for the I-71 corridor in Ohio. Preliminary plans include commercial vehicle electronic clearance, roadside CVO safety and driver / vehicle safety monitoring components. These are consistent with the ITS/CVO vision elements for Ohio and the core features are in compliance with the national ITS infrastructure. The deployment schedule includes short and long term projects. Short term projects to be implemented by the end of 1999 include electronic clearance and weigh-in motion. Experiences from these projects will be useful in CVISN deployment in Ohio.

## **4.0 MISSION STATEMENT FOR ITS/CVO FOR OHIO**

*This section describes the strategic concepts for the ITS/CVO program for Ohio. The mission, guiding principles, goals and objectives are described.*

### **4.1 The Mission**

- To achieve safe and efficient commercial transportation operations on public highways and at transportation facilities through effective implementation of motor carrier safety, registration and taxation provisions while maintaining efficiency and effectiveness in motor carrier operations.
- To enhance the growth of commerce in Ohio, the region and the nation through improvements in CVO productivity.
- To ensure quality and equitable service for commercial carriers and the public by maintaining a safe, efficient, accessible and integrated transportation system.

### **4.2 Vision Elements**

Ohio's vision for ITS/CVO is composed of a number of defined elements which can be used to evaluate potential ITS/CVO projects in the state. These elements represent the guiding principles or assumptions underlying the development of the business plan. The elements are:

- I. Improve efficiency and effectiveness of CVO through "paperless".electronic credentialing and taxation processes, while maintaining privacy and confidentiality of information.
- II. Improve highway safety through efficient and timely data exchange to help eliminate unsafe and illegal operations.
- III. Enhance CVO productivity, efficiency and effectiveness by improving efficiency in roadside screening for inspections thereby providing incentives for safe operations.
- IV. Support state, regional and national economic growth and global competitiveness through improvements in CVO productivity.
- V. Facilitate voluntary regulatory CVO compliance by motor carriers by creating a user-friendly environment for agency and industry interactions.

These guiding principles or vision elements are used to tailor the goals and objectives of Ohio's ITS/CVO program. The specific multiple objectives that embody the goals are identified. These broad goals and objectives associated with each vision element are discussed in this section. These guiding principles are in agreement with the "CVISN Guiding Principles" as developed and published by the ITSA/ CVO Program Subcommittee. Those principles have been accepted and adopted by the Ohio CVISN Steering Committee to ensure that all CVISN activities in Ohio will be conducted in accordance with these guiding principles.

***I. Improve efficiency and effectiveness of CVO through "paperless" . electronic credentialing and taxation processes, while maintaining privacy and confidentiality of information.***

This vision element is seen is an embodiment of the overriding goal of the ITS/CVO program to streamline and improve CVO in Ohio. This element is directed at the opportunities for paperless processes for both state agencies and motor carriers.

Broad goal: Improve efficiency and effectiveness in administrative processes including registration, credentialing and taxation through electronic applications without creating additional information requirements or compromising confidentiality.

Objective: Implement an "electronic one-stop shop" for credentialing, permitting and payment functions.

Objective: Reduce the steps, time and effort required by industry and state agencies to fulfill regulatory obligations.

Objective: Reduce administrative burden on the part of motor carriers in complying with safety and economic regulations.

***II. Improve highway safety through efficient and timely data exchange to help eliminate unsafe and illegal operations.***

This element extends the opportunities for improving highway safety through effective screening for safety enforcement based on accessibility to and timely delivery of real time safety data. Carriers with good safety performance records will experience efficiency in their operations by virtue of the ability of enforcement personnel to easily identify and target less safe operators. Similarly, unsafe operators will be more effectively identified and removed from operation.

Broad goal: Improve highway safety of CVO.

Objective: Reduce the rate and severity of crashes involving commercial vehicles in Ohio.

Objective: Improve motor carrier voluntary compliance with safety regulations.

Objective: Provide a real-time safety information exchange system to facilitate roadside screening to identify and target high-risk carriers for inspections.

Objective: Implement reliable high speed communication systems and data transfer technologies.

***III. Enhance CVO productivity, efficiency and effectiveness by improving efficiency in roadside screening for inspections thereby providing incentives for safe operations.***

A major component the ITS/CVO program is directed towards enhancing economic growth through improvement in productivity and efficiency in freight movement by trucks. This element is perceived as one of the high priority areas by virtue of its relationship with safety. The element has as its central focus, streamlining enforcement procedures through the application of ITS technologies so that parallel benefits to private and public sectors can be realized.

Broad goal: Enhance CVO productivity and efficiency.

Objective: Reduce unnecessary inspection delays to safe operators in Ohio and create incentives for voluntary compliance with safety and economic regulations.

Objective: Enhance efficiency and effectiveness in enforcement of safety and economic regulations.

Objective: Expand and enhance electronic screening capabilities on highways.

***IV. Support state, regional and national economic growth and global competitiveness through improvements in CVO productivity.***

This vision element aligns with the goals and objectives of the regional and national ITS/CVO initiatives. It focuses on the quality of choices between alternative processes in streamlining CVO.

Broad goal: Support state, regional and national economic growth and global competitiveness.

Objective: Implement technologies that are compatible with regional and national initiatives.

Objective: Identify and eliminate unproductive requirements, regulations and enforcement procedures.

Objective: Identify and eliminate state specific regulatory and enforcement requirements that may unnecessarily hinder economic growth or create barriers to smooth traffic flow through Ohio.

***V. Encourage voluntary regulatory compliance by motor carriers by creating a user-friendly environment for agency and industry transactions.***

This vision element unifies the expectations of the motor carrier industry and the regulating agencies to ensure the success of the ITS/CVO programs in Ohio. Conflicts in goals and interests of all stakeholders need to be resolved for the success of any programs that are implemented.

- Broad goal: Encourage voluntary compliance with safety and operating regulations.
- Objective: Create an environment that encourages dialogue between agencies and industry.
- Objective: Strengthen partnership with associations of motor carriers through exchange of ideas and information to improve performance of ITS/CVO systems.
- Objective: Provide seminars and training sessions on regulatory changes, new technology developments and implementation, and systems enhancements.

### **4.3 Ohio's ITS/CVO Vision**

*In the year 2005:*

*High technology systems for regulating Commercial Vehicle Operations in Ohio have been built to improve safety, productivity and efficiency as well as enhance economic growth. The systems have been designed to ensure that secure and accurate electronic information is gathered to allow fast and error-free credentialing process. The systems encourage safe and smooth flow of goods and services on the highways without the burden of paper documents or the need to stop at all inspection sites.*

*The advanced information technology systems improve efficiency and effectiveness in the administrative regulatory processes, identification and removal of unsafe carriers from the traffic stream and provide incentives for voluntary compliance with safety and economic regulations. The steps, time and effort requirements of industry and state agencies to fulfill regulatory obligations are remarkably reduced or virtually eliminated. The systems have in-built performance-based screening criteria that have reduced the number of crashes on the highways due to commercial vehicles.*

*These systems have been built as a service to industry with no extra taxes or surcharges placed on the motor carrier industry. The open architecture standards allow systems that ensure uniformity in services across the U.S. to motor carriers. The benefits of these systems to Ohio are also manifested in efficiency in tax collection and enforcement resource utilization.*

*Industry and state partnerships to promote greater economic growth at state, regional and national levels have been established. Private sector involvement and support from research and development firms in Ohio contributed immensely to the success of the Ohio's ITS/CVO program.*

## **4.4 Strategic Analysis**

*This section describes the analysis of data. The vision elements and opportunities are aligned to the CVO problems.*

The project team in consultation with the Steering Committee developed the strategic concepts for ITS/CVO program for Ohio. Based on the guiding principles, broad goals and objectives, interviews and focus group discussions were conducted with representatives of all state agencies and the motor carrier industry. The questionnaire and the interviews were structured to gather sufficient information to map and describe the current CVO processes in Ohio, the level of technology deployment, plans for future deployment of technologies, CVO problems (technical and non-technical), and suggestions to address the problems and issues. A strategic analysis was then carried out to develop the strengths and weaknesses of the existing systems and identified the opportunities and threats for ITS/CVO programs in Ohio. The results of the data collection and S.W.O.T. analysis are included in Appendix A.

The S.W.O.T. analysis allows the inter- relationships between agencies, their problems and vision elements to be easily identified. The vision elements are first matched with the CVO problems and opportunities in Ohio, then the potential threats are aligned with them. Each vision element addresses one or more opportunities and threats, and can be associated with one or more CVO problems in Ohio. These are summarized in Figure 4.1 and discussed in the following sections.

**Figure 4.1 Data Analysis**

<b>Vision Element</b>	<b>SWOT Opportunity</b>	<b>SWOT Threat</b>	<b>Ohio Problem</b>
I. CVO through .paperless. credentialing and taxation processes	<ul style="list-style-type: none"> <li>• Higher use of technology</li> <li>• Electronic one-stop shopping</li> <li>• Paperless environment</li> <li>• Error free credentialing</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of commitment</li> <li>• Cost</li> <li>• Lack of access to technology</li> <li>• Lack of privacy of information</li> <li>• Safety mission compromised</li> <li>• Move from people to technology</li> </ul>	<ul style="list-style-type: none"> <li>• Slow application process</li> <li>• Delays in credentialing process</li> <li>• Too much paperwork</li> <li>• Multiple agency dealings</li> <li>• Limited IRP application sites</li> <li>• Limited IRP renewal dates</li> </ul>
II. Improved highway safety	<ul style="list-style-type: none"> <li>• Higher use of technology</li> <li>• Targeting high risk carriers</li> <li>• Efficient use of resources</li> <li>• Uniform system</li> <li>• Consistency in safety inspections</li> </ul>	<ul style="list-style-type: none"> <li>• Mistrust of regulators' motivation</li> <li>• Non-objective targeting criteria</li> <li>• Non-uniform standards</li> </ul>	<ul style="list-style-type: none"> <li>• Crash costs</li> <li>• Infrastructure damage</li> <li>• Inconsistent safety inspections</li> <li>• Misdirected focus on carrier selection</li> </ul>
III. Enhanced CVO productivity, efficiency and effectiveness	<ul style="list-style-type: none"> <li>• Higher use of technology</li> <li>• Paperless environment</li> <li>• Level playing field for industry</li> <li>• Reduced delays at inspection sites</li> <li>• Uniform system</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of commitment</li> <li>• Non-objective targeting criteria</li> <li>• Lack of access to technology</li> <li>• Non-uniform standards</li> </ul>	<ul style="list-style-type: none"> <li>• Excessive delays at roadside inspections</li> <li>• Non-uniform safety enforcement practice</li> <li>• Inconsistent enforcement</li> </ul>
IV. Support economic growth and global competitiveness	<ul style="list-style-type: none"> <li>• Higher use of technology</li> <li>• Increased industry awareness</li> <li>• Regional system uniformity</li> <li>• Level playing field for industry</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of commitment</li> <li>• Lack of access to technology</li> <li>• Non-uniform standards</li> </ul>	<ul style="list-style-type: none"> <li>• Inconsistent compliance requirements</li> <li>• Unnecessary delays to compliant carriers</li> </ul>
V. Facilitate voluntary regulatory CVO compliance	<ul style="list-style-type: none"> <li>• Increased industry awareness</li> <li>• Higher use of technology</li> <li>• Level playing field for industry</li> <li>• Voluntary compliance</li> </ul>	<ul style="list-style-type: none"> <li>• Mistrust of regulators' motivation</li> <li>• Lack of commitment</li> <li>• Lack of access to technology</li> <li>• Move from people to technology</li> </ul>	<ul style="list-style-type: none"> <li>• Roadside delays</li> <li>• Application restrictions</li> <li>• Slow application process</li> </ul>

#### **4.4.1 Improve Efficiency and Effectiveness of CVO Through "Paperless" Electronic Credentialing and Taxation Processes, While Maintaining Privacy and Confidentiality of Information.**

This vision element addresses the problems associated with the credentialing and taxation processes in Ohio. Development and deployment opportunities in *higher use of technology can be used to implement electronic one-stop shop* that will reduce the time and effort required in credentialing processes. An electronic one-stop shop will eliminate *multiple agency dealings and limitations on IRP application sites and time frames*. This will *create a paperless environment that is expected to improve efficiency and effectiveness* in the administrative processes without the need for additional *information requirements or compromising confidentiality*. An electronic credentialing process is also expected to *reduce delays in the application process*.

*Ohio is committed* to developing systems that will reduce the steps, time and efforts required to fulfil regulatory obligations. The system will be provided *as a service and made available to industry at no cost*. The use of higher technologies will not result in *Ohio's safety mission being compromised*. The implementation of an electronic one-stop shop for credentialing purposes *requires industry's accessibility to the technology in order to communicate* effectively with the state agencies. The *move from people to technology* is viewed as a positive endeavor that is expected to result in a *fast and error free credentialing process* and enhance efficiency in resource utilization.

#### **4.4.2 Improve Highway Safety Through Efficient and Timely Data Exchange to Help Eliminate Unsafe and Illegal Operations.**

This vision element extends the opportunity for improving highway safety through the use of *higher technology to identify and remove high risk carriers and illegal operators from operation*. It is anticipated that such technologies will result in *efficient and effective use of enforcement resources*. Availability of real time and accurate data on carriers to enforcement personnel through the deployment of *higher technology* is expected to *encourage consistency and uniformity in safety inspections*. *Targeting of carriers* will be based on criteria that include safety performance of carriers where *no particular category of carriers by virtue of size or operating characteristics* will be the focus of enforcement efforts. The use of *higher forms of technology* is also expected to *limit bias in the roadside screening process*. The systems will be deployed with the primary objective to *improve safety on the highway and reduce costs associated with commercial vehicle crashes and potential damage to the infrastructure*.

The systems will be developed and deployed in collaboration with the motor carrier industry in order to *avoid any mistrust and suspicion on the part of motor carriers* as to the real purpose of the systems. This partnership is also expected to enhance *industry's awareness* and encourage *participation and commitment* to the goals and objectives of the ITS/CVO program in Ohio. In pursuance of the goals of national ITS/CVO initiatives, Ohio envisions the adoption of systems that comply with the *uniform open standards* in the technologies so as to *achieve a uniform system direction that promotes uniformity* in the enforcement process and fairness to the motor

carrier industry.

#### **4.4.3 Enhance CVO Productivity, Efficiency and Effectiveness by Improving Efficiency in Roadside Screening for Inspections Thereby Providing Incentives for Safe Operations.**

Ohio views enhanced economic growth through improved CVO productivity and efficiency as a major component of the ITS/CVO program. *Higher forms of technology that promote a level playing field* where carriers of different sizes and operations are treated fairly will be deployed. Operations *in a paperless environment* and the use of *higher forms of technology* in roadside screening processes will *translate into an efficient and productive motor carrier industry*. The question of *excessive delays at roadside* presents the opportunity to use advanced forms of technology to make carrier safety data available to enforcement personnel in a timely fashion to assist in making screening decisions. Such a system will *not only reduce delays to complaint operators but also promote consistency and uniformity in the entire enforcement process and serve as incentives for safe operations*. Improving roadside screening reduces delays and offers the *opportunity for voluntary compliance* with regulations.

Ohio is *committed to improving efficiency and productivity in truck operations*. The technology will be *accessible to industry so that they have the opportunity to conduct paperless transactions* with the state agencies. *Targeting of carriers* for inspection will be based on criteria that include safety performance and credentials information of carriers where *no particular category of carriers by virtue of size or operating characteristics* will be the focus of enforcement efforts.

#### **4.4.4 Support State, Regional and National Economic Growth and Global Competitiveness Through Improvements in CVO Productivity.**

Ohio seeks to implement *higher forms of technology that are compatible with regional and national initiatives*. Ohio is *committed to supporting economic growth and global competitiveness* by eliminating state specific regulatory and enforcement requirements that may unnecessarily hinder economic growth or create barriers to smooth traffic flow through the state. Ohio will *identify and eliminate unproductive compliance requirements and enforcement procedures*. This will also *promote consistency in the enforcement processes*. Supporting state, regional and national economic growth enables Ohio to pursue opportunities *in promoting regional systems uniformity*.

The opportunity to *deploy higher technology in accessing safety information* will enable enforcement personnel to focus attention on less safe carriers thereby *reducing the possibility of causing unnecessary delays to compliant and safe carriers*. It is envisioned that *the technology will be accessible to industry* to facilitate communication between the agencies and industry. The potential benefits of the systems offer the opportunity for *increased industry awareness of the ITS/CVO program and encourages their participation and involvement*. Partnership between state agencies and industry is viewed as an essential element in *demonstrating trust, commitment and increased awareness* for the success of the ITS/CVO program.

#### **4.4.5 Encourage Voluntary Regulatory Compliance by Motor Carriers by Creating a User-friendly Environment for Agency and Industry Transactions.**

This vision element is important for the long term success of ITS/CVO programs in Ohio. It unifies the expectations and commitment of the motor carrier industry and state agencies to achieve the goals of the ITS/CVO program. Ohio seeks to *create an environment that encourages voluntary regulatory compliance* with the safety and operating regulations. This vision element enables Ohio to use the opportunity to *increase industry awareness through seminars and training sessions* on regulatory changes, new technology development and implementation and systems enhancements. *Increased industry awareness of the potential benefits of the ITS/CVO programs is expected to eliminate suspicion of the agency's motives and intentions of the use of higher technology.* Increased awareness instills confidence and encourages *participation and commitment to the ITS/CVO program* including electronic systems *designed to reduce delays in the credentialing processes and at roadside inspections.* Streamlining CVO operations through the *use of higher forms of technology that remove time wasting restrictions in credentialing processes, reduces delays at roadside inspections and offers the opportunity for voluntary compliance.*

*The use of higher forms of technology for credentialing purposes will be accessible to industry in order to communicate effectively with the agencies or the electronic one stop shop. The move from people to technology is expected to increase efficiency and speed in the credentialing processes and also limit bias in the roadside screening process.*

## 5.0 PROGRAM ACTIVITIES

### 5.1 Description of Projects

*This section identifies the projects in each of the major functional ITS/CVO areas that address problems and are targeted to the vision elements.*

Project definition is accomplished in two steps. First, the linkage between the vision elements and the ITS/CVO functional areas are identified. This is then followed by a description of the conceptual framework of the individual projects. The concepts are developed based on information gathered from the "best practices" white paper developed as part of the data gathering effort. It is based on practices in CVISN pilot states. The use of "best practices" information is to ensure conformity with the nationwide effort to create a coordinated information system for CVO. The major functional areas are:

- Safety assurance (safety information exchange)
- Credential administration (deskside) processes
- Roadside electronic screening

Figure 5.1 shows Ohio's ITS/CVO vision and project matrix. An "X" in a cell indicates a strong linkage between the vision element and the functional area where the vision element is an important consideration in developing projects in that functional area. A blank cell indicates that the vision element is of little importance within the context of the functional area under consideration.

**Figure 5.1 ITS/CVO Vision and Project Matrix**

Functional area Vision element	Projects		
	Credentialing systems	Roadside electronic screening	Safety Info. Systems
Paperless CVO credentialing and taxation processes	<b>X</b>	<b>X</b>	<b>X</b>
Improved highway safety		<b>X</b>	<b>X</b>
Enhanced CVO productivity, efficiency and effectiveness	<b>X</b>	<b>X</b>	<b>X</b>
Support economic growth and global competitiveness	<b>X</b>	<b>X</b>	
Facilitate voluntary regulatory CVO compliance	<b>X</b>	<b>X</b>	<b>X</b>

The following are projects identified to address the CVO problems and opportunities. These are described in detail in the following sections. The first project is within the functional area of administrative processes, the second project is within roadside electronic screening systems functional area, and the third and fourth projects are within the safety information exchange functional area.

1. Electronic one-stop shop to fully automate the credentialing, taxation, permitting and payment process and participate in regional and national credentialing (IRP and IFTA) clearinghouses
2. Upgrade use of roadside screening hardware and software that use safety and credentialing criteria for electronic clearance in the enforcement of safety and economic regulations
3. Provide on-line, real time motor carrier safety and credentialing information from state, regional and national information bases to enforcement officers at the roadside
4. Provide data exchange system utilizing current "snapshots" of carrier, driver, and vehicle data from various agencies to be provided to government and private entities needing the data.

The following sections describe the concepts for these projects.

### **5.1.1 Credentials Administration Processes**

Credentials administration (CA) processes include a combination of carrier and state agency systems. These systems are aimed at automating the complete credentialing and permitting processes. All aspects of the commercial vehicle credentialing process will be integrated to include: electronic submittal of applications, automated processing and cross-checking of applications, automated fee calculation and invoice transmittal, electronic fee payment, and automated issuance and printing of credentials.

Ohio plans to operate an electronic one-stop shop for all credentialing systems. The goal is to provide carriers with an on-site fully electronic credentialing system. This requires a user-friendly software that allows communication between the agency systems and the motor carriers. The systems that enable carriers to apply for and receive credentials electronically through a credentialing interface (CI) are called Carrier Automated Transaction (CAT) systems. These systems will reside in either motor carrier offices or service provider offices. The alternatives for CATs systems are Web-based and PC-based. Most pilot states plan to deploy the Web-based system. The Web-based CAT allows carriers to use the most popular web-based browsers to reach the CAT interface at the credentialing agency.

Ohio plans to deploy systems that interface the state systems with the IRP and IFTA clearinghouses. Legacy system interfaces to be upgraded to operate as a one-stop shop are:

- International Registration Plan (IRP)
- International Fuel Tax Agreement (IFTA)
- Oversize / overweight
- Fuel use tax (FUT) permits
- Intrastate Tax (for -hire carriers)
- Hazmat permitting
- Single State Registration System (SSRS).

Initially, IRP, IFTA, and SSRS systems will be included in the one stop shop system, and others will be added as interfaces are developed for that purpose. During initial system design, determinations will be made as to which credentialing systems can be included "up front" and which may take longer for development.

The CI is the state agency's server and is the system that provides the state's single point of entry for all electronic credential applications and fuel tax transmittals. The CI performs validations to ensure completeness of applications. Currently, Ohio contracts with Lockheed Martin Corporation, a service provider, to perform certain IRP and IFTA functions. Lockheed has developed a support structure for CVISN where CATs and CI are fully integrated as part of the CVISN deployment in prototype and pilot states. Lockheed's experience in developing legacy system interface for prototype and pilot CVISN states (e.g. Virginia) can be brought to bear on developing similar systems for Ohio's electronic one stop shop.

Credential administration processes will also encompass and integrate with initiatives that electronically share data between States, including the IRP Clearinghouse and IFTA Clearinghouse.

### **5.1.2 Roadside Electronic Clearance**

Roadside screening includes the electronic screening of vehicles at fixed and mobile inspection sites to confirm if the vehicles are safe, at legal weight, have appropriate credentials, or have not been placed out-of-service. The projects under this functional area are designed to develop systems that perform automatic electronic screening so that safe, compliant trucks can proceed on the highway without stopping while potentially unsafe or non-compliant trucks can be pulled in for closer inspection and confirmation of proper operating credentials.

Ohio operates two weigh stations with mainline automated clearance systems (MACS) as part of the Advantage CVO (formerly Advantage I-75) program. Ohio plans to expand and improve the capabilities of the existing MACS. System improvements will include integrating the carrier selection criteria based on safety performance and other databases. To ensure compatible and consistency, Ohio plans to benefit from the experience from neighboring Kentucky (CVISN "regional champion") on the capability and potential of the MACS-2 as part of the Kentucky

CVISN deployment. It is envisioned that the systems will be retrofitted at the two existing weigh scale facilities that are part of the Advantage CVO program.

As additional carriers choose to participate in electronic pre-screening programs and technologies are further developed, Ohio will expand usage to additional weigh stations on major routes. The state is not in a position at this time to determine the numbers and locations of those future expansions.

### **5.1.3 Safety Information Exchange**

Safety information exchange projects are designed to collect, store and exchange current safety information relating to carriers safety to assist in making screening decisions at the roadside. This includes exchange of data between agencies within a state and between other states. Safety information of interest includes carrier (credentials and safety rating), vehicle (inspections and citations) and driver.

Ohio plans to use hardware and software tools to improve automation of the safety inspection process. Most safety inspections in Ohio are currently conducted with the ASPEN software loaded on laptop computers. The ASPEN software enables safety inspectors to electronically collect and disseminate inspection data at the roadside. The laptop computers offer flexibility in accessing safety information from remote locations and improved communications between field and administrative staff. ASPEN provides the safety inspector with an inspection selection algorithm and the most current data to assist in determining which vehicles should be inspected.

The computer hardware and communications links at scale facilities will be upgraded to provide ASPEN access to inspectors who do not have laptop computers, and to provide access to Inspection Selection System (ISS) screening components of ASPEN. All laptop and desktop computers that are part of the inspection and electronic screening processes will be upgraded to have the capability to access state and national (e.g., SAFER) safety databases in "real time," possibly via wireless links. The development and deployment of such systems will take into consideration the experiences in CVISN pilot states.

## **5.2 Project Assessment**

Having identified the projects to address the CVO problems and given the opportunities and potential threats, their suitability can be evaluated in terms of parameters related to cost, practicality, resource, etc. The criteria summarized in Figure 5.2 can be used to help rank potential ITS/CVO projects based on their relative merits. Figure 5.3 shows the characteristics of projects relative to the evaluation criteria.

**Figure 5.2 ITS/CVO Project Assessment Criteria**

<p><u>Cost:</u></p> <ul style="list-style-type: none"> <li>• Capital investment? Fixed &amp; ‘Variable’</li> <li>• Maintenance?</li> <li>• Operating?</li> </ul>	<p><u>Efficiency:</u></p> <ul style="list-style-type: none"> <li>• Does this project lower costs for the private sector, the public agency, or the general public?</li> <li>• Does it increase the capabilities of any sectors?</li> <li>• Does it encourage voluntary compliance</li> </ul>
<p><u>Funding:</u></p> <ul style="list-style-type: none"> <li>• Potential sources of funding?</li> <li>• Timing of fund availability?</li> <li>• Special conditions attached to the funding?</li> </ul>	<p><u>Safety:</u></p> <ul style="list-style-type: none"> <li>• Does it improve highway safety, and how?</li> <li>• Can it be measured in dollars and/or lives?</li> </ul>
<p><u>Personnel:</u></p> <ul style="list-style-type: none"> <li>• # of person-hours by skill types?</li> <li>• Internal/external availability?</li> <li>• Ease of procurement?</li> <li>• New personnel needed after project completion?</li> <li>• Impact on existing personnel?</li> </ul>	<p><u>Equity/fairness:</u></p> <ul style="list-style-type: none"> <li>• Does it treat users fairly, or improve the equitable application of laws or regulations?</li> <li>• Does it enhance fairness to users?</li> </ul>
<p><u>Technology:</u></p> <ul style="list-style-type: none"> <li>• Expected technical capability of the technology?</li> <li>• How much training (user-friendliness)?</li> <li>• Does it support the open standards of CVISN?</li> <li>• If it works, will it solve the problem?</li> <li>• If it works, is it sustainable?</li> <li>• Compatibility with other technologies (current, future, and with outside agencies/states e.g., national architecture)?</li> </ul>	<p><u>Political/Economic:</u></p> <ul style="list-style-type: none"> <li>• Current political/administrative configuration likely to last?</li> <li>• Can other, external political circumstances suddenly impact the project?</li> <li>• Does it improve CVO productivity, economic growth?</li> </ul>
<p><u>Duration and Timing:</u></p> <ul style="list-style-type: none"> <li>• Sequencing dependencies?</li> <li>• External processes or events?</li> <li>• How long to implement?</li> </ul>	<p><u>Organization/Cooperation:</u></p> <ul style="list-style-type: none"> <li>• Departments/agencies are involved?</li> <li>• Buy-in at a management level of agencies?</li> <li>• Sufficient cooperation to coordinate the project?</li> <li>• Cooperation and support from industry?</li> </ul>
<p><u>Simplicity:</u></p> <ul style="list-style-type: none"> <li>• Does this make the current task easier?</li> <li>• Does it create expectations of increased capabilities and thus <i>more</i> work and responsibilities?</li> </ul>	<p><u>Alternative Methods:</u></p> <ul style="list-style-type: none"> <li>• Are there easier, cheaper, simpler ways to accomplish the same goal?</li> <li>• Does it rely on other agencies/people who cannot be directed by this project?</li> </ul>

**Figure 5.3 Project Evaluation Summary**

	<b>Credentialing Systems</b>	<b>Electronic Screening</b>	<b>Safety Info Systems</b>
<b>Cost</b>	\$700,000	\$100,000	\$900,000
<b>Funding</b>	FHWA/OMC and State	FHWA/OMC and State	FHWA/OMC and State
<b>Time</b>	24 months	24 months	30 months
<b>Personnel</b>	CAT vendor, Programmers, Training, Maintenance	External Programmers, Training, Maintenance	Internal Programmers, Training, Maintenance
<b>Technology</b>	New, Open Standards	New, Open Standards	New, Open Standards
<b>Efficiency</b>	Less carrier and staff time Burden or regulatory compliance reduced	Process more carriers in less time. Focus on high risk carriers	Identify more violators
<b>Simplicity</b>	Simpler process but not at expense of compliance	Probably simpler than present system(s)	Probably more complex software & equipment
<b>Safety</b>		Reduce risk of crashes	Easy identification of high risk carriers
<b>Equity/fairness</b>	More complete coverage of carriers	Safe carriers advantaged Objective targeting criteria	More attention on unsafe carriers
<b>Cooperation</b>	Regulatory agencies, carriers, clearing houses	Regulatory agencies, carriers	Regulatory agencies, states, carriers
<b>Political / economic</b>		Demonstrate privacy protected CVO productivity	
<b>Alternative methods</b>	Simpler paper process	Visual monitoring, Sample weigh	Use of diskettes

### **5.3 Project Ranking**

Following the project assessment summarized above and a review by the Steering Committee, and in view of the national ITS/CVO program, highway safety is viewed as top priority in Ohio's ITS/CVO program. Projects related to improving highway safety through regulation and enforcement are therefore ranked highest. This is followed by projects relating to efficiency and effectiveness in the roadside enforcement process. The following is a relative ranking of Ohio's ITS/CVO projects in order of decreasing priority:

- Provide on-line, real time motor carrier safety and credentialing information from state, regional and national information bases to enforcement officers at the roadside
- Provide data exchange system utilizing current "snapshots" of carrier, driver, and vehicle data from various agencies to be provided to government and private entities needing the data.
- Upgrade use of roadside screening hardware and software that use safety and credentialing criteria for electronic clearance in the enforcement of safety and economic regulations
- Electronic one-stop shop to fully automate the credentialing, taxation, permitting and payment process and participate in regional and national credentialing (IRP and IFTA) clearinghouses

## 5.4 Project Summary Sheets

<p><b>I. Project Title: "ONE STOP" ELECTRONIC CREDENTIALING</b></p>
<p><b>Project Description:</b> Provide carriers' software interface for electronic credentialing, to include IFTA, IRP, and SSRS—all interstate based. Will work toward and later include if possible <u>intrastate</u> fuel tax, vehicle registration, hazmat registration, OS/OW permits, and for-hire operating authority credentials.</p>
<p><b>Goals &amp; Objectives:</b> Allow Ohio-based carriers to utilize PC software in their offices to electronically apply, pay for, and receive credentials to include interstate fuel tax (IFTA), interstate vehicle registrations (IRP), and interstate for-hire operating authority (SSRS). Interface with national/regional IRP and IFTA clearinghouses. Determine feasibility and include if possible Ohio <u>intrastate</u> fuel tax, vehicle registrations, for-hire operating authority, and hazardous materials registration. System(s) to be compatible with ITS CVO national architecture.</p>
<p><b>Desired Outcomes:</b></p> <ul style="list-style-type: none"> <li>• Reduce administrative burdens on carriers and state agencies</li> <li>• Reduce errors in data</li> <li>• Provide credential issuance in a more-timely manner</li> </ul>
<p><b>Project Location:</b></p> <p>Offices of Ohio Dept. of Taxation, Ohio Dept. of Public Safety, and Public Utilities Commission of Ohio (PUCO). Ohio-based carriers' offices.</p>
<p><b>Technical Approach:</b></p> <ul style="list-style-type: none"> <li>• Select and work with one or more vendors to develop carrier-based software customized for Ohio if necessary (may be PC or Internet web-based).</li> <li>• Use software products from CVISN pilot/model states to extent possible.</li> <li>• Work with existing state IRP/IFTA contractor to determine steps necessary for it to implement desired system changes.</li> <li>• Establish "credentials interface (CI)" server at state if necessary to communicate between carrier software and existing government systems.</li> <li>• Review and revise if necessary state laws and regulations pertaining to electronic filing of official documents and electronic payment (EFT) systems.</li> </ul>

**Organization & Management:**

Overview will be under administration of OCVISN Steering Committee, since all members have an involvement (ODPS, ODT, ODOT, PUCO, OTA). Each state agency will have primary responsibility for programs it administers (e.g., ODT for IFTA/FUT).

**Schedule and Milestones:**

Apr 1999 – Complete detailed project plan outlining each step in process along with deadlines and detailed cost estimates

Jun 2000 - Have 3-6 carriers serve as beta-testers of systems as developed (minimum IRP, IFTA, SSRS)

30% of IRP/IFTA transactions to be electronic by Oct 2000

Oct 2000- Oct 2001 Expand to additional intrastate programs

**Funding Approach:**

- Initial technical consulting, software development, and hardware — CVISN Deployment and state funding. (\$700,000)
- Continuing operations and maintenance ---- state agencies (offset by data-entry cost savings)
- Carriers—no extra cost to file electronically

**Key Issues/Concerns:**

- Determine role of primary contractor (Lockheed) which currently provides all IRP functions and the data-processing (except entry) for IFTA. Current contracts expire within two years.
- Intrastate electronic vehicle registration may destabilize current private vendors system. ODPS will explore all ramifications.
- State laws and regulations might need to be modified to authorize electronic signatures and payments.

<p><b>II. Project Title: ON-LINE ENFORCEMENT ACCESS TO CMV DATABASES</b></p>
<p><b>Project Description:</b> State roadside and headquarters commercial motor vehicle (CMV) enforcement staff will utilize laptop and desktop computers to access CMV databases on-line via new wireless and/or landline connections. CMV databases and systems will include ASPEN/AVALANCHE, SAFER, CDLIS, and SSRS; and possibly intrastate fuel use tax (FUT), vehicle registrations, and operating authority credentials. Existing laptops will be upgraded to allow reading of document barcodes, scanning and transmission of digital images, etc.</p>
<p><b>Goals &amp; Objectives:</b></p> <ul style="list-style-type: none"> <li>• Improve roadside access to and uploading of safety information (timeliness, accuracy) .</li> <li>• Identify carriers, drivers, and vehicles operating unsafely or illegally.</li> <li>• Reduce frequency and duration of stops for safe and legal carriers (customer service)</li> <li>• Increase reliance on mobile enforcement by providing roadside access to CVO data.</li> </ul>
<p><b>Desired Outcome:</b></p> <ul style="list-style-type: none"> <li>• Immediate access to safety and credentialing data for roadside enforcement personnel.</li> <li>• Accurate safety data at roadside.</li> <li>• Immediate uploading of safety data for use by others in enforcement community</li> <li>• Enforcement efforts are focused on illegal and/or unsafe carriers, allowing safe and/or legal carriers to operate with less regulatory scrutiny.</li> <li>• Deploy enforcement resources where and when problems are anticipated</li> </ul>
<p><b>Project Location:</b> All desktop and laptop computers in use by CMV enforcement field staff. All state agency headquarters offices involved with CMV safety records.</p>

**Technical Approach:**

- As needed, upgrade and replace existing laptop computers and related equipment in use by CMV enforcement field staff.
- Identify vendor communications system(s) with ability to provide wireless and/or landline connectivity to national and state data systems. .
- Purchase and install hardware/software and communications links to enable all enforcement field staff to have continuous access to relevant CMV databases at national and state levels.
- Coordinate continuously with development of CVIEW and CI servers.

**Organization & Management:** OSHP and PUCO will be primary agencies involved in procurement and implementation since CMV enforcement field staff are assigned to them.

**Schedule and Milestones:**

Upgrade existing laptops as needed ASAP. At locations where landlines are available, go on-line with SAFER as soon as all laptops are up to current standards.

Jun 1999 – Complete detailed project plan outlining each step in process along with deadlines and detailed cost estimates.

Dec 1999 – Have immediate access via wireless or landline to CMV database systems for at least 50% of CMV enforcement community.

Jun 2000 – Have immediate access via wireless or landline to CMV database systems for at least 95% of CMV enforcement community.

**Funding Approach:**

Hardware and software - CVISN deployment funds, MCSAP basic grant funds, and state funding. (\$400,000)

Communications links – MCSAP, state operating funds. (\$10,000 annual)

**Key Issues/Concerns:**

Constant changes in technology and systems available make it difficult to plan communications systems for extended periods of use. Flexibility needs to be built into any systems.

Line and air-time charges will be difficult to estimate initially due to lack of experience with actual use.

### **III. Project Title: INTER-AGENCY CMV DATA SHARING (CVIEW)**

**Project Description:** New data exchange system (CVIEW- Commercial Vehicle Information Exchange Window) will be developed to exchange carrier, driver, and vehicle "snapshots" of safety and credential information between state and federal databases and end-users such as state enforcement officers and credential agencies. The CVIEW system will be developed utilizing guidelines developed in the national ITS/CVISN program. CVIEW will allow exchange of information from all existing state CMV databases as well as federal systems.

**Goals & Objectives:** Provide useful and current "snapshots" of carrier, driver, and vehicle information from existing state and federal CMV databases to authoritative end-users such as governmental agencies, insurers, shippers, etc.

**Desired Outcome:**

- Provide agencies with accurate and complete safety information when making credential and authorizing decisions.
- Provide accurate and complete safety and identification information to roadside enforcement officers.
- Improve efficiency and effectiveness of CMV database systems by avoiding duplication and inaccurate information.

**Project Location:** Database system will be distributed among various state and federal agencies.

**Technical Approach:**

- Complete inventory of all existing state-level CMV-related database systems to include software and hardware. Identify areas of commonality and redundancy.
- Develop system design with assistance of contracted specialists.
- Develop data protocols for use by state agencies (EDI X12 standards to be used where possible).
- Procure hardware and software needed.

**Organization & Management:** A separate and permanent "CVIEW Policy and Steering Committee" will be established to guide the development and operation of the CVIEW system. State agencies with primary CMV databases will be represented as well as user groups such as enforcement community, insurers, carriers, etc.

**Schedule and Milestones:**

Jun 1999 – Complete detailed project plan outlining each step in process along with deadlines and detailed cost estimates.

Dec 1999 - Complete system design and procurement standards with assistance of contractor.

Jul 2000 - System to be installed and in testing.

Nov 2000 - Goal for operation.

• **Funding Approach:**

- Initial design and hardware/software procurement - CVISN Deployment funds, MCSAP, state agency budgets (\$500,000)
- System continuing operation and maintenance - Included in state agency budgets with some offset from user fees (insurance companies, etc.).

**Key Issues/Concerns:**

- Interface with wide variety of existing databases will be complex and require considerable work.
- Although all data currently exists and is public record in Ohio, Policy & Steering Committee will need to establish procedures, fees, etc. for access.

**IV. Project Title: ROADSIDE ELECTRONIC SCREENING IMPROVEMENTS**

**Project Description:** Existing automated weigh stations (I-75, Wood and Hancock Counties) on Advantage CVO Project will be upgraded to latest MACS-II standards for pre-clearance and will be utilized for aggressive testing and implementation of pre-screening technologies and concepts.

**Goals & Objectives:**

- Operate at least two fixed inspection/weigh stations with full electronic pre-screening (including mainline WIM) in place.
- Conduct further tests and evaluations of automated screening and inspection technologies at the two deployed pre-clearance sites.
- If continued operation of two automated sites is successful, concept will be expanded to other sites as budgets allow.

**Desired Outcome:**

- Reduce backups and delays of trucks waiting at congested weigh stations
- Avoid inspections and delays of carriers with good safety records
- Fully develop automated pre-screening concepts before deployment to additional sites

**Project Location:** Weigh stations on I-75 in Wood and Hancock Counties, Ohio

**Technical Approach:**

Utilize existing standards for upgrade to MACS-II at sites.

Based on experiences and reports from other CVISN states, evaluate and test other technologies such as license plate readers.

**Organization & Management:** Primary responsibility for weigh station operation rests with Ohio State Highway Patrol.

**Schedule and Milestones:**

**Dec 1999** – Have MACS-II upgrade in place.

**Funding Approach:**

Initial upgrade - CVISN Deployment Funds, MCSAP, state agencies (\$100,000)

Future changes - TBD

**Key Issues/Concerns:**

- Too few trucks currently participate in pre-screening programs and interoperability and competition issues have not yet been resolved among existing systems. Once the direction of the national program is more clear, additional Ohio weigh stations may be automated.
- Continuing attempts will be made to recruit carriers to participate in existing systems.

## **6.0 ORGANIZATION AND MANAGEMENT**

*This section outlines the organization and management approach and the responsibilities of all stakeholders..*

The organizational chart (Figure 6.1) shows the CVO planning and program management structure as well as the key agencies responsible for implementing ITS/CVO projects. Tom Yager, Manager of the MCSAP of the Public Utilities Commission of Ohio functions as ITS/CVO program administrative manager. The program manager has direct contact with all parties responsible for the administration and enforcement of the regulations in Ohio. He has over thirty years of experience in federal, state, and local government management. He is currently the chairman of the ITS/CVO Committee for Ohio and former chairman of the CVSA Bus Committee. The ITS/CVO Steering Committee chaired by the program manager has representatives from all relevant state agencies and motor carrier associations. The Steering Committee has the mandate to review and approve project proposals contained in this business plan. The Steering Committee is responsible for planning, coordinating and scheduling the individual projects through the PUCO as the administrative lead agency. PUCO is responsible for project management, financial reporting and coordination with other agencies.

PUCO staff members have been designated to provide technical support to the ITS/CVO program manager. Such assistance includes program and technology exchange and development. Technical staff members of other participating state agencies will assist as needed. The staffs (technical and administrative) have been designated for each of the required task areas. Private sector involvement in the development of ITS/CVO programs in Ohio is expected to continue and expand.

The OCVISN Steering Committee will formally review and update this Business Plan each quarter or more often as necessary. The Committee will meet regularly and will formally assign tasks and review progress. Monthly working meetings have already begun and will continue regardless of the current state of CVISN plans and funding; i.e., if possible, preliminary planning and work will not be delayed while waiting on formal approvals and funding decisions.

Details of the agencies responsible for CVO administration and enforcement as well as key individuals who impact CVO planning and programs are shown in Appendix B.

### **6.1 Training and Outreach Plan**

On-site training will be provided, as necessary, to agency staff involved in the development and deployment of the CVISN systems by selected vendors of system hardware and software and through regional and national CVISN "mainstreaming" training classes. The offer of training will be included in the agreements with the selected vendors. CVISN staff will participate in national and regional training sessions and workshops as they become available.

The Ohio Trucking Association (OTA) is represented on the Steering Committee and plans to assist in communications with and education of the carriers. On-going regional meetings and seminars of OTA will provide the forum for communication and training. CVISN outreach program to carriers will be designed to increase industry awareness of changes to existing systems, new system deployment and as a means on providing training and support to carriers in applying the new systems. CVISN efforts will be publicized by OTA, the Ohio Bus Association, and participating state agencies through direct mailings, local seminars, trade shows, and newsletters.

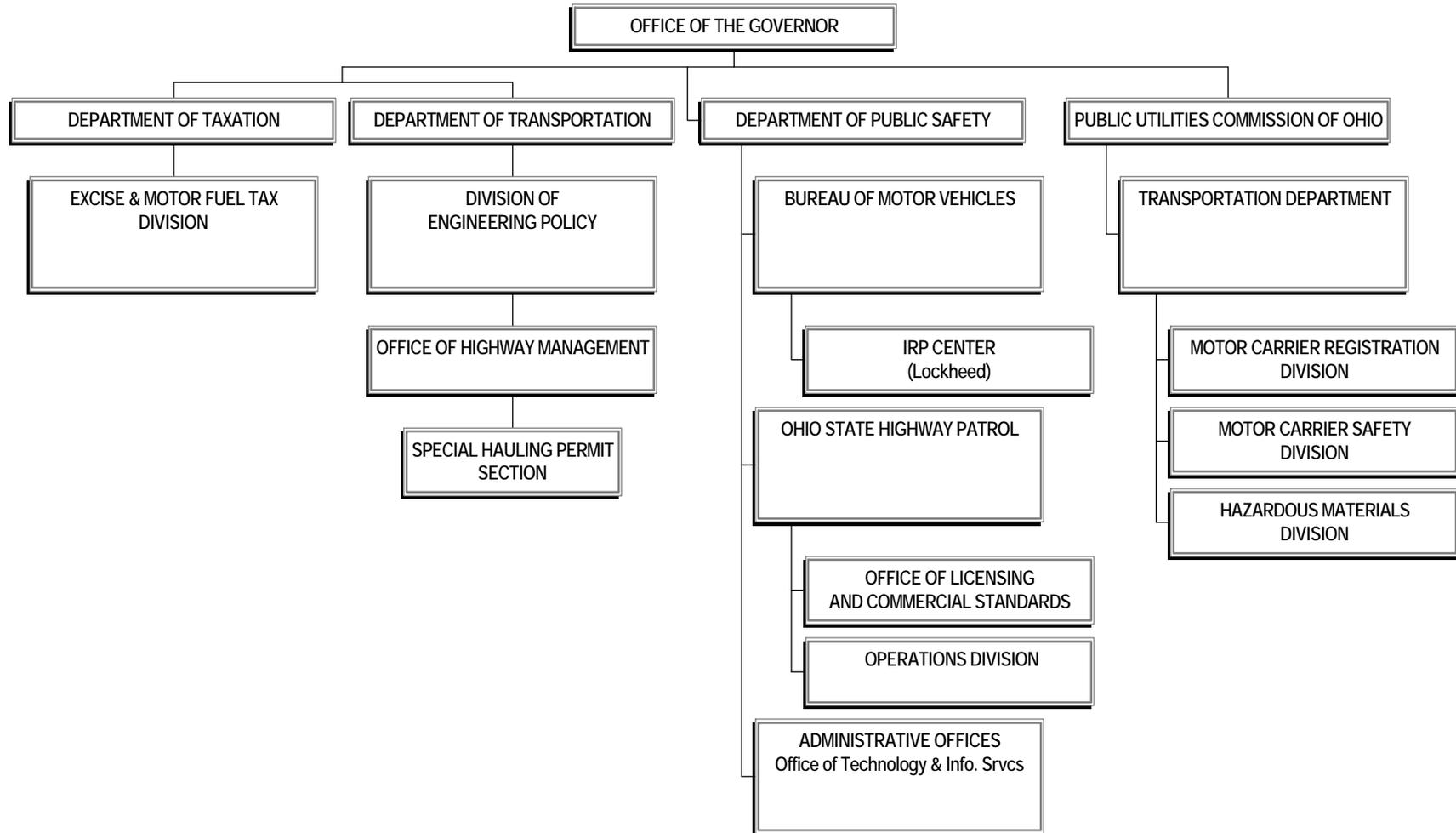
## ***6.2 Funding Approach***

Funding will be available through federal and state sources. It will not be possible to develop funding plans to any great extent until an actual Project Plan is prepared; however, involvement of all major CVO-related state agencies will allow use of various funding sources, both state and federal

Initially, CVISN Deployment and MCSAP funds, along with the state matches, will be utilized for technical assistance and hardware/software acquisition. Continued operating costs will be absorbed in state agency budgets, to be offset as noted in some cases by savings.

When actual plans are developed during the Project Plan phase, the fiscal officers of the state agencies will meet to prepare a detailed funding plan which can be incorporated into the state's budget.

### 6.3 State of Ohio Organizational Chart Relating to Commercial Vehicle Operations



## 6.4 Steering Committee

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6.5 Memorandum of Agreement

APPROVED  
COPY

Memorandum Of Agreement  
State of Ohio  
July, 1996

DUPLICATE  
ORIGINAL

ITS/CVO Mainstreaming Program

**Goal:** To support in principle the Federal Highway Administration's (FHWA) nationwide deployment of Intelligent Transportation Systems/ Commercial Vehicle Operations (ITS/CVO) technology to the year 2005. The overall effort shall be referred to as the Commercial Vehicle Information Systems and Networks (CVISN) program.

**Objectives:** (1) emphasize safety, clearance, and credentials activities; (2) encourage automation of networks and facilities that support ITS/CVO deployment consistent with the national CVISN architecture; and (3) establish the appropriate foundation for future integration and implementation of the CVISN architecture.

Scope of Agreement

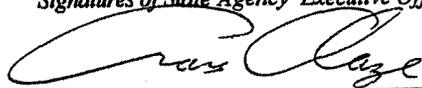
As executive officers of the participating agencies in this program, we agree to work together and with representatives of the motor carrier industry toward meeting the FHWA ITS/CVO Mainstreaming program's conditions for commitment, funding/cost sharing, ITS/CVO business plan development, and regional consortium participation.

Specifically, we agree to develop a detailed ITS/CVO business plan for our state that will serve as a framework to integrate ITS/CVO technologies with existing state regulatory functions and processes and be compatible with the CVISN architecture. Our goal would be to complete the plan with buy-in from top-level agency officials within 15 months from the day the corresponding federal grant agreement is signed. Once our plan is completed, we agree to begin, to the extent circumstances and resources will permit, the implementation of the plan to foster deployment in our state.

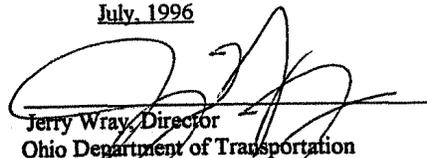
In addition, we agree to work with other states in a regional consortium of states and to select and send a representative of our state to the consortium's meetings. This/these individual(s) will also act as contact person(s) for this project on behalf of our state.

*Signatures of State Agency Executive Officers*

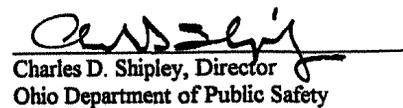
July, 1996



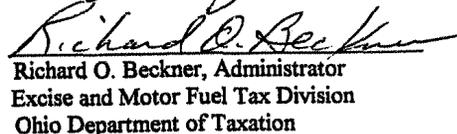
Craig A. Glazer, Chairman  
Public Utilities Commission of Ohio



Jerry Wray, Director  
Ohio Department of Transportation



Charles D. Shipley, Director  
Ohio Department of Public Safety



Richard O. Beckner, Administrator  
Excise and Motor Fuel Tax Division  
Ohio Department of Taxation

## **APPENDICES**

**A – Data Collection and Analysis**

**B – Ohio State Agencies and Contact Names**