Indiana
Intelligent Transportation Systems
Commercial Vehicle Operations
Business Plan

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[12/31/97 Revision]

Prepared for

Indiana Department of Revenue

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GENERAL OVERVIEW

BACKGROUND

This business plan was developed by the Motor Carrier Services (MCS) division of the Indiana Department of Revenue. It is the result of a nine month study of the various state departments and agencies that directly and indirectly support the interstate and intrastate motor carrier industry in Indiana. It was funded by the Federal Highway Administration's Intelligent Transportation Systems - Commercial Vehicle Operations (ITS/CVO) Mainstreaming project and the State of Indiana Department of Revenue. The ITS/CVO project encourages states to implement the architectures and standards that have been developed and proposed by FHWA to improve the national highway system and its usage. The consultants who assisted in the plan development enlisted the participation of a wide range of stakeholders in state government and the trucking industry private sector. More than sixty (60) interviews, briefings and meetings were conducted. In addition, they participated in six (6) demonstrations and site visits. The consultants also conducted thirteen (13) in depth workshops with various stakeholder organizations that included the participation of 35 individuals. This plan has the enthusiastic support of most of the stakeholders who participated in its development. This business plan sets the stage for a more detailed project plan that will address specific implementation issues. It is also meant to be a dynamic guide that will adapt to the changing character of the stakeholders' environments and priorities. Most importantly it introduces some significant new perspectives and foundations from which to proceed. This plan proposes evolving the current systems and procedures into a system that will have significantly more capabilities to provide more value and service than is currently possible.

CURRENT ENVIRONMENT

Several different state agencies and departments each provide elements of the services supporting motor carrier activities in the state. A "One-Stop-Shop" project has been under development for some time and continues to gain momentum. The objective was to consolidate functions and systems into an organization that would provide a single point of contact for motor carriers to fulfill their obligations to the state. Most of the systems recently brought together in MCS were long ago developed by the original agency as standalone systems in reaction to specific and narrowly defined administrative functional needs. Currently the credential issuing functions are supported by six major software applications running on five different hardware platforms controlled by four different departments. None of these majors systems share any common information. Common information is reentered into each of the separate systems that require it. These systems are archaic, obsolete, difficult to maintain, and most are not Year 2000 compliant.

The "One-Stop-Shop" approach was encouraged and is now strongly supported by the private sector motor carrier industry. A committee of industry stakeholders has been active for several years. Its focus has evolved to ITS/CVO concepts and projects and is now called The Indiana ITS/CVO Committee. Their support has been critical to the implementation of valuable improvements in motor carrier services and support that are currently being delivered.

Indiana has long been a supporter of the goals and objectives of the FHWA ITS/CVO initiatives. The state is an active participant in several major ITS/CVO projects. Details of these and other projects are outlined in this document. More importantly, Indiana has used the results and benefits from early projects to develop several significant and innovative processes and systems to the benefit of the motor carrier industry. These specific projects stand out as being at the leading edge of ITS/CVO projects. They are: 1)

The Indiana Department of Transportation (INDOT) has "Hoosier Helpers", an innovative traffic management system, 2) The Indiana State Police (ISP) has developed a motor coach inspection program that is now recognized as the best in the country, 3) The Bureau of Motor Vehicles (BMV) is offering a unique Internet accessible Commercial Drivers License (CDL) monitoring service, and 4) The Department of Revenue - Motor Carrier Services Division (MCS) has implemented a unique Over Size/Over Weight Permit system that allows a certain type of carrier to self issue permits 24 hours a day, 7 days per week. Each of these projects delivery a very high economic value to the private sector stakeholders as well as to the departments sponsoring them.

TRADITIONAL REQUIREMENT

Upon review of the current system structure, certain requirements become obvious. Changes in how the systems function and the way they access and process data must be made now. The year 2000 problem imposes a rather short time frame in which these changes have to be made. One approach to address the deficiencies of the current systems would be to replace them with current products that have been proven in the market place. There are several available and a few have been reviewed in depth. These "off the shelf" products were developed by companies that have thrived in the stand alone system mode. There is no suite of ITS/CVO administrative products that share common information or that integrate all of the required functions. An alternative is to design an entirely new system that consolidates functions and provides for sharing common data. The cost of such an approach would be very high and require a long development and implementation period that would be disruptive.

The least disruptive approach is to develop a plan to integrate the current systems to the extent possible, given their disparate architectures. This could be done by developing a "middle-tier" processor or application that acts as an agent for the user. This function would interface separately to the disparate systems on behalf of the user to obtain or process information. This approach provides a way to begin the integration process immediately while providing a consistent user interface that will mask incremental changes to correct the current systems' deficiencies. More importantly, this approach presents opportunities to significantly change the way in which state government can be of assistance to the taxpayer. There are also continuing requirements to provide new services that may not be possible with the current or newly replaced systems.

EXPANDED REQUIREMENT

There is general agreement that part of the role of state government, as it applies to the motor carrier business sector in the state, is to facilitate compliance with established laws, regulations, and procedures pertaining to the effective and safe use of highways in the state. The Motor Carrier Services Division's role is further defined to focus on the support of the motor carrier industry by coordinating access to motor carrier support activities performed by several state departments or agencies. Ultimately the role is to facilitate the private sector's collective contributions to the health and growth of the economy of the state and region. The private sector business's role in the economy is entirely different than that of the state. Their interest in the overall economy is limited. Businesses focus on their individual company profitability and competitive advantage in their segment of the motor carrier marketplace. The state, on the other hand, strives to provide a "level playing field" basis for any given market segment as a starting point while not interfering with the dynamics of the competitive marketplace. Private sector stakeholders in this industry focus on their own profitability while the state is concerned with the total picture of the state's economy. Identifying and measuring MCS contributions to the overall state economy is a requirement.

Traditionally state departments and agencies have organized their operations around easily measured localized efficiencies such as operating budget performance and human resource utilization. Few have

formally recognized, as a significant factor, their potential contribution to the overall economy while delivering services to the business sector. Providing access to government services in a way that makes it easier and reduces the cost of doing business with the state strengthens those companies and allows them to turn the benefit into a competitive market advantage. Since a company's profitability is a contribution to the measure of the health and strength of the state's economy, a state agency's delivery of governmental services that can be translated into economic value, is making a contribution to the economy. This plan will not attempt to calculate the full compounded economic effect of any of the proposed value contributions. That will be left to the economists. This recognition of economic value is, however, the very foundation of this plan and the key to the success of its implementation. Projects or system changes will be justified and prioritized by considering the sum of the economic value delivered to all of the affected stakeholders. There is a model, described in this document, of a project implemented recently by MCS that illustrates the significance of quantifying economic value. Acceptance and implementation of the economic value proposition is a requirement.

The FHWA ITS/CVO initiative requires, at least for Indiana, that the support systems be adaptable to the extent that they can interchange data among various federal agencies or clearing houses and other states, e.g., Electronic Data Interchange (EDI). Current systems cannot be easily adapted to such a requirement. Indiana has realized many benefits from the current ITS/CVO projects and is anxious to reap the benefits of others. This requires a system or systems that are adaptive. With an adaptive system approach. even more value can be derived from current ITS/CVO projects. An adaptive system is one that is designed to change dynamically as the imperatives and priorities of the stakeholders change. This is a fairly new concept, but it does not require unique hardware and is based on recent and proven object programming technology. Adaptive systems can provide functions and services that are not attainable with traditional hierarchical data oriented systems such as the current legacy systems. Adaptive systems development is a requirement.

Private sector stakeholder access to state services is another critical element. Until now electronic access was typically provided by rather limited and often expensive technology such as EDI, leased communications lines, or elaborate and difficult to maintain customized interfaces. The pervasive use and growth of the Internet presents a unique opportunity to greatly enhance access to functions and delivery of service to a wide range of stakeholders. Use of the Internet through AIIN is a requirement.

Considerable success has been achieved through the implementation of the "One-Stop-Shop" project. Continuing to build on that success relies heavily on the continuation and expansion of the concept. Providing a single contact point for the stakeholders does not necessarily require transferring systems, resources, and functions into MCS. Providing access through a single point, AIIN, does not necessitate such physical consolidation or transfer. However, a single point of leadership and direction is essential. Continued centralized leadership is a requirement.

UNIQUE ENABLERS

This more powerful and expanded contribution approach is fairly easy to adopt. Indiana is in a unique position on several fronts. The "One-Stop-Shop" concept that is consistent with ITS/CVO objectives has been underway for sometime and is now developed to the point that these expanded requirements are a natural good fit. Indiana is one of the few states that has enacted legislation that enables and encourages the use of the Internet, electronic signatures, and an organization, Access Indiana Interactive Network (AIIN), that can deliver enhanced services via the Internet and can charge modest fees to support the ongoing delivery of them. AIIN has the staff and experience to develop object oriented programming to implement the "middle-tier" requirement referred to above. A single contact point for both Internet and intranet users to access multiple systems controlled by different departments with a reliable consistent interface is doable at minimal cost through AIIN. Optimizing AIIN participation is a requirement.

PLAN OVERVIEW

All current projects will be reevaluated in terms of their priorities and how they can be enhanced in light of this expanded approach. Some may be deferred while others may be modified. AIIN will become a significant partner in the development and delivery of enhanced services. An Internet and direct link interface for current and all future EDI requirements will be put in place through AIIN. This will accommodate CVISN standards for clearinghouse and interagency information interchange while providing communications options for the stakeholders. Current and new application requirements will be programmed with object technology with a view toward establishing a base for future adaptive systems. Immediate ITS/CVO development focus will be on further exploitation of current projects to derive additional value from them. MCS's current information systems infrastructure will be strengthened before any significant new ITS/CVO initiatives are undertaken in order to get maximum value from them when they are begun. It is feasible to accomplish much of this plan in a relatively short period of time. In can be done in an incremental non-disruptive way while taking the least cost alternative to correcting current deficiencies. Its so much a matter of cast as it is one of perspective.

CRITICAL SUCCESS FACTORS

This plan is doable, affordable, and flexible in terms of implementation provided that the following elements are understood, accepted, and supported:

Acceptance and adoption of economic value proposition for justification.
Acceptance adoption of object programming base.
Acceptance and implementation of adaptive system architecture
Continuing support of combined MCS leadership.

Chapter 1 INTRODUCTION

The purpose of the Indiana ITS/CVO Business Plan is to describe the broad vision and goals of Indiana's ITS/CVO program. The plan is the vehicle to obtain consensus among state agencies and the motor carrier industry, who are the stakeholders. This allows ITS/CVO projects to be developed and deployed in a coordinated manner. In addition, it can be the vehicle to communicate the program summary that may be distributed to state agencies, legislators, the general public, and other states.

The goal of the Indiana CVO Business Plan is to establish the foundation for ITS/CVO deployment. The plan becomes the vehicle for activating stakeholder participation in ongoing project planning and implementation.

The Department of Revenue coordinated the development of this Business Plan which was supported by a grant from the FHWA ITS/CVO Mainstreaming funds and matching funds provided by the state of Indiana.

The Intelligent Transportation Systems Program, authorized by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), envisions the application of advanced and newly emerging technologies in such fields as data processing and communications to multimodal surface transportation needs. Among the goals for the ITS program set forth by ISTEA are:

- the enhancement of the capacity, efficiency, and safety of the nation's transportation systems;
- the enhancement of efforts to attain air quality goals established by the Clean Air Act; and,
- the reduction of societal, economic, and environmental costs associated with traffic congestion.

The goal the FHWA has established for the Mainstreaming program is to support nationwide deployment of ITS/CVO services by the year 2005. The objectives of the Mainstreaming program are:

- Emphasize safety, clearance, and credentials activities.
- Encourage automation of networks and facilities that support ITS/CVO deployment consistent with the Commercial Vehicle Information Systems and Networks (CVISN) architecture.
- Establish the appropriate foundation for the future integration and implementation of the CVISN architecture.

Our initial emphasis is on data processing and communications to build the infrastructure necessary to handle information provided by more specialized Intelligent Transportation Systems technologies.

1.1 Business Plan Document Overview

Vision and Mission Statement

Our charter is to administer the process required for motor carrier companies to fulfill their requirements for operating in the state of Indiana. Our vision is to execute our charter in a way that focuses primarily on delivering optimum economic value to motor carriers. This is viable only to the extent that there is general agreement to the concept of total economic value as a driving force.

Our mission is to provide stakeholders with improved service that delivers economic value while contributing to highway safety. This includes:

- We will reduce the motor carrier's paperwork and issue credentials faster through technology.
- We will support the enforcement division through cooperative efforts that ensure a fair economic environment in which trucking companies can operate.
- We will help create safer highways by committing to national information exchanges that identify and monitor the high risk carrier.

Chapter 1 describes the origins of the plan and the agencies that have encouraged and sponsored it. This chapter also describes how the planning for this document began on a traditional track. Early in the process it was evident that a non traditional approach was needed to optimize the benefits promised by the ITS/CVO architecture. The Indiana ITS/CVO Committee and its members are also described.

How the ITS/CVO activities in the state are organized is described in **Chapter 2**. Statistics relative to motor carrier activity in the state are reflected in this chapter and the importance of trucking to the infrastructure of Indiana's economy is also highlighted.

The strategic overview in **Chapter 3** supports the conclusion that evolving the current systems into an adaptive system built on dynamic change is a critical element. Real benefit from ITS/CVO projects require that information captured anywhere must be made available for use everywhere. The observations, issues, goals and objectives, and measurements outlined in this chapter are a blend of several different stakeholder perspectives. This chapter sets the basis for the critical success factors that are central to this new approach to systems evolution.

Chapter 4 addresses some of the specific ITS/CVO related projects that we intend to address. We have included a description of an actual recent project that uses some of the new perspectives of this plan. It will serve as a model for identifying high economic value projects and how to measure them. The model is based on the application of inexpensive technology (a voice response unit) to a special class of over size/over weight permit issuance.

Chapter 5 refers to the requirements for a follow-on Project Plan that will more precisely detail each ITS/CVO project we envision in the near term.

The **Appendixes** address the current systems inventory, a bibliography, and a list of individual participants in the plan development. The plan also refers to certain Companion Documents that are referenced in various parts of the plan, but are too large to be fully incorporated. The primary Companion Documents are the Indiana State Police Business Plan and the Gary, Chicago, Milwaukee Corridor ITS Project sponsored in part by the Indiana Department of Transportation.

1.2 Business Plan Development Process

The initial plan development process included the following traditional five phases:

- Phase I, consisted of planning meetings and initial agency interviews.
- Phase II, the data collection phase, where input from a broad range of state motor carrier agencies and the motor carrier industry was to be solicited through individual interviews and group workshops to identify problems in current CVO processes and potential solutions.
- In Phase III, the information gathered was to be analyzed and the findings were to be reviewed with the stakeholders and incorporated into the emerging Business Plan.
- In Phase IV, specific projects were to be designed based on the recommendations of the ITS/CVO Committee and the findings from the data analysis in Phase III. In addition, the roles and responsibilities for implementation of the Business Plan were to be identified and assigned.
- In Phase V, a written report was to be prepared summarizing the Business Plan.

We began development with the traditional planing approach. Part way through the process, some starkly contrasting issues emerged. It was evident that:

- Each stakeholder described their issues differently.
- Each stakeholder's marketplace, or environment, was distinctively different and dynamically changing.
- All stakeholders had expectations of different economic value to be derived from ITS/CVO implementations.
- The concept of a single level playing field for all participants does not apply.
- The roles of state government and individual private sector stakeholders are significantly different.
- Institutional barriers are perceived as real.

The plan was then developed to recognize and address those differences for the benefit of all the stakeholders in a new adaptive way while accomplishing most of the goals of the traditional planning approach. The Phase IV requirements of the original approach will be expanded on in a follow-on project and implementation plan document. To identify those areas that require further expansion, we have inserted linkages to the project plan throughout this document.

This plan will be a working document. It will be revised or amended as required. At a minimum the plan will be updated annually and the revisions will be reviewed with the Indiana ITS/CVO Committee. Additionally, the committee will be advised of the status of ongoing projects by means of a newsletter at least twice annually. Copies of the plan and project status updates will be provided to any requesting state department or agency.

The Indiana ITS/CVO Committee played a critical role in the development of this plan. (see Figure 1) Individual members contributed important ideas and insights.

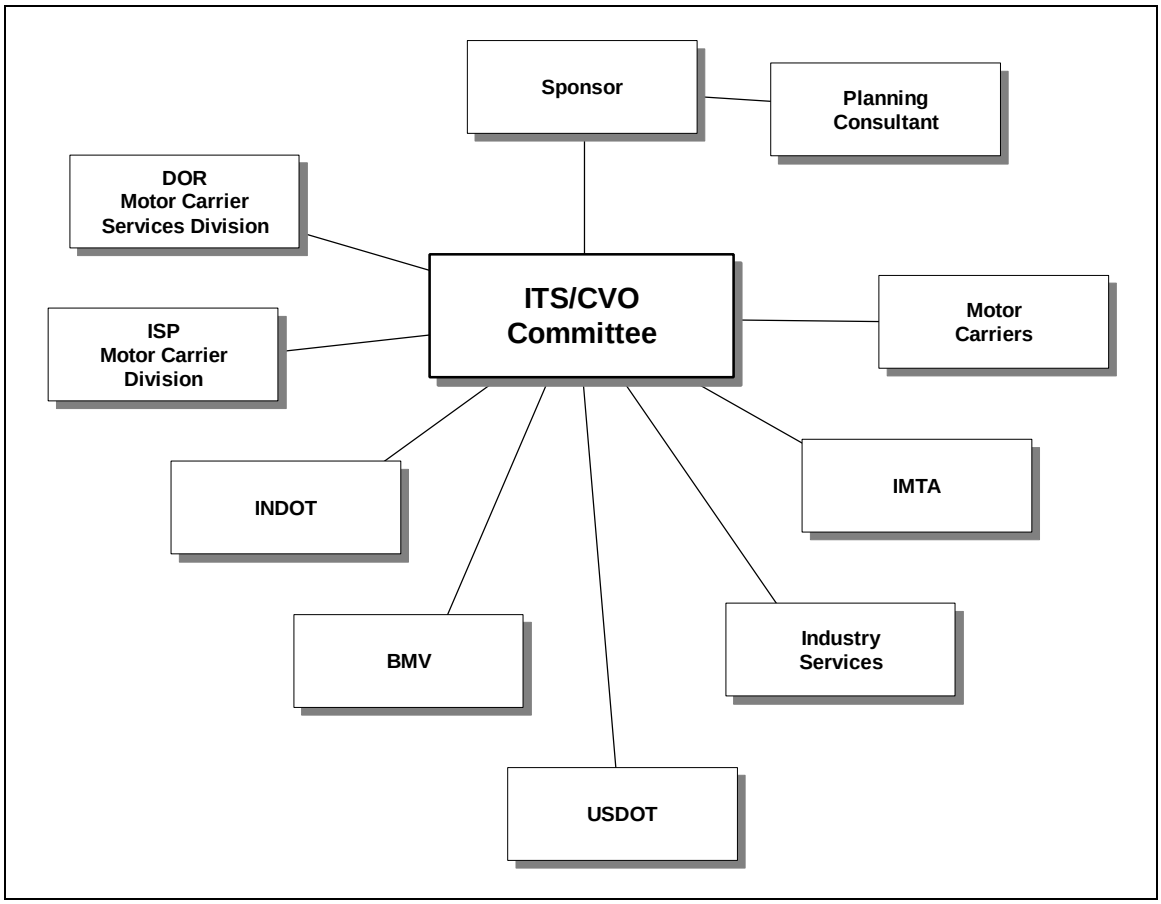

Figure 1 Indiana's ITS/CVO Business Plan development management structure

The ITS/CVO Committee is made up of members from government and the motor carrier industry throughout Indiana. Stakeholders represented on the committee include the following:

Indiana State Agencies:

- Department of Revenue - Motor Carrier Services Division (DOR-MCS)
- Indiana State Police - Motor Carrier Division (ISP-MCD)
- Indiana Department of Transportation (INDOT)
- Bureau of Motor Vehicles (BMV)
- US Department of Transportation (USDOT)

Motor Carrier Industry:

- Motor Carriers
- Indiana Motor Trucking Association (IMTA)
- Insurance Services
- Permitting Services
- Legal Services

Commercial Vehicle Regulation in Indiana

Currently three agencies are involved in motor carrier credentialing and one agency is responsible for safety enforcement. These agencies are as follows: DOR, BMV, INDOT, ISP. (see Table 1)

Table 1 Commercial Vehicle Regulation in Indiana

Agency:			
Department of Revenue	Indiana State Police	Indiana Department of Transportation	Bureau of Motor Vehicles
Division:			
Motor Carrier Services Division	Motor Carrier Division	INDOT	BMV
Essence of Mission:			
Registration, tax and permitting processes	Safety and regulation compliance	Provide safe and efficient highways	Registration and driver licensing processes
Business Functions:			
• Interstate registrations and plates • Fuel tax reporting • Financial responsibility and operating authority • Permitting	• Safety enforcement • Compliance reviews • Weigh station operations • Size/weight enforcement • Hazmat enforcement	• Superload permitting • Weigh station construction and maintenance • Roadways and bridges • Congestion management	• CDL licensing and medical records • Intrastate registrations and plates • Titles
Compliance:			
• Carrier Audits	• Terminal inspections • Roadside inspections	• Inspection Tools and Facilities	• CDL Driver's Points • Currency of Physicals
Measurements:			
• Turnaround Time • Accuracy	• Number of inspections relative to traffic • Number and type of citations • Crash rates and severity	• Suitability of Facilities	• Turnaround Time • Accuracy
Imperatives:			
• Year 2000 • 10K Program • Move to New Building	• Year 2000 • Move to New Building	• Year 2000	• Year 2000
CVISN Projects:			
• One-Stop-Shop • PRISM	• MCSAP • PRISM • GCM Corridor • CVSA	• GCM Corridor • Hoosier Helpers • SHRP	• Fleet Registration • CDLIS

Chapter 2 DESCRIPTION OF THE STATE

This chapter describes the issues and characteristics of the state that impact motor carrier activity, including current projects and motor carrier regulatory processes, the economic, political, and technology characteristics of the state, as well as the issues and opportunities for Motor Carrier Services.

Activities leading up to current position in ITS/CVO:

- One-Stop-Shop concept
- Early participation in IRP and IFTA
- Participation in SSRS
- Early Industry Advisory Panel
- Regional meeting participation
- Demonstration Project Participation (ISP and INDOT)
- Decision to join Mainstreaming
- Establish Steering Committee
- Hire consultants

2.1 Economic, Political, and Technology Characteristics

Figure 2, on the following page, shows that trucking is a vital segment of the transportation system in Indiana. The *Truck Movements in America* report presents the following estimates of the movements of commodities by truck within, to, from, and through Indiana. These estimates show the magnitude of interstate commerce on Indiana's highways. Note that Indiana ranks first in the value of truck shipments that travel through the state.

The report also shows that the nation's historic manufacturing belt remains vital with a large concentration of truck activity in the corridors from Illinois to Pennsylvania.

The Indiana Department of Commerce is currently focused on expanding Indiana's business base by attracting new businesses primarily in the manufacturing and distribution industries. An important part of Indiana's infrastructure that appeals to these prospective new businesses is the vitality of the motor carrier industry. For that reason effective support of the trucking industry and fostering its growth and health is critical in attracting manufacturing and distribution business to locate in Indiana.

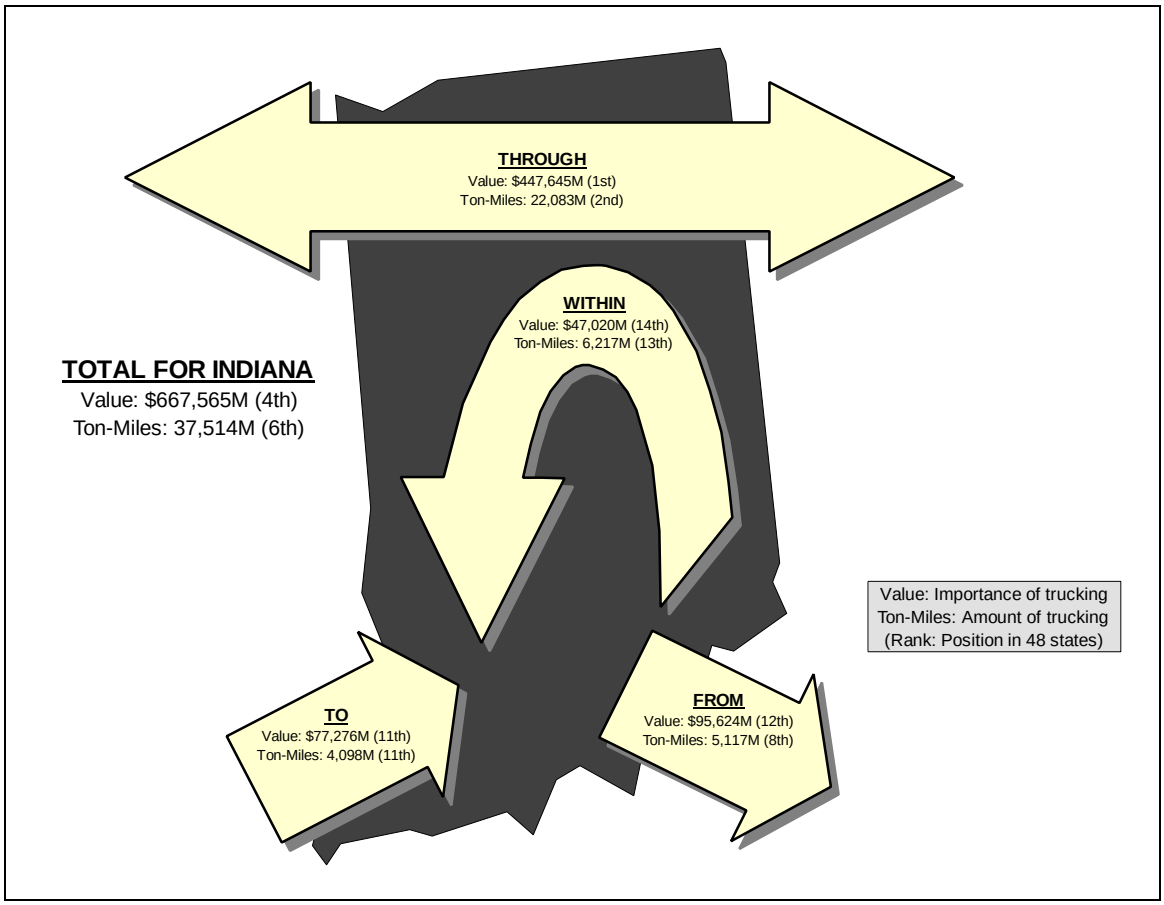

Figure 2 Truck shipments in Indiana

The value of truck shipments indicates the relative importance of trucking to the state. The ton-miles of truck shipments indicates the amount of trucking activity over Indiana's highways.

Interstate commerce accounted for more than 90% of trucking by value of shipments in Indiana, and more than 80% in terms of ton-miles.

Shipments passing through the state accounted for two-thirds of the value of commodity movements by truck in Indiana, and through shipments accounted for more than half of the state's ton-miles by truck.

The largest shares of shipments within states tend to be in states that are geographically large with widely separated major cities, such as California and Texas, or in the corners of the country, with access to few bordering states, such as Florida and Washington.

Indiana Statistics:

- Indiana receives close to $450M per year in CVO related taxes and fees.
- A total of 524,268 tons of freight are moved each business day in Indiana.
- 8.692 billion Commercial Motor Vehicle miles driven in 1996.
- In 1993, the trucking industry employed 182,292 people in Indiana, or one out of every 12 workers.
- The average annual wage paid to truck-industry workers in 1993 was $26,145.
- The total annual payroll for the trucking industry in Indiana was $4.9 billion in 1993.
- In 1994, 52,715 truck safety inspections were conducted in Indiana.
- 88,138 safety inspections in FY1997.
- Issued $9.6M OS/OW permits in 1996.
- In 1996, Indiana had the 6th largest number of IRP registered truck fleets in the nation.
- Indiana is home to more than 9,700 for-hire and private interstate trucking companies.
- 308,000 OS/OW permits issued in 1996.
- Indiana issued 177,290 CDLs in 1994.
- There are 6,500 intrastate trucking companies registered in Indiana.
- There are almost 100 motor coach companies in Indiana.

Unique position of Indiana:

- "Crossroads of America"
- Access Indiana legislation to support electronic commerce and information sharing
- Change environment (survey results)
- Positive relationship between motor carriers and Motor Carrier Services
- Active Indiana Motor Trucking Association
- Current administration is "customer" oriented
- Understand the value of trucking industry to commerce in the state
- Recent business location wins were influenced by reliable transportation infrastructure
- ISP CMV programs and enforcement efforts are "performance-based"

Technology characteristics include:

- The mechanisms are being proposed to handle Electronic Funds Transfers (EFT) for companies who pay more than $10,000/quarter in IFTA.

- Legislation has been passed to allow electronic signatures. Indiana is one of the few states that is enabled by legislation and implemented electronic or digital signatures.

- A quasi-government agency has been legislated to function as the Internet interface for the state. Access Indiana Interactive Network (AIIN).

- AIIN can also supplement the billing mechanisms used by DOR-MCS.

2.2 Current and Ongoing Indiana CVO Programs and Projects

Prior to the development of this business plan, a coherent, integrated statewide CVO plan did not exist, however there are numerous related projects underway. These activities are not necessarily coordinated across departmental jurisdictions. A coherent, integrated statewide CVO process is our ultimate goal. The first step in achieving this is the development of an infrastructure. The following list of the major Indiana ITS/CVO projects illustrates the extent of our activity. Our ability to mainstream the sharing of this information between state agencies, other Indiana stakeholders, and other government agencies is the first step in realizing a coherent, integrated statewide CVO process. The Project Plan will include all current and ongoing programs, once the infrastructure is strong enough to support an aggressive pursuit of new ITS/CVO projects. One project each in BMV, DOR, INDOT, and ISP has been singled out because of it is unique, innovative, nationally recognized, or ground breaking characteristics. These are highlighted below as a " ***** MODEL PROJECT ***** ".

The following is a list of the major ITS/CVO related projects that are being implemented in Indiana:

SAFETY ASSURANCE PROJECTS

******* MODEL PROJECT *******

Motor Coach Safety Inspection Project (ISP)
A recent program focused on motor coach safety inspections was implemented. It was a comprehensive program consistent with Federal Motor Carrier Safety Regulations and CVSA criteria. The program did not include roadside or enroute inspections. Instead, inspections were conducted at terminals and destinations. A very effective outreach program was implemented to conduct meetings and seminars for the industry to describe the inspection criteria and how the program will work. ISP Safety Inspector representatives were assigned to specific motor coach companies to serve as liaison to ISP. Motor coach user organizations recognized the value of the program and cooperated in facilitating effective destination inspections, e.g. riverboat casinos on Lake Michigan. The industry associations' initial resistance abated after meetings with ISP and engaging a consultant to review the program. That widely respected consultant concluded that the Indiana Motor Coach Inspection program was in compliance with CVSA criteria, was being operated in a positive and constructive way, and could be a model for inspection programs in other states. The ISP program's notoriety was further bolstered in a recent 20/20 television broadcast focusing on motor coach safety. The Indiana State Police program was featured in the most favorable light. ISP continues to field many questions from other state and federal officials.

Specialized Equipment in Fixed Scale Facilities (ISP)
In order to provide a better service to the carriers operating in Indiana, specialized inspection equipment has been installed at many of our fixed scale facilities. This eliminates the unnecessary delay of carriers utilizing Indiana roadways.

Commercial Vehicle Safety Alliance (CVSA) (ISP)
A CVSA sticker is provided to carriers who pass a complete Level 1 inspection. This sticker identifies the vehicle to enforcement officers as one having been inspected and met the requirements of the Federal Motor Carrier Safety Regulations (FMCSR). This allows the vehicle to continue to operate without being stopped repeatedly. These stickers help with our selection process and are valid for ninety (90) days.

Hazardous Material Inspection Projects (ISP)
This type of transportation move presents a greater risk to the general public and enforcement efforts will remain high so as to address these issues and concerns.

Evaluating Program Effectiveness of School Bus Inspection Program (ISP)
The Division uses school bus crash investigations to evaluate the effectiveness of its inspections. They reveal mechanical defects that result from poor maintenance and from design flaws. The crash data is also used by the U.S. Department of Transportation when setting design standards.

Focus on Moving Commercial Motor Vehicle (CMV) Driver Violations (ISP)
One of the primary goals of the Motor Carrier Division is to *reduce CMV crashes statewide*. This program focuses on moving violations committed by drivers that tend to cause CMV crashes, i.e., DUI, reckless driving, speeding, following too close, and driver fatigue. When necessary the officers will conduct Level III inspections on drivers who commit moving violations.

Size and Weight Enforcement Projects (ISP)
The Motor Carrier Division assists the Indiana Department of Transportation (INDOT) in writing the Federal Size and Weight Enforcement Plan for the State of Indiana. In addition, the Motor Carrier Division has the primary responsibility for the enforcement of size and weight laws for the State. The purpose of this enforcement program/plan, is to gain *voluntary compliance* of size and weight activity on Indiana roadways.

Chicago Commercial Zone Enforcement Projects (ISP)
These projects generally target unsafe vehicles or drivers and repeated violations of the FMCSR. One such project addresses the "Chicago Commercial Zone" (CCZ) operating in Northwest Indiana. Historically, this area of Indiana has proved to be a rich environment of CMV's who routinely operate in poor condition and are also overweight. In addition, there are numerous driver violations seen during this project.

Interstate Compliance Review Program (ISP)
Some auditors perform compliance reviews of interstate carriers which included examining the Driver Qualification Files, Drug and Alcohol Testing, Driver's Hours of Service, maintenance and other files on record at the carrier's principal place of business.

Intrastate Compliance Review Program (ISP)
Other auditors conduct compliance reviews on intrastate carriers from the carrier list. The list is made up from roadside inspection data and complaints on carriers. In the near future, crash and arrest record information will be added to this list.

Internal Audit Mailing Program (ISP)
The Internal Audit Program identifies every 100th inspection, at random, from the SAFETYNET database to be audited. The inspection is then printed and sent to the carrier with a request to have the carrier check the inspection information for accuracy against the driver's copy provided by the inspecting officer. A cover letter is attached to the inspection report soliciting additional information relating to how the inspection was conducted, inspector's conduct/professionalism, and other safety related aspects. ISP is experiencing an 80% return on this mailing.

Inspection Repair Audit Program (IRAP) (ISP)
Carriers must certify to the inspecting agency that all of the violations noted on the inspection report have been corrected. In the case of driver violations, the company is certifying that they have been made aware of their drivers' deficiencies. The IRAP Program identifies carriers that have failed to return the drivers copy of the inspection report to us. A letter is sent to the carrier asking them to comply with the Federal Motor Carrier Safety Regulations (FMCSR). ISP has less than 1% of required certifications outstanding after second and final notice.

Performance and Registration Information System Management (PRISM) (ISP and DOR)
Formeraly known as Commercial Vehicle Information System (CVIS), this project is intended to identify motor carriers responsible for the safety of vehicles, and to monitor the safety fitness of those motor carriers by linking the vehicle registration process to safety performance monitoring and enforcement.

This system would allow the states, when issuing a license plate for a commercial motor vehicle, to determine the safety fitness of the motor carrier to which the registered vehicle will be assigned. The states and federal government will then be able to ensure the safety fitness of the motor carrier through an improvement process, and through sanctions and limitations on operations when necessary. The CVIS will create an additional enforcement tool by linking safety and vehicle registration, two traditionally separate government functions. The following steps are necessary to achieve the full implementation of CVIS:

At the *deskside*, database management and electronic data interchange systems must be established to enable state motor vehicle registration departments to assign U.S. DOT numbers to motor carriers at the time of vehicle registration, and to check the carrier's safety performance score (as generated by the U.S. DOT's SafeStat algorithm) prior to issuing registration plates.

At the *roadside*, state motor vehicle enforcement personnel must be trained to participate in the federal compliance review (terminal audit) program to ensure that the required number of compliance reviews (as identified through SafeStat) can be completed in a timely manner; procedures must be implemented to ensure the rapid upload of safety enforcement data (accident reports, roadside inspections, and compliance reviews) to the national Motor Carrier Management Information System (MCMIS) database to ensure that motor carrier safety scores are based on current data; and the capability to target high-risk carriers (as scored by SafeStat) at the roadside must be established. The required level of effort is dependent on the extent to which technologies such as portable computers and license plate readers (LPR) have been introduced at roadside inspection facilities. (Note: Indiana is implementing LPRs as part of the CVIS pilot project.) State's must provide motor vehicle registration departments with the authority to deny, suspend, or revoke motor vehicle registration privileges to carriers with poor safety performance scores.

- PCs in all weigh stations
- Plate readers (2)
- Weigh-in-motion (WIM) scales (5)
- Testing and integration is underway

CREDENTIALS ADMINISTRATION PROJECTS

******* MODEL PROJECT *******

Commercial Drivers License Monitoring Service (BMV)
A new service will be made available to motor carrier companies beginning early in 1998. BMV, in cooperation with another state organization, AIIN, will provide an enhanced service for a fee that will provide carrier subscribers with electronic notification of any change to the CDL record of any of their drivers. Once the carrier has enrolled and provided the necessary information about the company driver CDLs, BMV will provide an initial CDL record then notify the company, through the Internet, any time a CDL record changes. A great deal of interest was expressed during interviews with several trucking companies. The way companies get this kind of needed information today, if they get it at all, is inconsistent, not timely, and more costly than this alternative from BMV.

******* MODEL PROJECT *******

Michigan Trains Special Weight Permit System (DOR)
Voice technology was used to enhance the current over size/over weight permit system to provide continuous access to permits for a special class of cargo. Specialized carriers transport heavy steel products, that require special permits, to and from the steel producers in northern Indiana to the Michigan border. This industry sector is very competitive and time sensitive. Previously these permits could only be acquired during normal business hours on week days and had to wait hours for the processing to be completed. The effect on these carriers' business was burdensome to say the least. Now a voice response unit allows all of these carriers to obtain a permit using a touch tone phone in a matter of minutes. Since the system will issue temporary permits when the main application on the mainframe computer is unavailable, trucking companies can now get these vital permits 24 hours per day, 7 days per week. Thousands of hours, that were lost while waiting, have been returned to the industry at no cost to them.

One-Stop Shopping (DOR, BMV, INDOT)
The Department of Revenue and the Bureau of Motor Vehicles are working together to allow One-Stop Shopping in Indiana. INDOT and DOR have already automated oversize and overweight permitting and use One-Stop shopping clerks. Superload issuance will probably not be automated since it requires engineering analysis. These efforts have improved turnaround time and a reduction in costs to administer.

Southeast Inter-regional Institutional Issues Work Group (DOR)
14 Southeast and Midwest states devoting collective resources of member states to solving common institutional issues of CVO. Current emphasis is on common data requirements and formats for CVO registration and permitting functions among member states. The prime contractor is Georgia Tech.

CVISN Mainstreaming in Great Lakes Region (DOR)
FHWA/OMC CVISN Mainstreaming to streamline Indiana's regulatory processes through process improvement and leveraging of the developing national-level CVISN architecture for CVO. Develop a state ITS/CVO Business Plan, followed by an ITS/CVO Project Implementation Plan.

ELECTRONIC SCREENING PROJECTS

Transponder Working Group (INDOT)
The Indiana East West Tollway is currently evaluating the transponder technologies available to support electronic toll collection and plans to move toward deployment in the near future.

I-65 Interoperability Test (INDOT)
Assess the potential for transparently reading multiple types of transponders at a given weigh/inspection station. Joint project between Indiana DOT and Kentucky Transportation Center. Indiana and Kentucky are negotiating installation of transponder readers at the Seymour Weigh Station. INDOT contends that I-65's proximity to the I-75 Advantage Project necessitates use of I-75 compatible equipment (Hughes Transponders); Kentucky favors Amtech readers. Kentucky is exploring installing both readers at the weigh station, and FHWA has encouraged Hughes and Amtech to standardize their readers so that truckers will not require multiple transponders. [INDOT has committed to a $100,000 investment at Seymour.]

Other Indiana DOT (INDOT) Weigh Stations (INDOT)
INDOT is modifying several weigh stations, and will also construct a new Port-of-Entry weigh station on I-70 at the Illinois State Line in a couple of years. INDOT feels that the I-75 Advantage Program is good for the trucking industry as well as the state police. Both groups would see cost savings. INDOT is strongly considering upgrading these weigh stations to be I-75 Advantage compatible.

CARRIER OPERATIONS PROJECTS

******* MODEL PROJECT *******

Hoosier Helpers (Incident Management Program) (INDOT)

Indiana has the Hoosier Helper program designed to provide roadside assistance to stranded motorists and help in incident detection and response. The Hoosier Helper trucks are equipped with fuel, fluids, and other helpful items and can push or pull automobiles and even larger trucks. The Hoosier Helper vehicles also have laptop computers on board. For each incident or motorist assist, the operator records roughly 15 items about each stop including location, type of assistance, time of day, and other circumstances. There is a multitude of records now available providing a rich history of the program and the types of incidents that can be expected in the future.

INDOT is currently developing a system that automates the collection of incident data and initiates an automatic response. This system is referred to as the Expert System. A host computer, located at the traffic operations center, will ask the Hoosier Helpers a series of questions, via laptop computer. Based on those responses the host computer will initiate a series of automatic events that will decide which variable message signs will be addressed, choose and send the proper messages, automatically notify the news media and proper emergency response services, and make an archive of the messages.

The current prototype expert system utilizes an Incident Response Vehicle (IRV) equipped with an on-board communications system and provides the capability of transmitting video directly from the incident scene. This phase will enable the Hoosier Helpers to create and send Highway Advisory Radio (HAR) voice messages and Changeable Message Signs (CMS) data messages directly from the IRVs. The ability to transmit video directly from the incident scene is planned.

There will ultimately be 30 specific HAR stations identified and in place at strategic diversion points statewide. These stations, with a five mile broadcast radius, will provide pinpoint traffic congestion or restriction information prior to the point where a truck could make a safe route diversion to avoid the congested area.

The Gary / Chicago / Milwaukee ITS Priority Corridor (INDOT)

The States of Indiana, Illinois and Wisconsin in cooperation with the U.S. Department of Transportation (USDOT) have formed a coalition to improve surface transportation, safety, mobility and productivity through the application of current, advanced and emerging technologies on the GCM Corridor. The Borman Expressway (Interstate 80/94) in northwestern Indiana is one of the busiest commercial vehicle routes in the country. Extensive truck traffic adds to the normal congestion experienced in the corridor. INDOT is continuing to expand the coverage area of the **Borman Advanced Traffic Management System**. The system includes freeway management components such as: closed circuit television cameras, highway advisory radio, variable message signs, vehicle sensors and Hoosier Helper incident response vehicles.

Traveler Information System (INDOT)

A contract is underway to create a strategic plan to develop a traveler information system for northwest Indiana. In a separate effort, INDOT is developing a pilot project to provide traffic information gathered from the Borman Expressway to motorists using digital pagers. This will be a public/private joint venture. HNTB is the consultant on these projects.

GCM Data Pipe (INDOT)
The GCM Data Pipe represents a corridor-wide program for real-time data collection, sharing, and distribution. It will provide a backbone communication system for transportation agencies and systems in the GCM Corridor. The intent of the Data Pipe is to connect existing transportation systems and integrate them to support other GCM program areas. Currently INDOT has issued a Request for Partnership Proposal to the telecommunications industry to exchange access rights to their highmast lighting poles for placement of antennas used for communications service.

Indiana Traffic Management System (INDOT)
This project is to support the implementation of the Advanced Traffic Management System (ATMS) for the Borman Expressway in northwest Indiana, a joint system operation with the Indiana Toll Division (the Indiana Toll Road runs parallel to the Borman Expressway in northwest Indiana), a pilot test of an advanced systems followed by the deployment of advanced systems in the out years. All new equipment for vehicle detection, video surveillance, communications, data processing and VMS display is needed. The existing HARs will remain. This is a joint System with Toll Division.

Advanced System Enhancements provide support for artificial intelligence technology to enable operators to cope with voluminous data. Decision aids offer the prospect of significant relief and assistance to the operators in reacting and responding to time critical situations quickly and accurately. The deployment of artificial intelligence/expert system software to support the operators with decision aids.

The project will utilize existing transponders on trucks as a probe source for a low cost means of collecting travel time information. Applications might include:

- Quick travel time identification
- Use in construction zones
- Connection with VMS to provide travel time information to motorists
- Integration with roadside CB radio stations to facilitate the sharing of congestion information between truckers

ITS technology will be applied to construction work zones and other sites (e.g., special events, seasonal attractions) that experience periodic delays. Real-time traffic data from the site and surrounding roadways will be transmitted to a mobile control center where the information is processed. Portable changeable message signs will then be programmed to display up-to-the-minute messages to motorists approaching and traveling through the site.

CVO Traveler Information (INDOT)
The objectives of this project are to enhance the efficiency of motor carrier operations and to reduce traffic congestion by providing information that will improve carrier routing and dispatching, particularly as it is associated with intermodal cargo movement.

Overheight Vehicle Detection (INDOT)
Demonstrate technology which would sense when an overheight vehicle is approaching a viaduct, activate a flashing message board to alert the driver of the overheight condition, and direct the driver to an alternate location.

Corridor CVO Credential Management System Coordination (INDOT and DOR)

The objective is to improve the efficiency of commercial vehicle operations by ensuring interoperability between the corridor states and to enable efficient implementation of applications supporting the automation of:

- Exchange of applications;
- Issuance of credentials; and
- Roadside enforcement.

Integrated Cellular Call-in/Advanced Incident Reporting System (INDOT)

There is a *11 number operated on the Indiana Toll road which provides cellular emergency call-in service from mile markers 0 to 157. When motorists dial *11, the call is routed directly into the radio control dispatch center for the toll road and they have the capabilities from the control room to dispatch the proper emergency response agency.

2.3 Issues and Opportunities (MCS)

Major issues affecting the administration and enforcement of CVO regulations in Indiana, were developed in several workshops with Department of Revenue - Motor Carrier Services Division. They include the following:

Table 2 Major issues and opportunities affecting CVO

ISSUES	OPPORTUNITIES
MCS Systems replacement	• Adopt a more current and effective systems architecture that enhances data security and accuracy and that reduces overall cost. • Resolve year 2000 compliance.
Interdepartmental Systems communication	• Add more value to existing stakeholder systems by providing more accurate information exchange and verification capabilities. • e.g., One-Stop-Shop
Complex processes	• Reduce cost and process time through simplification.
Redundant databases and not synchronized	• Reduce cost and redundancy while increasing accuracy.
Historical data not used for future requirements	• Allows for early identification of trends to provide actionable management information. • e.g., selective enforcement
No formal customer feedback mechanism	• Provides earlier opportunity to respond to trends in commerce.
Lack shared compliance data exploitation	• Measurable safety improvements trends to provide actionable management information.
Internet access security questions	• Expand and extend current security levels while increasing accuracy.
Inconsistency of rules interpretation	• Reduce costs (time savings) while simplifying the processes and increasing accuracy.

Link A Develop issues and opportunities from private stakeholder's perspective

The development of a similar analysis for the other major stakeholders is required for the project plan.

Note: This Business Plan is a working document and does not have complete project and implementation details. Items that require expansion will be identified as "links" to the ITS/CVO Project and Implementation Plan.

At the beginning of this study, the Department of Revenue - Motor Carrier Services Division was housed in two separate buildings and the Indiana State Police - Motor Carrier Division in yet a third location. An analysis of the opportunities shown in Table 2 resulted in a facilities consolidation project currently underway that will resolve the following issues:

- The Indiana Department of Revenue's Motor Carrier Services Division (DOR-MCS) is located in two areas: the Government Center in downtown Indianapolis and the Park Fletcher Industrial Complex near the airport. This complicates the prompt exchange of information, interferes with consistent training efforts, and frustrates the carrier who must call upon two offices to comply. This also creates delays in processing insurance and registration data that is necessary for issuing permits and credentials.

- The Indiana State Police Motor Carrier Division (ISP-MCD) has annual certification mandates by the Federal Highway Administration. This requires training field personnel on federal regulation updates plus state training updates. Their current location at the Government Center does not serve these needs. Currently, they contract all training sessions and field meetings to hotel facilities.

- The DOR's taxpayer service center at the Government Center serves two distinct taxpayer populations: the income/sales taxpayer and the commercial motor carrier. The peak period for both is the first calendar quarter. This creates customer dissatisfaction immediately upon entering the customer service office. Customers assume great delays based upon the number of clients in the office. During this quarter, seeing standing lines outside the office is common.

- Paperwork retention mandates apply to both the ISP and the DOR. Because of space constraints downtown, they must house frequently requested records off site. As a result, they experience delays due to logistic and organizational issues. These delays translate into a delay in enforcement.

- Both the DOR-MCS and the ISP-MCD experience delays and complications in the exchange of information and coordinated training initiatives. This translates into enforcement inconsistencies and decreased compliance efforts.

- Jurisdictional clearinghouse information for IRP, SSRS, and IFTA accounts do not reach ISP-MCD in time to prevent incorrect tickets, citations, etc. This results in counterproductive efforts and disgruntled carriers.

Chapter 1 INTRODUCTION

The purpose of the Indiana ITS/CVO Business Plan is to describe the broad vision and goals of Indiana's ITS/CVO program. The plan is the vehicle to obtain consensus among state agencies and the motor carrier industry, who are the stakeholders. This allows ITS/CVO projects to be developed and deployed in a coordinated manner. In addition, it can be the vehicle to communicate the program summary that may be distributed to state agencies, legislators, the general public, and other states.

The goal of the Indiana CVO Business Plan is to establish the foundation for ITS/CVO deployment. The plan becomes the vehicle for activating stakeholder participation in ongoing project planning and implementation.

The Department of Revenue coordinated the development of this Business Plan which was supported by a grant from the FHWA ITS/CVO Mainstreaming funds and matching funds provided by the state of Indiana.

The Intelligent Transportation Systems Program, authorized by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), envisions the application of advanced and newly emerging technologies in such fields as data processing and communications to multimodal surface transportation needs. Among the goals for the ITS program set forth by ISTEA are:

- the enhancement of the capacity, efficiency, and safety of the nation's transportation systems;
- the enhancement of efforts to attain air quality goals established by the Clean Air Act; and,
- the reduction of societal, economic, and environmental costs associated with traffic congestion.

The goal the FHWA has established for the Mainstreaming program is to support nationwide deployment of ITS/CVO services by the year 2005. The objectives of the Mainstreaming program are:

- Emphasize safety, clearance, and credentials activities.
- Encourage automation of networks and facilities that support ITS/CVO deployment consistent with the Commercial Vehicle Information Systems and Networks (CVISN) architecture.
- Establish the appropriate foundation for the future integration and implementation of the CVISN architecture.

Our initial emphasis is on data processing and communications to build the infrastructure necessary to handle information provided by more specialized Intelligent Transportation Systems technologies.

1.1 Business Plan Document Overview

Vision and Mission Statement

Our charter is to administer the process required for motor carrier companies to fulfill their requirements for operating in the state of Indiana. Our vision is to execute our charter in a way that focuses primarily on delivering optimum economic value to motor carriers. This is viable only to the extent that there is general agreement to the concept of total economic value as a driving force.

Our mission is to provide stakeholders with improved service that delivers economic value while contributing to highway safety. This includes:

- We will reduce the motor carrier's paperwork and issue credentials faster through technology.
- We will support the enforcement division through cooperative efforts that ensure a fair economic environment in which trucking companies can operate.
- We will help create safer highways by committing to national information exchanges that identify and monitor the high risk carrier.

Chapter 1 describes the origins of the plan and the agencies that have encouraged and sponsored it. This chapter also describes how the planning for this document began on a traditional track. Early in the process it was evident that a non traditional approach was needed to optimize the benefits promised by the ITS/CVO architecture. The Indiana ITS/CVO Committee and its members are also described.

How the ITS/CVO activities in the state are organized is described in **Chapter 2**. Statistics relative to motor carrier activity in the state are reflected in this chapter and the importance of trucking to the infrastructure of Indiana's economy is also highlighted.

The strategic overview in **Chapter 3** supports the conclusion that evolving the current systems into an adaptive system built on dynamic change is a critical element. Real benefit from ITS/CVO projects require that information captured anywhere must be made available for use everywhere. The observations, issues, goals and objectives, and measurements outlined in this chapter are a blend of several different stakeholder perspectives. This chapter sets the basis for the critical success factors that are central to this new approach to systems evolution.

Chapter 4 addresses some of the specific ITS/CVO related projects that we intend to address. We have included a description of an actual recent project that uses some of the new perspectives of this plan. It will serve as a model for identifying high economic value projects and how to measure them. The model is based on the application of inexpensive technology (a voice response unit) to a special class of over size/over weight permit issuance.

Chapter 5 refers to the requirements for a follow-on Project Plan that will more precisely detail each ITS/CVO project we envision in the near term.

The **Appendixes** address the current systems inventory, a bibliography, and a list of individual participants in the plan development. The plan also refers to certain Companion Documents that are referenced in various parts of the plan, but are too large to be fully incorporated. The primary Companion Documents are the Indiana State Police Business Plan and the Gary, Chicago, Milwaukee Corridor ITS Project sponsored in part by the Indiana Department of Transportation.

1.2 Business Plan Development Process

The initial plan development process included the following traditional five phases:

- Phase I, consisted of planning meetings and initial agency interviews.
- Phase II, the data collection phase, where input from a broad range of state motor carrier agencies and the motor carrier industry was to be solicited through individual interviews and group workshops to identify problems in current CVO processes and potential solutions.
- In Phase III, the information gathered was to be analyzed and the findings were to be reviewed with the stakeholders and incorporated into the emerging Business Plan.
- In Phase IV, specific projects were to be designed based on the recommendations of the ITS/CVO Committee and the findings from the data analysis in Phase III. In addition, the roles and responsibilities for implementation of the Business Plan were to be identified and assigned.
- In Phase V, a written report was to be prepared summarizing the Business Plan.

We began development with the traditional planing approach. Part way through the process, some starkly contrasting issues emerged. It was evident that:

- Each stakeholder described their issues differently.
- Each stakeholder's marketplace, or environment, was distinctively different and dynamically changing.
- All stakeholders had expectations of different economic value to be derived from ITS/CVO implementations.
- The concept of a single level playing field for all participants does not apply.
- The roles of state government and individual private sector stakeholders are significantly different.
- Institutional barriers are perceived as real.

The plan was then developed to recognize and address those differences for the benefit of all the stakeholders in a new adaptive way while accomplishing most of the goals of the traditional planning approach. The Phase IV requirements of the original approach will be expanded on in a follow-on project and implementation plan document. To identify those areas that require further expansion, we have inserted linkages to the project plan throughout this document.

This plan will be a working document. It will be revised or amended as required. At a minimum the plan will be updated annually and the revisions will be reviewed with the Indiana ITS/CVO Committee. Additionally, the committee will be advised of the status of ongoing projects by means of a newsletter at least twice annually. Copies of the plan and project status updates will be provided to any requesting state department or agency.

The Indiana ITS/CVO Committee played a critical role in the development of this plan. (see Figure 1) Individual members contributed important ideas and insights.

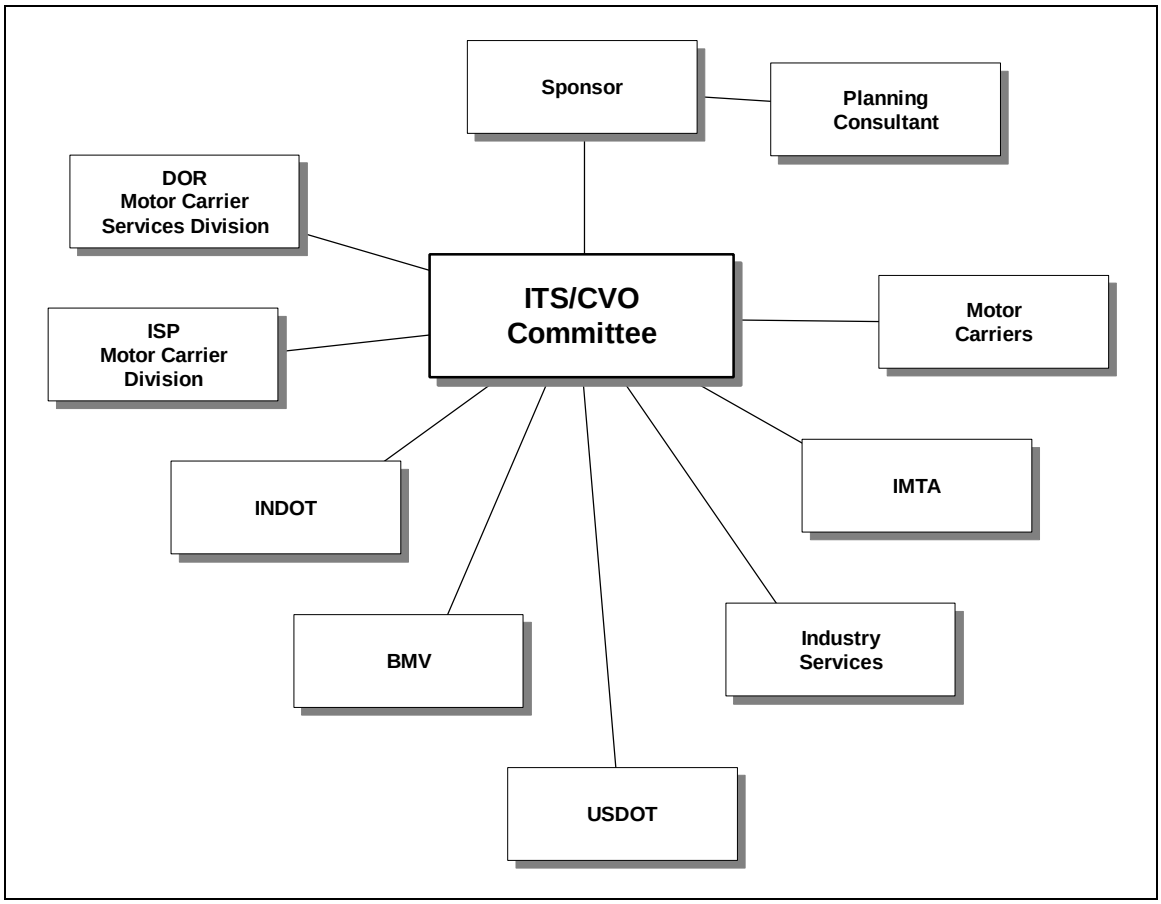

Figure 3 Indiana's ITS/CVO Business Plan development management structure

The ITS/CVO Committee is made up of members from government and the motor carrier industry throughout Indiana. Stakeholders represented on the committee include the following:

Indiana State Agencies:
- Department of Revenue - Motor Carrier Services Division (DOR-MCS)
- Indiana State Police - Motor Carrier Division (ISP-MCD)
- Indiana Department of Transportation (INDOT)
- Bureau of Motor Vehicles (BMV)
- US Department of Transportation (USDOT)

Motor Carrier Industry:
- Motor Carriers
- Indiana Motor Trucking Association (IMTA)
- Insurance Services
- Permitting Services
- Legal Services

Commercial Vehicle Regulation in Indiana

Currently three agencies are involved in motor carrier credentialing and one agency is responsible for safety enforcement. These agencies are as follows: DOR, BMV, INDOT, ISP. (see Table 1)

Table 3 Commercial Vehicle Regulation in Indiana

Agency:			
Department of Revenue	Indiana State Police	Indiana Department of Transportation	Bureau of Motor Vehicles
Division:			
Motor Carrier Services Division	Motor Carrier Division	INDOT	BMV
Essence of Mission:			
Registration, tax and permitting processes	Safety and regulation compliance	Provide safe and efficient highways	Registration and driver licensing processes
Business Functions:			
• Interstate registrations and plates • Fuel tax reporting • Financial responsibility and operating authority • Permitting	• Safety enforcement • Compliance reviews • Weigh station operations • Size/weight enforcement • Hazmat enforcement	• Superload permitting • Weigh station construction and maintenance • Roadways and bridges • Congestion management	• CDL licensing and medical records • Intrastate registrations and plates • Titles
Compliance:			
• Carrier Audits	• Terminal inspections • Roadside inspections	• Inspection Tools and Facilities	• CDL Driver's Points • Currency of Physicals
Measurements:			
• Turnaround Time • Accuracy	• Number of inspections relative to traffic • Number and type of citations • Crash rates and severity	• Suitability of Facilities	• Turnaround Time • Accuracy
Imperatives:			
• Year 2000 • 10K Program • Move to New Building	• Year 2000 • Move to New Building	• Year 2000	• Year 2000
CVISN Projects:			
• One-Stop-Shop • PRISM	• MCSAP • PRISM • GCM Corridor • CVSA	• GCM Corridor • Hoosier Helpers • SHRP	• Fleet Registration • CDLIS

Chapter 2 DESCRIPTION OF THE STATE

This chapter describes the issues and characteristics of the state that impact motor carrier activity, including current projects and motor carrier regulatory processes, the economic, political, and technology characteristics of the state, as well as the issues and opportunities for Motor Carrier Services.

Activities leading up to current position in ITS/CVO:

- One-Stop-Shop concept
- Early participation in IRP and IFTA
- Participation in SSRS
- Early Industry Advisory Panel
- Regional meeting participation
- Demonstration Project Participation (ISP and INDOT)
- Decision to join Mainstreaming
- Establish Steering Committee
- Hire consultants

2.1 Economic, Political, and Technology Characteristics

Figure 2, on the following page, shows that trucking is a vital segment of the transportation system in Indiana. The *Truck Movements in America* report presents the following estimates of the movements of commodities by truck within, to, from, and through Indiana. These estimates show the magnitude of interstate commerce on Indiana's highways. Note that Indiana ranks first in the value of truck shipments that travel through the state.

The report also shows that the nation's historic manufacturing belt remains vital with a large concentration of truck activity in the corridors from Illinois to Pennsylvania.

The Indiana Department of Commerce is currently focused on expanding Indiana's business base by attracting new businesses primarily in the manufacturing and distribution industries. An important part of Indiana's infrastructure that appeals to these prospective new businesses is the vitality of the motor carrier industry. For that reason effective support of the trucking industry and fostering its growth and health is critical in attracting manufacturing and distribution business to locate in Indiana.

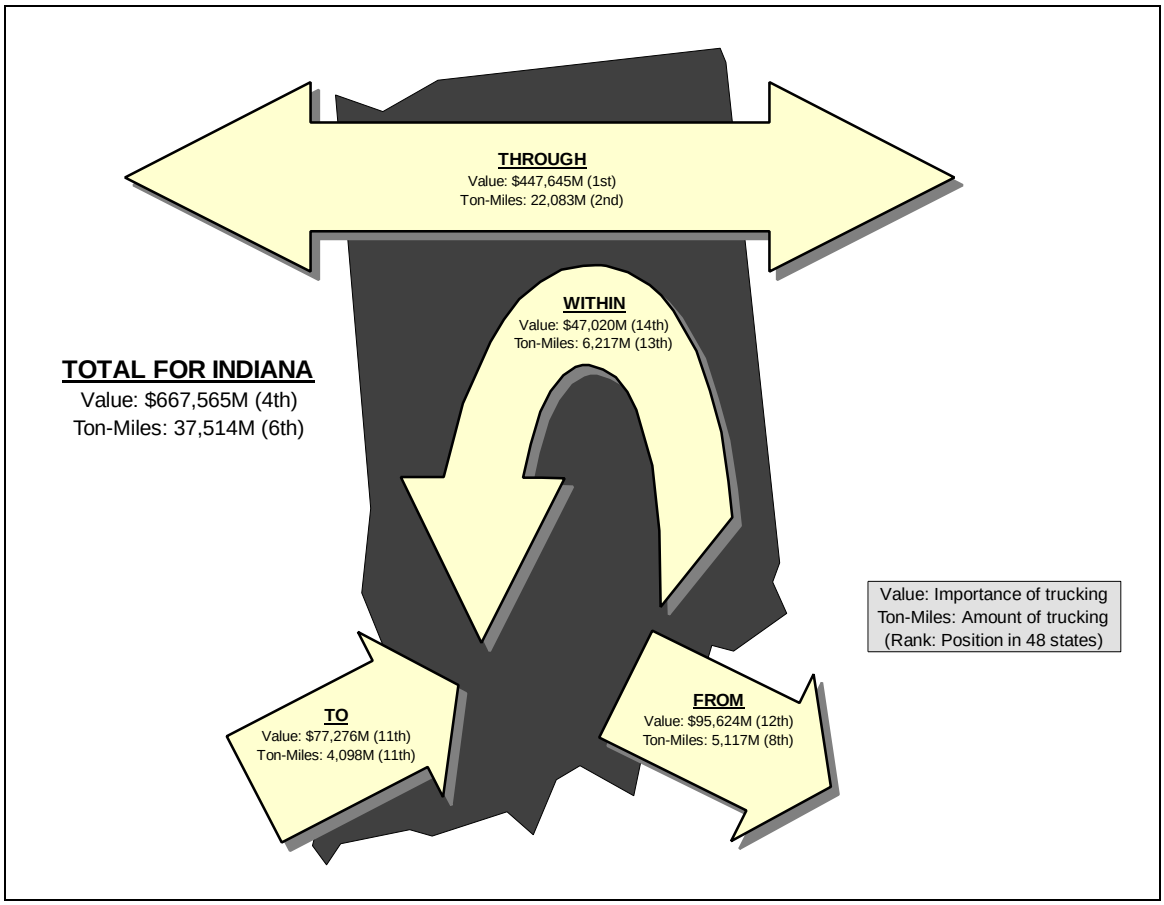

Figure 4 Truck shipments in Indiana

The value of truck shipments indicates the relative importance of trucking to the state. The ton-miles of truck shipments indicates the amount of trucking activity over Indiana's highways.

Interstate commerce accounted for more than 90% of trucking by value of shipments in Indiana, and more than 80% in terms of ton-miles.

Shipments passing through the state accounted for two-thirds of the value of commodity movements by truck in Indiana, and through shipments accounted for more than half of the state's ton-miles by truck.

The largest shares of shipments within states tend to be in states that are geographically large with widely separated major cities, such as California and Texas, or in the corners of the country, with access to few bordering states, such as Florida and Washington.

Indiana Statistics:

- Indiana receives close to $450M per year in CVO related taxes and fees.
- A total of 524,268 tons of freight are moved each business day in Indiana.
- 8.692 billion Commercial Motor Vehicle miles driven in 1996.
- In 1993, the trucking industry employed 182,292 people in Indiana, or one out of every 12 workers.
- The average annual wage paid to truck-industry workers in 1993 was $26,145.
- The total annual payroll for the trucking industry in Indiana was $4.9 billion in 1993.
- In 1994, 52,715 truck safety inspections were conducted in Indiana.
- 88,138 safety inspections in FY1997.
- Issued $9.6M OS/OW permits in 1996.
- In 1996, Indiana had the 6th largest number of IRP registered truck fleets in the nation.
- Indiana is home to more than 9,700 for-hire and private interstate trucking companies.
- 308,000 OS/OW permits issued in 1996.
- Indiana issued 177,290 CDLs in 1994.
- There are 6,500 intrastate trucking companies registered in Indiana.
- There are almost 100 motor coach companies in Indiana.

Unique position of Indiana:

- "Crossroads of America"
- Access Indiana legislation to support electronic commerce and information sharing
- Change environment (survey results)
- Positive relationship between motor carriers and Motor Carrier Services
- Active Indiana Motor Trucking Association
- Current administration is "customer" oriented
- Understand the value of trucking industry to commerce in the state
- Recent business location wins were influenced by reliable transportation infrastructure
- ISP CMV programs and enforcement efforts are "performance-based"

Technology characteristics include:

- The mechanisms are being proposed to handle Electronic Funds Transfers (EFT) for companies who pay more than $10,000/quarter in IFTA.

- Legislation has been passed to allow electronic signatures. Indiana is one of the few states that is enabled by legislation and implemented electronic or digital signatures.

- A quasi-government agency has been legislated to function as the Internet interface for the state. Access Indiana Interactive Network (AIIN).

- AIIN can also supplement the billing mechanisms used by DOR-MCS.

2.2 Current and Ongoing Indiana CVO Programs and Projects

Prior to the development of this business plan, a coherent, integrated statewide CVO plan did not exist, however there are numerous related projects underway. These activities are not necessarily coordinated across departmental jurisdictions. A coherent, integrated statewide CVO process is our ultimate goal. The first step in achieving this is the development of an infrastructure. The following list of the major Indiana ITS/CVO projects illustrates the extent of our activity. Our ability to mainstream the sharing of this information between state agencies, other Indiana stakeholders, and other government agencies is the first step in realizing a coherent, integrated statewide CVO process. The Project Plan will include all current and ongoing programs, once the infrastructure is strong enough to support an aggressive pursuit of new ITS/CVO projects. One project each in BMV, DOR, INDOT, and ISP has been singled out because of it is unique, innovative, nationally recognized, or ground breaking characteristics. These are highlighted below as a " ***** MODEL PROJECT ***** ".

The following is a list of the major ITS/CVO related projects that are being implemented in Indiana:

SAFETY ASSURANCE PROJECTS

******* MODEL PROJECT *******

Motor Coach Safety Inspection Project (ISP)
A recent program focused on motor coach safety inspections was implemented. It was a comprehensive program consistent with Federal Motor Carrier Safety Regulations and CVSA criteria. The program did not include roadside or enroute inspections. Instead, inspections were conducted at terminals and destinations. A very effective outreach program was implemented to conduct meetings and seminars for the industry to describe the inspection criteria and how the program will work. ISP Safety Inspector representatives were assigned to specific motor coach companies to serve as liaison to ISP. Motor coach user organizations recognized the value of the program and cooperated in facilitating effective destination inspections, e.g. riverboat casinos on Lake Michigan. The industry associations' initial resistance abated after meetings with ISP and engaging a consultant to review the program. That widely respected consultant concluded that the Indiana Motor Coach Inspection program was in compliance with CVSA criteria, was being operated in a positive and constructive way, and could be a model for inspection programs in other states. The ISP program's notoriety was further bolstered in a recent 20/20 television broadcast focusing on motor coach safety. The Indiana State Police program was featured in the most favorable light. ISP continues to field many questions from other state and federal officials.

Specialized Equipment in Fixed Scale Facilities (ISP)
In order to provide a better service to the carriers operating in Indiana, specialized inspection equipment has been installed at many of our fixed scale facilities. This eliminates the unnecessary delay of carriers utilizing Indiana roadways.

Commercial Vehicle Safety Alliance (CVSA) (ISP)
A CVSA sticker is provided to carriers who pass a complete Level 1 inspection. This sticker identifies the vehicle to enforcement officers as one having been inspected and met the requirements of the Federal Motor Carrier Safety Regulations (FMCSR). This allows the vehicle to continue to operate without being stopped repeatedly. These stickers help with our selection process and are valid for ninety (90) days.

Hazardous Material Inspection Projects (ISP)
This type of transportation move presents a greater risk to the general public and enforcement efforts will remain high so as to address these issues and concerns.

Evaluating Program Effectiveness of School Bus Inspection Program (ISP)
The Division uses school bus crash investigations to evaluate the effectiveness of its inspections. They reveal mechanical defects that result from poor maintenance and from design flaws. The crash data is also used by the U.S. Department of Transportation when setting design standards.

Focus on Moving Commercial Motor Vehicle (CMV) Driver Violations (ISP)
One of the primary goals of the Motor Carrier Division is to *reduce CMV crashes statewide*. This program focuses on moving violations committed by drivers that tend to cause CMV crashes, i.e., DUI, reckless driving, speeding, following too close, and driver fatigue. When necessary the officers will conduct Level III inspections on drivers who commit moving violations.

Size and Weight Enforcement Projects (ISP)
The Motor Carrier Division assists the Indiana Department of Transportation (INDOT) in writing the Federal Size and Weight Enforcement Plan for the State of Indiana. In addition, the Motor Carrier Division has the primary responsibility for the enforcement of size and weight laws for the State. The purpose of this enforcement program/plan, is to gain *voluntary compliance* of size and weight activity on Indiana roadways.

Chicago Commercial Zone Enforcement Projects (ISP)
These projects generally target unsafe vehicles or drivers and repeated violations of the FMCSR. One such project addresses the "Chicago Commercial Zone" (CCZ) operating in Northwest Indiana. Historically, this area of Indiana has proved to be a rich environment of CMV's who routinely operate in poor condition and are also overweight. In addition, there are numerous driver violations seen during this project.

Interstate Compliance Review Program (ISP)
Some auditors perform compliance reviews of interstate carriers which included examining the Driver Qualification Files, Drug and Alcohol Testing, Driver's Hours of Service, maintenance and other files on record at the carrier's principal place of business.

Intrastate Compliance Review Program (ISP)
Other auditors conduct compliance reviews on intrastate carriers from the carrier list. The list is made up from roadside inspection data and complaints on carriers. In the near future, crash and arrest record information will be added to this list.

Internal Audit Mailing Program (ISP)
The Internal Audit Program identifies every 100th inspection, at random, from the SAFETYNET database to be audited. The inspection is then printed and sent to the carrier with a request to have the carrier check the inspection information for accuracy against the driver's copy provided by the inspecting officer. A cover letter is attached to the inspection report soliciting additional information relating to how the inspection was conducted, inspector's conduct/professionalism, and other safety related aspects. ISP is experiencing an 80% return on this mailing.

Inspection Repair Audit Program (IRAP) (ISP)
Carriers must certify to the inspecting agency that all of the violations noted on the inspection report have been corrected. In the case of driver violations, the company is certifying that they have been made aware of their drivers' deficiencies. The IRAP Program identifies carriers that have failed to return the drivers copy of the inspection report to us. A letter is sent to the carrier asking them to comply with the Federal Motor Carrier Safety Regulations (FMCSR). ISP has less than 1% of required certifications outstanding after second and final notice.

Performance and Registration Information System Management (PRISM) (ISP and DOR)
Formeraly known as Commercial Vehicle Information System (CVIS), this project is intended to identify motor carriers responsible for the safety of vehicles, and to monitor the safety fitness of those motor carriers by linking the vehicle registration process to safety performance monitoring and enforcement.

This system would allow the states, when issuing a license plate for a commercial motor vehicle, to determine the safety fitness of the motor carrier to which the registered vehicle will be assigned. The states and federal government will then be able to ensure the safety fitness of the motor carrier through an improvement process, and through sanctions and limitations on operations when necessary. The CVIS will create an additional enforcement tool by linking safety and vehicle registration, two traditionally separate government functions. The following steps are necessary to achieve the full implementation of CVIS:

At the *deskside*, database management and electronic data interchange systems must be established to enable state motor vehicle registration departments to assign U.S. DOT numbers to motor carriers at the time of vehicle registration, and to check the carrier's safety performance score (as generated by the U.S. DOT's SafeStat algorithm) prior to issuing registration plates.

At the *roadside*, state motor vehicle enforcement personnel must be trained to participate in the federal compliance review (terminal audit) program to ensure that the required number of compliance reviews (as identified through SafeStat) can be completed in a timely manner; procedures must be implemented to ensure the rapid upload of safety enforcement data (accident reports, roadside inspections, and compliance reviews) to the national Motor Carrier Management Information System (MCMIS) database to ensure that motor carrier safety scores are based on current data; and the capability to target high-risk carriers (as scored by SafeStat) at the roadside must be established. The required level of effort is dependent on the extent to which technologies such as portable computers and license plate readers (LPR) have been introduced at roadside inspection facilities. (Note: Indiana is implementing LPRs as part of the CVIS pilot project.) State's must provide motor vehicle registration departments with the authority to deny, suspend, or revoke motor vehicle registration privileges to carriers with poor safety performance scores.

- PCs in all weigh stations
- Plate readers (2)
- Weigh-in-motion (WIM) scales (5)
- Testing and integration is underway

CREDENTIALS ADMINISTRATION PROJECTS

******* MODEL PROJECT *******

Commercial Drivers License Monitoring Service (BMV)
A new service will be made available to motor carrier companies beginning early in 1998. BMV, in cooperation with another state organization, AIIN, will provide an enhanced service for a fee that will provide carrier subscribers with electronic notification of any change to the CDL record of any of their drivers. Once the carrier has enrolled and provided the necessary information about the company driver CDLs, BMV will provide an initial CDL record then notify the company, through the Internet, any time a CDL record changes. A great deal of interest was expressed during interviews with several trucking companies. The way companies get this kind of needed information today, if they get it at all, is inconsistent, not timely, and more costly than this alternative from BMV.

******* MODEL PROJECT *******

Michigan Trains Special Weight Permit System (DOR)
Voice technology was used to enhance the current over size/over weight permit system to provide continuous access to permits for a special class of cargo. Specialized carriers transport heavy steel products, that require special permits, to and from the steel producers in northern Indiana to the Michigan border. This industry sector is very competitive and time sensitive. Previously these permits could only be acquired during normal business hours on week days and had to wait hours for the processing to be completed. The effect on these carriers' business was burdensome to say the least. Now a voice response unit allows all of these carriers to obtain a permit using a touch tone phone in a matter of minutes. Since the system will issue temporary permits when the main application on the mainframe computer is unavailable, trucking companies can now get these vital permits 24 hours per day, 7 days per week. Thousands of hours, that were lost while waiting, have been returned to the industry at no cost to them.

One-Stop Shopping (DOR, BMV, INDOT)
The Department of Revenue and the Bureau of Motor Vehicles are working together to allow One-Stop Shopping in Indiana. INDOT and DOR have already automated oversize and overweight permitting and use One-Stop shopping clerks. Superload issuance will probably not be automated since it requires engineering analysis. These efforts have improved turnaround time and a reduction in costs to administer.

Southeast Inter-regional Institutional Issues Work Group (DOR)
14 Southeast and Midwest states devoting collective resources of member states to solving common institutional issues of CVO. Current emphasis is on common data requirements and formats for CVO registration and permitting functions among member states. The prime contractor is Georgia Tech.

CVISN Mainstreaming in Great Lakes Region (DOR)
FHWA/OMC CVISN Mainstreaming to streamline Indiana's regulatory processes through process improvement and leveraging of the developing national-level CVISN architecture for CVO. Develop a state ITS/CVO Business Plan, followed by an ITS/CVO Project Implementation Plan.

ELECTRONIC SCREENING PROJECTS

Transponder Working Group (INDOT)
The Indiana East West Tollway is currently evaluating the transponder technologies available to support electronic toll collection and plans to move toward deployment in the near future.

I-65 Interoperability Test (INDOT)
Assess the potential for transparently reading multiple types of transponders at a given weigh/inspection station. Joint project between Indiana DOT and Kentucky Transportation Center. Indiana and Kentucky are negotiating installation of transponder readers at the Seymour Weigh Station. INDOT contends that I-65's proximity to the I-75 Advantage Project necessitates use of I-75 compatible equipment (Hughes Transponders); Kentucky favors Amtech readers. Kentucky is exploring installing both readers at the weigh station, and FHWA has encouraged Hughes and Amtech to standardize their readers so that truckers will not require multiple transponders. [INDOT has committed to a $100,000 investment at Seymour.]

Other Indiana DOT (INDOT) Weigh Stations (INDOT)
INDOT is modifying several weigh stations, and will also construct a new Port-of-Entry weigh station on I-70 at the Illinois State Line in a couple of years. INDOT feels that the I-75 Advantage Program is good for the trucking industry as well as the state police. Both groups would see cost savings. INDOT is strongly considering upgrading these weigh stations to be I-75 Advantage compatible.

CARRIER OPERATIONS PROJECTS

******* MODEL PROJECT *******

Hoosier Helpers (Incident Management Program) (INDOT)

Indiana has the Hoosier Helper program designed to provide roadside assistance to stranded motorists and help in incident detection and response. The Hoosier Helper trucks are equipped with fuel, fluids, and other helpful items and can push or pull automobiles and even larger trucks. The Hoosier Helper vehicles also have laptop computers on board. For each incident or motorist assist, the operator records roughly 15 items about each stop including location, type of assistance, time of day, and other circumstances. There is a multitude of records now available providing a rich history of the program and the types of incidents that can be expected in the future.

INDOT is currently developing a system that automates the collection of incident data and initiates an automatic response. This system is referred to as the Expert System. A host computer, located at the traffic operations center, will ask the Hoosier Helpers a series of questions, via laptop computer. Based on those responses the host computer will initiate a series of automatic events that will decide which variable message signs will be addressed, choose and send the proper messages, automatically notify the news media and proper emergency response services, and make an archive of the messages.

The current prototype expert system utilizes an Incident Response Vehicle (IRV) equipped with an on-board communications system and provides the capability of transmitting video directly from the incident scene. This phase will enable the Hoosier Helpers to create and send Highway Advisory Radio (HAR) voice messages and Changeable Message Signs (CMS) data messages directly from the IRVs. The ability to transmit video directly from the incident scene is planned.

There will ultimately be 30 specific HAR stations identified and in place at strategic diversion points statewide. These stations, with a five mile broadcast radius, will provide pinpoint traffic congestion or restriction information prior to the point where a truck could make a safe route diversion to avoid the congested area.

The Gary / Chicago / Milwaukee ITS Priority Corridor (INDOT)

The States of Indiana, Illinois and Wisconsin in cooperation with the U.S. Department of Transportation (USDOT) have formed a coalition to improve surface transportation, safety, mobility and productivity through the application of current, advanced and emerging technologies on the GCM Corridor. The Borman Expressway (Interstate 80/94) in northwestern Indiana is one of the busiest commercial vehicle routes in the country. Extensive truck traffic adds to the normal congestion experienced in the corridor. INDOT is continuing to expand the coverage area of the **Borman Advanced Traffic Management System**. The system includes freeway management components such as: closed circuit television cameras, highway advisory radio, variable message signs, vehicle sensors and Hoosier Helper incident response vehicles.

Traveler Information System (INDOT)

A contract is underway to create a strategic plan to develop a traveler information system for northwest Indiana. In a separate effort, INDOT is developing a pilot project to provide traffic information gathered from the Borman Expressway to motorists using digital pagers. This will be a public/private joint venture. HNTB is the consultant on these projects.

GCM Data Pipe (INDOT)
The GCM Data Pipe represents a corridor-wide program for real-time data collection, sharing, and distribution. It will provide a backbone communication system for transportation agencies and systems in the GCM Corridor. The intent of the Data Pipe is to connect existing transportation systems and integrate them to support other GCM program areas. Currently INDOT has issued a Request for Partnership Proposal to the telecommunications industry to exchange access rights to their highmast lighting poles for placement of antennas used for communications service.

Indiana Traffic Management System (INDOT)
This project is to support the implementation of the Advanced Traffic Management System (ATMS) for the Borman Expressway in northwest Indiana, a joint system operation with the Indiana Toll Division (the Indiana Toll Road runs parallel to the Borman Expressway in northwest Indiana), a pilot test of an advanced systems followed by the deployment of advanced systems in the out years. All new equipment for vehicle detection, video surveillance, communications, data processing and VMS display is needed. The existing HARs will remain. This is a joint System with Toll Division.

Advanced System Enhancements provide support for artificial intelligence technology to enable operators to cope with voluminous data. Decision aids offer the prospect of significant relief and assistance to the operators in reacting and responding to time critical situations quickly and accurately. The deployment of artificial intelligence/expert system software to support the operators with decision aids.

The project will utilize existing transponders on trucks as a probe source for a low cost means of collecting travel time information. Applications might include:

- Quick travel time identification
- Use in construction zones
- Connection with VMS to provide travel time information to motorists
- Integration with roadside CB radio stations to facilitate the sharing of congestion information between truckers

ITS technology will be applied to construction work zones and other sites (e.g., special events, seasonal attractions) that experience periodic delays. Real-time traffic data from the site and surrounding roadways will be transmitted to a mobile control center where the information is processed. Portable changeable message signs will then be programmed to display up-to-the-minute messages to motorists approaching and traveling through the site.

CVO Traveler Information (INDOT)
The objectives of this project are to enhance the efficiency of motor carrier operations and to reduce traffic congestion by providing information that will improve carrier routing and dispatching, particularly as it is associated with intermodal cargo movement.

Overheight Vehicle Detection (INDOT)
Demonstrate technology which would sense when an overheight vehicle is approaching a viaduct, activate a flashing message board to alert the driver of the overheight condition, and direct the driver to an alternate location.

Corridor CVO Credential Management System Coordination (INDOT and DOR)

The objective is to improve the efficiency of commercial vehicle operations by ensuring interoperability between the corridor states and to enable efficient implementation of applications supporting the automation of:

- Exchange of applications;
- Issuance of credentials; and
- Roadside enforcement.

Integrated Cellular Call-in/Advanced Incident Reporting System (INDOT)

There is a *11 number operated on the Indiana Toll road which provides cellular emergency call-in service from mile markers 0 to 157. When motorists dial *11, the call is routed directly into the radio control dispatch center for the toll road and they have the capabilities from the control room to dispatch the proper emergency response agency.

2.3 Issues and Opportunities (MCS)

Major issues affecting the administration and enforcement of CVO regulations in Indiana, were developed in several workshops with Department of Revenue - Motor Carrier Services Division. They include the following:

Table 4 Major issues and opportunities affecting CVO

ISSUES	OPPORTUNITIES
MCS Systems replacement	• Adopt a more current and effective systems architecture that enhances data security and accuracy and that reduces overall cost. • Resolve year 2000 compliance.
Interdepartmental Systems communication	• Add more value to existing stakeholder systems by providing more accurate information exchange and verification capabilities. • e.g., One-Stop-Shop
Complex processes	• Reduce cost and process time through simplification.
Redundant databases and not synchronized	• Reduce cost and redundancy while increasing accuracy.
Historical data not used for future requirements	• Allows for early identification of trends to provide actionable management information. • e.g., selective enforcement
No formal customer feedback mechanism	• Provides earlier opportunity to respond to trends in commerce.
Lack shared compliance data exploitation	• Measurable safety improvements trends to provide actionable management information.
Internet access security questions	• Expand and extend current security levels while increasing accuracy.
Inconsistency of rules interpretation	• Reduce costs (time savings) while simplifying the processes and increasing accuracy.

Link B Develop issues and opportunities from private stakeholder's perspective

The development of a similar analysis for the other major stakeholders is required for the project plan.

Note: This Business Plan is a working document and does not have complete project and implementation details. Items that require expansion will be identified as "links" to the ITS/CVO Project and Implementation Plan.

At the beginning of this study, the Department of Revenue - Motor Carrier Services Division was housed in two separate buildings and the Indiana State Police - Motor Carrier Division in yet a third location. An analysis of the opportunities shown in Table 2 resulted in a facilities consolidation project currently underway that will resolve the following issues:

- The Indiana Department of Revenue's Motor Carrier Services Division (DOR-MCS) is located in two areas: the Government Center in downtown Indianapolis and the Park Fletcher Industrial Complex near the airport. This complicates the prompt exchange of information, interferes with consistent training efforts, and frustrates the carrier who must call upon two offices to comply. This also creates delays in processing insurance and registration data that is necessary for issuing permits and credentials.

- The Indiana State Police Motor Carrier Division (ISP-MCD) has annual certification mandates by the Federal Highway Administration. This requires training field personnel on federal regulation updates plus state training updates. Their current location at the Government Center does not serve these needs. Currently, they contract all training sessions and field meetings to hotel facilities.

- The DOR's taxpayer service center at the Government Center serves two distinct taxpayer populations: the income/sales taxpayer and the commercial motor carrier. The peak period for both is the first calendar quarter. This creates customer dissatisfaction immediately upon entering the customer service office. Customers assume great delays based upon the number of clients in the office. During this quarter, seeing standing lines outside the office is common.

- Paperwork retention mandates apply to both the ISP and the DOR. Because of space constraints downtown, they must house frequently requested records off site. As a result, they experience delays due to logistic and organizational issues. These delays translate into a delay in enforcement.

- Both the DOR-MCS and the ISP-MCD experience delays and complications in the exchange of information and coordinated training initiatives. This translates into enforcement inconsistencies and decreased compliance efforts.

- Jurisdictional clearinghouse information for IRP, SSRS, and IFTA accounts do not reach ISP-MCD in time to prevent incorrect tickets, citations, etc. This results in counterproductive efforts and disgruntled carriers.

Chapter 4 BUSINESS PLAN BLUEPRINT

The Business Plan Blueprint includes an explanation of the Business Plan's classification of projects, a template of the model project description, and the methodology that will be used for ranking and prioritizing projects.

Included in this chapter are current and planned projects in DOR-MCS, INDOT, and ISP-MCD. Some of these projects were funded directly by FHWA ITS/CVO programs. There are projects funded through other sources, but relate directly to ITS/CVO issues and others are indirectly related. There are some focused primarily on strengthening the state's systems infrastructure to enable the state to derive greater benefit from future ITS/CVO projects. Also included are innovative experiments to exploit prior investments in projects whose original purpose was unrelated to ITS/CVO categories. The objective is to provide a single interface through the Internet, and to develop information objects that will facilitate the exchange of information among all stakeholders. Indiana's commitment to this vision is demonstrated by the $2.5 million we will invest in this technology.

4.1 Current ITS/CVO Projects

The following table reflects the relationships and categories of current ITS/CVO related projects. Detailed descriptions of the projects are found in chapter 2.2 of this plan.

Table 5 Current and ongoing ITS/CVO Project classification

	Functions						
	Regulation				Operations		
	Administration		Enforcement		Infrastructure	Traffic Mgt.	Fleet Mgt.
AREA	Credentials Application/ Issuance	Tax Reporting/ Filing	Credentials Verification	Safety Assurance	Interoperable Systems	ATIS/ATMS	Routing and Dispatching
CARRIER							
Oper. Authority	■		■		■		
Safety Rating	■			■	■		
VEHICLE							
Registration	■	■	■		■		
Fuel Tax	■	■	■		■		
Size and Weight	■		■	■	■		
Tolls	■		■				
Vehicle Condition				■	■		
DRIVER							
License (CDL)	■			■	■		
Medical				■			
Hours of Service				■			
CARGO							
Hazardous Waste	■		■				
Agricultural Permit	■		■				
ABC Permit	■		■				
TRIP							
Route						■	■
Congestion						■	■
Incidents/Constr						■	■

■ Indicates one or more ongoing projects

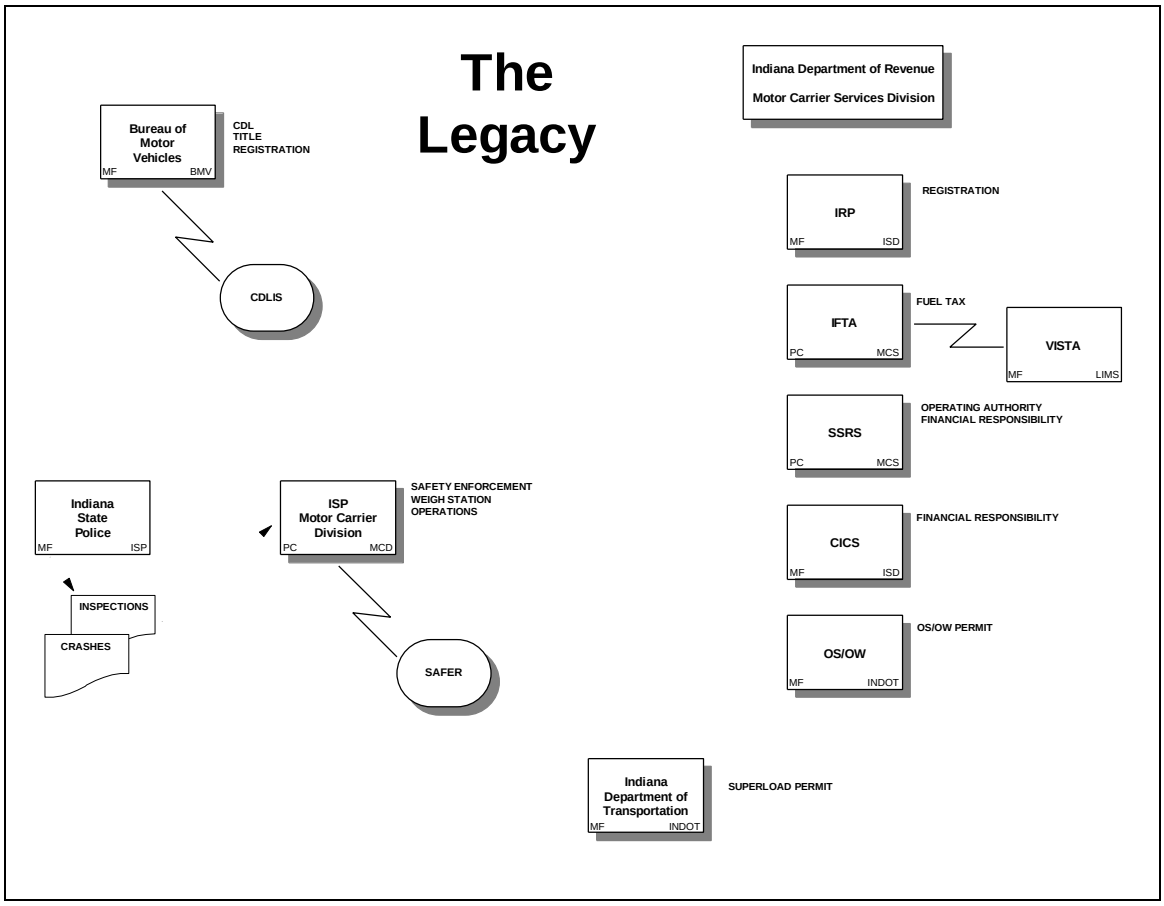

Figure 5 Current administrative systems infrastructure

Figure 5 is a high level view of the disparate systems that are employed in providing services to the motor carrier industry in Indiana. These systems do not share common data. Information such as company identifying data, truck identification, etc., is entered separately in each of these systems in different formats at different times by different people. Different numbers such as SSN#, TID#, DOT#, IRP#, IFTA#, etc., are uniquely required in each system and are not cross referenced. These applications are on different hardware and software platforms (a variety of mainframes, servers, and PCs with operating systems ranging from MVS and VM to UNIX and WINDOWS) and are written in arcane, obsolete, or difficult to maintain programming languages such as GENER/OL. Appropriate documentation for several applications does not exist. Most of these applications are not year 2000 compliant and could not be easily modified to make them useable.

SYSTEM	
PC	Personal Computer
MF	Mainframe

ORGANIZATION	
ISD	Information Systems Division
DOR	Department of Revenue
MCS	DOR - Motor Carrier Services Division
ISP	Indiana State Police
MCD	ISP - Motor Carrier Division
INDOT	Indiana Department of Transportation
BMV	Indiana Bureau of Motor Vehicles
LIMS	Lockheed Information Management Systems

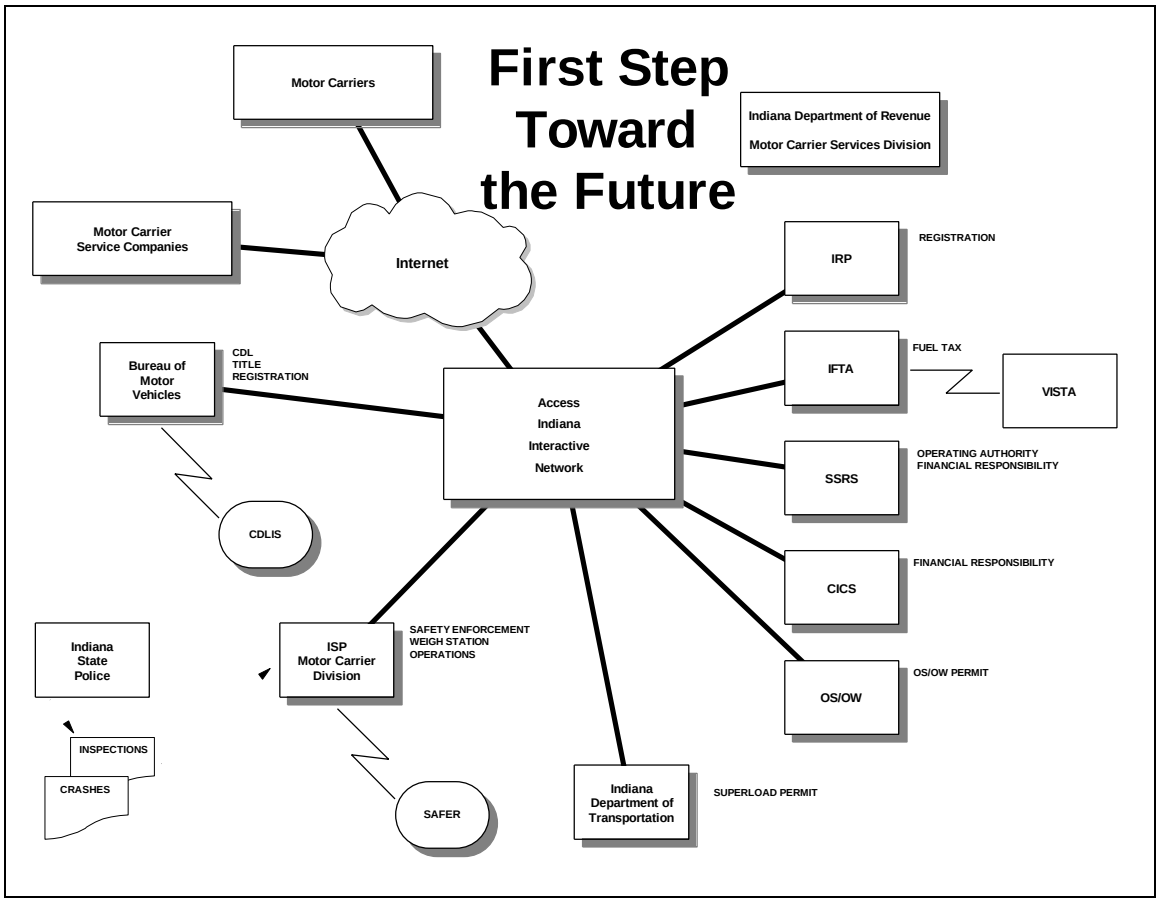

Figure 6 Future administrative systems and communications with motor carrier industry

Figure 6 illustrates how the first step of the plan can be implemented to provide immediate deliver of enhanced economically valuable services to stakeholders. It consists of providing a single interface for both the private sector stakeholders through the Internet and government users through an intranet connection. This interface, provided through AIIN, can communicate with the various current systems in a variety of ways. Proven security technology can control access to only those authorized to use specific functions or see any particular information. AIIN also has the capability of offering more financial options for payment of statutory fees or taxes and appropriate enhanced services fees than is available when dealing directly with the individual government departments.

Such an interface or "middle tier" approach facilitates the development of information objects that can be shared among the separate functions being performed. The necessary changes, modifications, or replacement of the old obsolete systems need not be visible or disruptive to the users. The evolution of the old systems into a new architecture can be accomplished incrementally at a pace consistent with the importance of the value delivered and the availability of resources and funding.

These are the ITS/CVO projects that will be implemented as soon as the infrastructure is enabled to support them. More work is required to develop the project description, proper phasing, and implementation plans. As this is developed they will be included in the ITS/CVO Project Plan.

4.2 Future ITS/CVO Projects

- Write new safety registration program in Java with object data base that will:
  - Incorporate SSRS functions, and
  - Create first object (instance) in the plan's object architecture.

- Develop front end with AIIN for single access point for multiple functions/systems.

- Reassess all current projects in light of plan vision and mission.

- Begin incorporating access to and analysis of all current ITS/CVO project/demonstration data along with other projects, e.g., SHRP and WIMS and CVIS.

- Electronic application for credentials by carriers - expand OS/OW VRU applications and provide direct Internet access for OS/OW, IRP, and IFTA functions.

- Interfacing of state systems to the national clearinghouses - already using IFTA and will use others as soon as they are available.

- Interfacing of internal state systems - systems will evolve to full functional interface through evolutionary redesign and using AIIN middleware facilities.

- Distribution of safety information to the roadside - design user friendly inquiry screen for ISP weigh station access via AIIN using current CVIS PCs.

- Electronic collection of inspection data from the roadside - roadside information acquisition through Internet and CVIS PCs.

  Analyze archived and current SHRP data to determine if special ISP details for overweight enforcement in specific locations is warranted. Provided that there is a beneficial result, establish a process to identify early weight violation trends and take selective preemptive action.

Current and past projects will be revisited with an aim to leverage even more benefits by integrating results and processes across and between the different stakeholder departments. These proposed new ITS/CVO projects are considered to be critical and will be undertaken when the plan for strengthening the current systems infrastructure has been approved and in place. This list does not identify costs, funding sources, responsible departments, or other details such as those depicted in Figure 7 in section 4.3. That detail will be developed in the follow-on project plan when the implementation of the new infrastructure is more clearly defined.

4.3 Project Description

This is a sample of how projects can be identified, documented, and measured. It is based on an actual project brought on-line during the development of this plan.

Project: Michigan Trains Permits

Objective: Develop a system to allow motor carriers to self-issue Michigan Trains Permits using a touch-tone telephone.

Outcome: More efficient and cost-effective permitting process for issuing Michigan Trains Permits resulting in improved agency and carrier productivity.

Lead Stakeholders: Department of Revenue - Motor Carrier Services Division (DOR-MCS)

Other Participating Stakeholders: INDOT, ISP-MCD and Motor Carriers

Market: Motor carriers that haul steel from Gary to the Michigan state line.

Approach:
- Add Voice Response Unit (VRU) technology
- No change to current OS/OW System
- Minimal technical resource requirement

Value Proposition: See Figure 9.

Key Issues:
- Non-disruptive
- Extend access to permit request
- Enforcement enhancement

Products: A system using a VRU that issues permits.

Schedule: 12 months - interim product within six months.

Cost: $80,000 estimated develop the system.

Estimated Project Management Requirement: One-half full-time equivalent.

Figure 7 Sample project description

Link C Project Description for each project

Project Descriptions will be developed for the ITS/CVO Project Plan.

Michigan Trains Permit Issuance

The Michigan Trains Permitting System is used as an illustration of several characteristics that will be featured in the ITS/CVO Project Plan.

- New technologies will supplement, not replace, existing technologies. Usage will function as the selective agent to determine when old technologies will be abandoned.

- High economic value to stakeholders (truck and driver road time returned to the motor carrier).

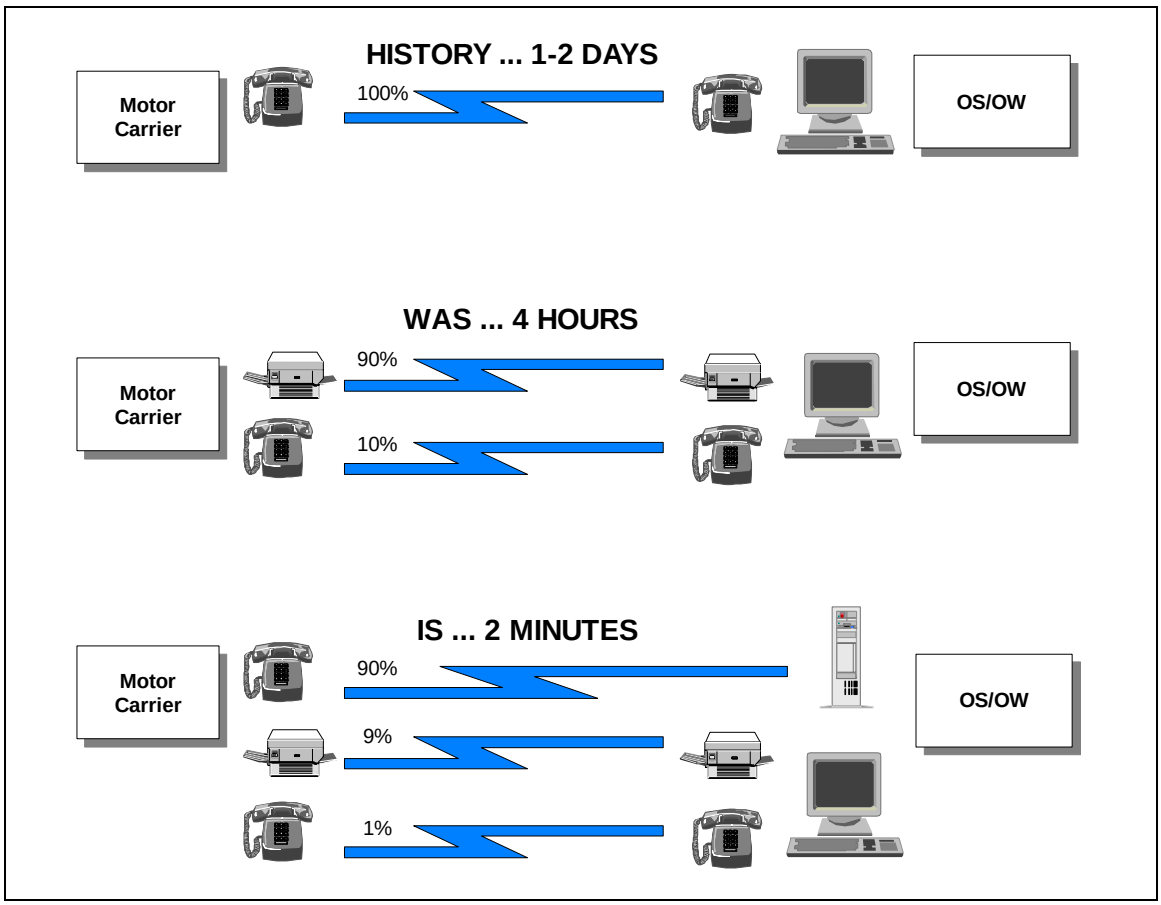

Figure 8 Chronology of Michigan Trains Permitting

4.4 Ranking of Projects

Projects will be ranked based on the total economic value they will generate for all stakeholders and the number of stakeholders they will benefit. In cases where there may be some negative value to certain stakeholders, the value chain will be used to resolve conflicts. Upstream value will take precedent over downstream value, but we will attempt to "do no harm" as we develop project strategies.

Link D Ranking of projects for ITS/CVO Project Plan

In the ITS/CVO Project Plan, we will re-evaluate the current and ongoing projects in light of their role in an adaptive system which will result in a reprioritization.

Following is an example of the value proposition model based on an actual application enhancement recently implemented to provide for self-issue of a certain class of Over Size/Over Weight permits called Michigan Trains.

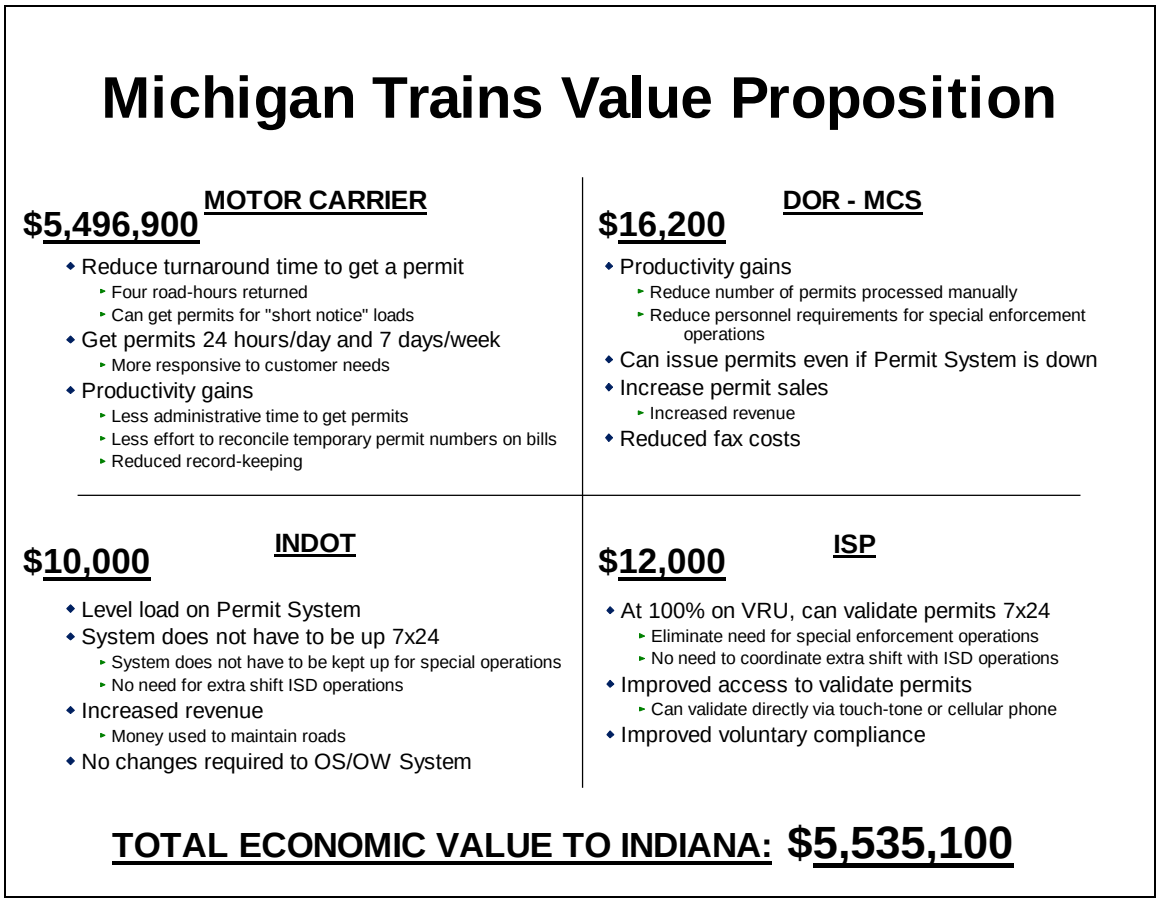

Figure 9 Michigan Trains value proposition

The value proposition here illustrates the importance of considering all of the value derived from a project or application enhancement. The dollars depicted in Figure 9 only partially represent the value proposition for the Michigan Trains enhancement project. Following is the basis for the numbers that are reflected in the chart:

Motor Carrier

Approximately 73,000 Michigan Trains permits are issued annually at $42.50 each for a total of $3,102,500 in revenue. These motor carries have reported that they experienced a delay of about 2 hours from the time they realize a requirement for a shipment to the time they get the actual number. This delay was important because a truck and its driver were idle for this period. We have been advised that the trucking industry estimates that they lose between $100.00 to $200.00 per hour when a truck is delayed. This is most often cited relative to weigh station inspections, but applies equally in this instance. For this proposition we used the figure of $150.00 per hour. The enhanced system now returns a permit number to them in two to four minutes. Since not all companies work the same way, we took a very conservative approach and assumed that the new system returned only ½ hour per permit instead of 2 hours. There was additional productivity for administration. A very conservative estimate of processing time of 2 minutes per permit at $10.00 per hour was used. This yields the following:

73,000 permits at $75.00 = $5,475,000.00
73,000 permits at .30 = 21,900.00
Total Value to Industry $5,496,900.00

This does not take into account the value of avoiding lost revenue due to not being able to get a permit, potential competitive advantage attained through using this service in innovative ways, or the compounded effect on the state economy through increased efficiency.

DOR-MCS (Department of Revenue - Motor Carrier Services Division)

Permit requests were received in MCS on pages faxed by carriers. There was an average of four individual requests per page. Permit Agent processing time was about 5 minutes per page. This takes into consideration handling, reviewing, data entry on terminal, calling carrier to give permit numbers, and filing. An estimated 80 seconds per permit for Permit Agent at $10.00 per hour was used. This yields the following:

73,000 permits times 80 seconds = 1,622 hours
1,622 hours at $10.00 per hour = $16,222.00

This does not take into consideration other factors such as overtime pay or the elimination of approximately 18,000 return phone calls.

ISP (Indiana State Police - Motor Carrier Division)

Additional expenses are incurred when a special enforcement detail is organized and conducted in the Michigan Trains sector. This was required because permit verification required the coordinated effort of several officers and inspectors and making the host Over Size/Over Weight application available during times that the host computer was normally not operating. Since this enhanced system provides access to permit verification data 24 hours per day, 7 days per week accessible from ant touch-tone phone, these elaborate details will no longer be necessary. Historically there were at least two such operations conducted annually at an estimated of cost approximately $5,000.00. This yields:

2 operations at $5,000.00 = $10,000.00

This does not take into consideration such factors as post detail administration and other detail analysis activities. Most importantly, experience has shown that there is usually a marked increase in the number of permits issued during these operations which reflects an increase in voluntary compliance. Increased

compliance is directly related to increased permit revenue. This was not included in this value proposition, but it is a significant number.

INDOT (Indiana Department of Transportation)

The Over Size/Over Weight application runs on the INDOT mainframe computer. The ISP enforcement details required availability of the permit application during hours it is normally not on line. It has to be made available for about ten hours each day of the detail. Since the detail is usually three days long and there are two details per year, an additional 60 hours of application availability is required. It is unclear as to how CPU hours are accounted for. In this case we will arbitrarily assign a conservative value of $200.00 per hour for 60 hours to derive a cost of $12,000.00.

Chapter 5 MANAGEMENT APPROACH

The management approach covers:

The roles and responsibilities of public and private sector stakeholders. The scheduling, duration, sequencing of projects, and anticipated funding levels and sources will be developed in the next phase, which will produce the Project Plan.

5.1 Stakeholders and Stakeholder Roles

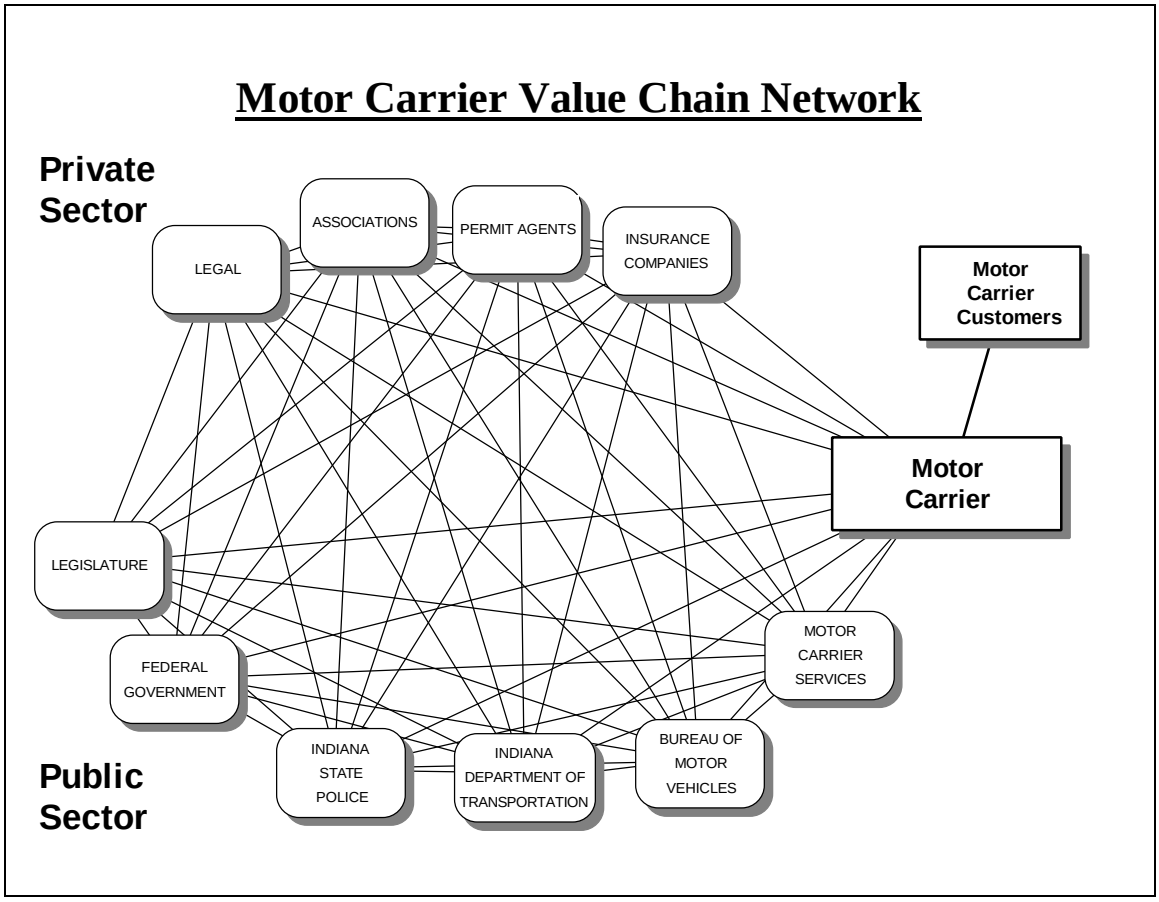

Figure 10 Motor Carrier value chain network

A value chain in this context illustrates the general relationships among the stakeholders relative to a given stakeholder's business perspective. For example, from the perspective of a trucking company as in Figure 10, downstream stakeholders support the company while upstream stakeholders are the customers of the company.

From an insurance company perspective however, the trucking company is the customer. These value chain network perspectives can be extended for several tiers both upstream and down stream. A project that delivers economic value upstream several tiers is of far greater value than effecting just the immediately adjacent tier. Its obvious that multiple tier effect has a very highly leveraged value to the overall economy. At this point in the development of this plan we have considered and attempted to quantify only the benefits to multiple stakeholders on an adjacent tier. Figure 10 reflects the currently separate and distinct communication paths or links between and among stakeholders.

Part of the role of state government, as it applies to the motor carrier business sector, is to facilitate compliance with established laws, regulations, and procedures pertaining to the effective and safe use of highways in the state. The Motor Carrier Services Division's role is further defined to focus on the support of the motor carrier industry by coordinating access to motor carrier support activities performed by several state departments or agencies. Ultimately the role is to facilitate the private sector's collective contributions to the health and growth of the economy of the state and region. The private sector business's role is entirely different than that of the state. Their interest in the overall economy is limited. Businesses focus on their own company profitability and competitive advantage in their segment of the motor carrier marketplace. The state, on the other hand, strives to provide a "level playing field" basis for any given market segment as a starting point while not interfering with the dynamics of the competitive marketplace. Private sector stakeholders in this industry focus on their own profitability while the state is concerned with the total picture of the state's economy.

Providing access to government services in a way that makes it easier and reduces the cost of doing business with the state strengthens companies and assists them in becoming more profitable. Since a company's profitability is a contribution to the measure of the health and strength of the state's economy, a state agency's delivery of governmental services that can be translated into economic value, is making a contribution to the economy. This plan anticipates but does not attempt to calculate the compounded economic effect on the economy of such contributions. That will be left to the economists. This recognition of economic value is, however, the very foundation of this plan and the key to the success of its implementation. Projects or system changes will be justified and prioritized by considering the sum of the economic value delivered to all of the affected stakeholders. The value proposition model illustrated in chapter 4.4 is an example of the significance of quantifying economic value.

This plan proposes, as a first step, to provide access to multiple functions and information sources through a single electronic interface. The AIIN organization can assist in establishing an electronic "agent" for such an interface. Figure 11, on the following page, illustrates this "middle tier" approach to fulfilling MCS's role. When compared to Figure 10, it also indicates the extent of the potential communications improvements that result.

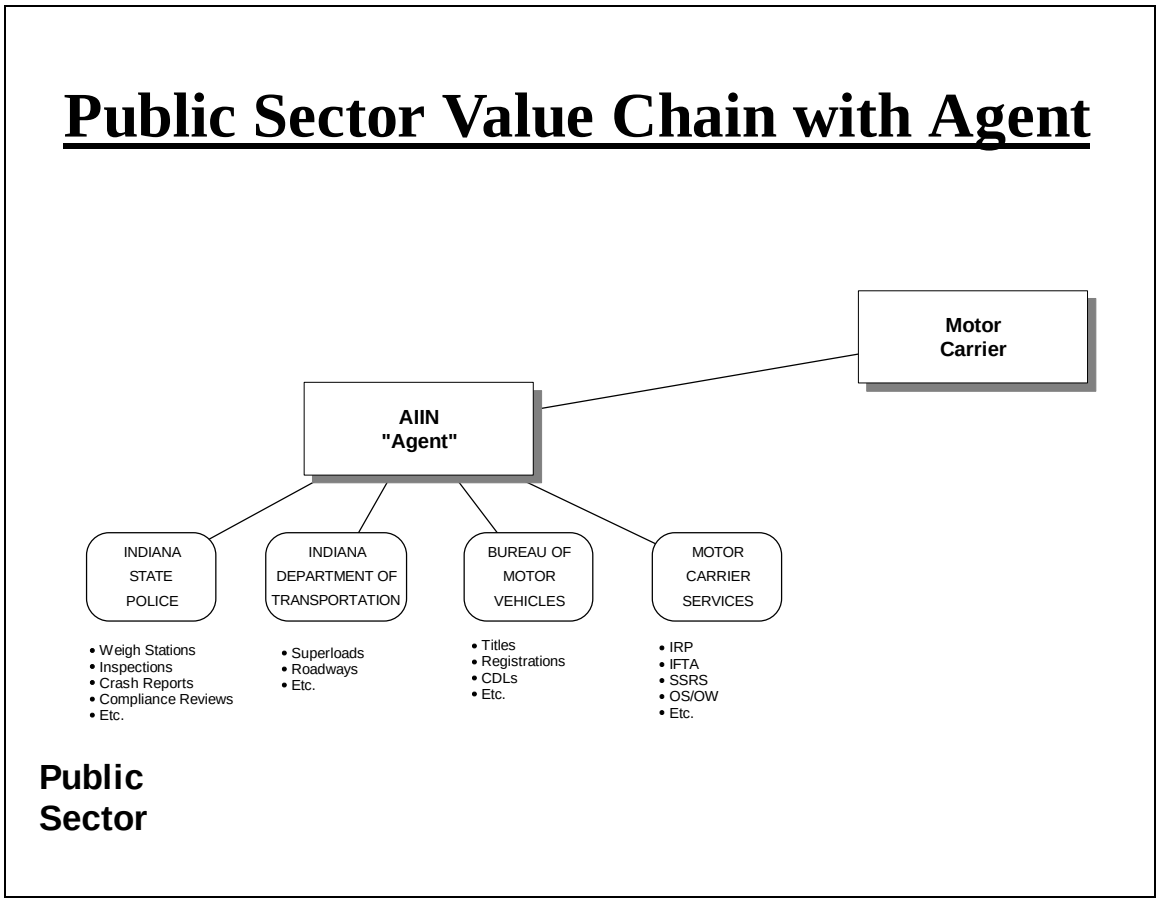

Figure 11 Public Sector value chain with AIIN agent

5.2 Schedule and Milestones

This business plan brings a different perspective not only to future projects and operations (see Chapter 4 Business Plan Blueprint), but also requires a reexamination of past and current projects. Past or completed projects may have elements of far greater total economic value than was realized and is yet to be tapped. Current projects may need to be modified or given a new priority in light of this new plan perspective. When a clearer picture of the adaptive system envisioned by this plan is formed, a more precise prioritized list of specific ITS/CVO CVISN projects will be developed. These issues will be addressed in the follow-on Project Plan.

Link E Schedule and milestones for Project Plan

Schedule and milestones will be developed for the ITS/CVO Project Plan.

5.3 Funding Requirements and Sources

All of the current projects reflected in Chapter 2.2 are already funded. The costs to modify these projects to be consistent with the plan's mission may not be significant. The funding for these modifications will be local. Some of the future ITS/CVO projects mentioned in Chapter 4.2 will require outside or federal funding. The plans for those projects have not yet been developed. The follow-on Project Plan will address these issues.

Link F Funding requirements and sources for Project Plan

Funding requirements and sources will be developed for the ITS/CVO Project Plan.

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EXECUTIVE SUMMARY

This business plan proposes a foundation to accomplish the necessary actions to evolve certain obsolete motor carrier related state government systems and processes into a modern integrated highly leveraged system that delivers significant value to the motor carrier industry while reducing the state's cost of delivering the required services.

The commercial interstate and intrastate transport of goods or persons on the highways in Indiana requires compliance with a number of federal, state, and local government rules and regulations. This includes obtaining certain credentials that must be available for inspection. There are many different functions that relate to Commercial Vehicle Operations (CVO) and they are the responsibility of several different departments in Indiana state government. The major participants are Department of Transportation, State Police, Bureau of Motor Vehicles, and Department of Revenue. The Motor Carrier Services Division of the Indiana Department of Revenue has been designated as the organization that will be the primary interface, or "One-Stop-Shop", for the motor carrier industry. The rules and regulations governing CVO activities can vary widely from state to state. Federal regulations have brought some standardization and consistency in interstate transportation. There are current initiatives from the Federal Highway Administration to promote even more consistency and standards in most CVO areas.

The major Indiana CVO departments have been and are today participating in several beneficial federal programs. The following chart (Chart 1) illustrates the breadth of functions covered by the Federal Highway Administration's Intelligent Transportation System/CVO architecture projects.

Chart 1 Current and ongoing ITS/CVO projects

	Functions						
	Regulation				Operations		
	Administration		Enforcement		Infrastructure	Traffic Mgt.	Fleet Mgt.
AREA	Credentials Application/ Issuance	Tax Reporting/ Filing	Credentials Verification	Safety Assurance	Interoperable Systems	ATIS/ATMS	Routing and Dispatching
CARRIER							
Oper. Authority	■		■		■		
Safety Rating	■			■	■		
VEHICLE							
Registration	■	■	■		■		
Fuel Tax	■	■	■		■		
Size and Weight	■		■	■	■		
Tolls	■		■				
Vehicle Condition				■	■		
DRIVER							
License (CDL)	■			■	■		
Medical				■			
Hours of Service				■			
CARGO							
Hazardous Waste	■		■				
Agricultural Permit	■		■				
ABC Permit	■		■				
TRIP							
Route						■	■
Congestion						■	■
Incidents/Constr						■	■

■ Indicates one or more ongoing projects

It also illustrates the areas in which Indiana is actively participating. Those programs have, in part, been the impetus for several unique and innovative projects that distinguish Indiana as a leader in some areas. Because of the way the CVO functions were organized in the past, these various programs are not integrated and there is not enough coordination among the participating departments. The result is that much of the potential benefits from important CVO programs for both state government and the motor carrier industry are not realized. Several of these current and proposed projects are covered in this business plan.

Commercial Vehicle Operations issues involve many stakeholders in addition to the public sector participants. They include trucking companies, motor coach carriers, industry associations, industry services companies, insurance companies, industry legal services, vehicle sales and service, and fuel distributors to name a few. The motor carrier industry is a critical infrastructure element in Indiana's economy.

A nine month study was conducted to provide input for the development of this business plan. Interviews, workshops, and meetings were conducted with many of the public and private sector stakeholders. The plan document highlights a consensus of the issues, principles, goals, and objectives that did shape the direction of the plan. It is apparent that the delivery of economic value to as many stakeholders as possible is the cornerstone to mutually beneficial cooperation between the public and private sector stakeholders. The recognition that the sum of the value delivered to each of the affected stakeholders should be a primary factor in justification, prioritization, and measurement, is a critical success factor. The plan document illustrates the power of such an approach by describing an actual application that delivered tens of thousands of dollars of benefit to state government operations while delivering millions of dollars to the motor carrier industry. This example does not attempt to quantify the positive compounded effect that such an amount would bring to the economy of the state and region. Impact on the economy is, however, an important part of the ultimate value of an application enhancement and should be considered.

Incorporation of the results and conclusions of the study, along with recent enabling legislation, insightful organizational changes, aggressive CVO leadership, and uncommonly effective cooperation with the state motor carrier industry, can position Indiana to quickly become a model for other states. The one area that requires major adjustments is the systems infrastructure that supports CVO activities in Indiana. This infrastructure is composed of a wide variety of independently developed stand alone systems running on disparate hardware and software platforms. These systems do not share data and they are archaic and obsolete. More importantly, most are not year 2000 compliant and must be either replaced or extensively modified to become useable.

The Motor Carrier Services Division (MCS) is uniquely positioned to remedy this situation. Since significant expenditures must be made in any event, for nearly the same cost as direct one-to-one system replacement the current systems can be evolved into a system that shares data among several integrated functions using an architecture that is current, growing and expanding rapidly, and is proven in the business community. An architecture based on object technology will allow Indiana to further exploit the state's investment in Internet access facilities. Access Indiana Interactive Network (AIIN), the new organization critical to providing stakeholders access to CVO services through the Internet, has agreed to work closely with MCS on the implementation of this plan. Such an approach can deliver significant economic value to the motor carrier industry by providing more direct and "just in time" access to CVO functions that will allow self issue of a wide range of required credentials through the Internet. It can also provide stakeholders with critical information that has not been easily available to them. More financial transaction flexibility can also be provided to the industry stakeholders while providing more timely revenue inflow to the state. Greatly reducing the cost of providing economically valuable services with a system that adapts to changing market and financial requirements is the doable objective of this plan.

Although the precise cost outlined in detailed project plans has not yet been developed, a preliminary initial estimate of $2.5 million has been made. The funding for implementation of the plan has not yet been earmarked, but potential sources have been partially identified. The plan proposes ways to set in place measures to be used for identifying improvements, realized savings, delivered economic value, and other progress indicators.

The following, Diagram 1, represents the legacy system architecture that requires modification. Diagram 2 illustrates the first step in the plan architecture that now includes AIIN as a major stakeholder and will deliver immediate benefits to a wide range of both public and private sector stakeholders.

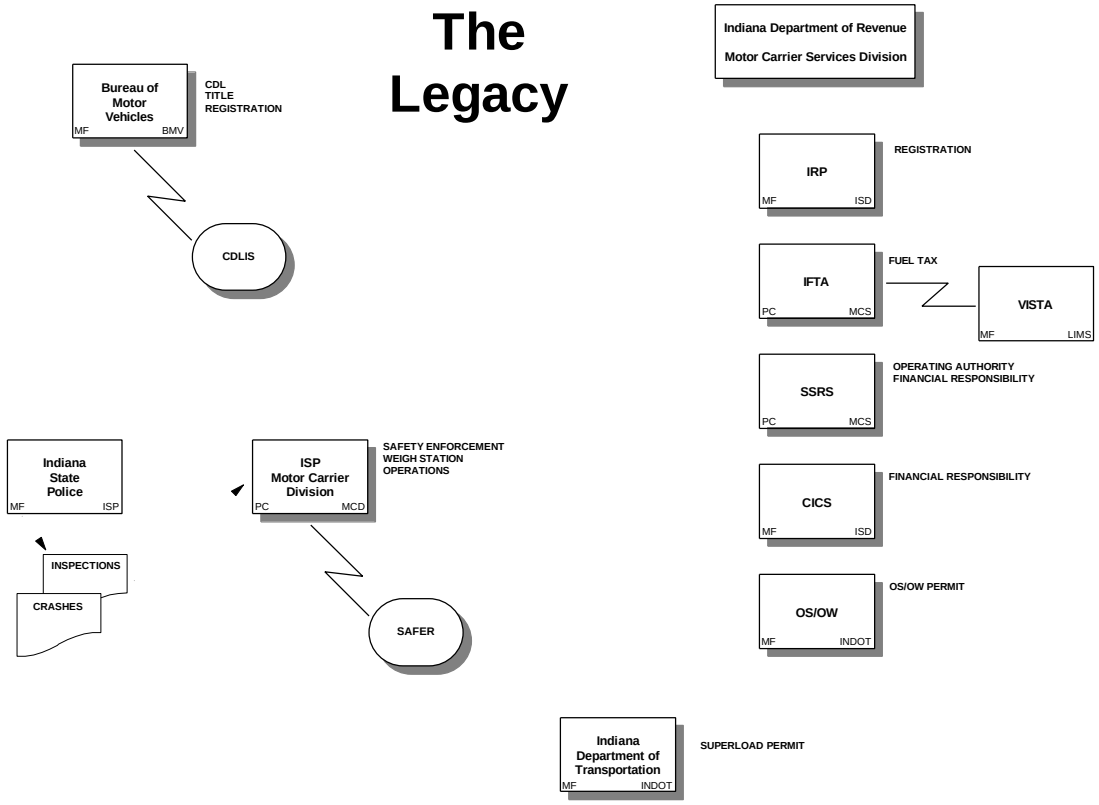

Diagram 1 Current administrative systems infrastructure

SYSTEM		ORGANIZATION	
PC	Personal Computer	ISD	Information Systems Division
MF	Mainframe	DOR	Department of Revenue
		MCS	DOR - Motor Carrier Services Division
		ISP	Indiana State Police
		MCD	ISP - Motor Carrier Division
		INDOT	Indiana Department of Transportation
		BMV	Indiana Bureau of Motor Vehicles
		LIMS	Lockheed Information Management Systems

Diagram 1 is a high level view of the disparate systems that are employed in providing services to the motor carrier industry in Indiana. These systems do not share common data. Information such as company identifying data, truck identification, etc., is entered separately in each of these systems in different formats at different times by different people. Different numbers such as SSN#, TID#, DOT#, IRP#, IFTA#, etc., are uniquely required in each system and are not cross referenced. These applications are on different hardware and software platforms (a variety of mainframes, servers, and PCs with operating systems ranging from MVS and VM to UNIX and WINDOWS) and are written in arcane, obsolete, or difficult to maintain programming languages such as GENER/OL. Appropriate documentation for several applications does not exist. Most of these applications are not year 2000 compliant and could not be easily modified to make them useable.

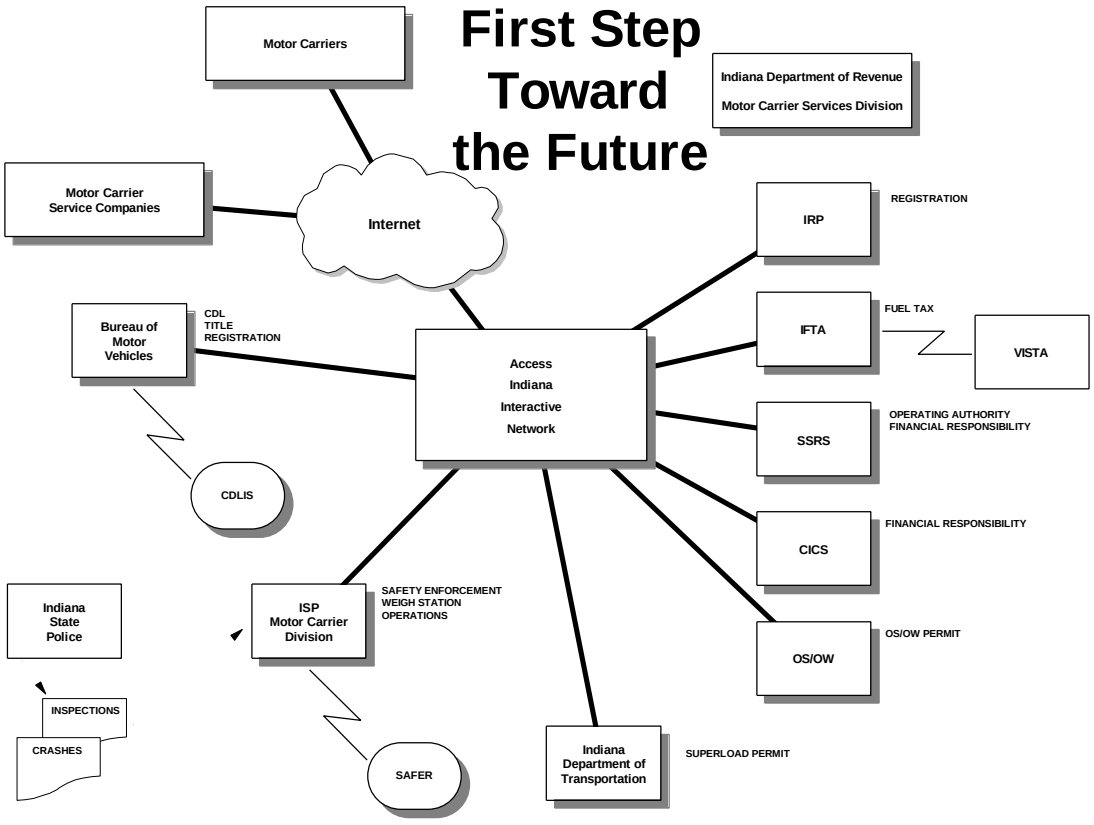

Diagram 2 Future administrative systems and communications with motor carrier industry

Diagram 2 illustrates how the first step of the plan can be implemented to provide immediate delivery of enhanced economically valuable services to stakeholders. It consists of providing a single interface for both the private sector stakeholders through the Internet and government users through an intranet connection. This interface, provided through AIIN, can communicate with the various current systems in a variety of ways. Proven security technology can control access to only those authorized to use specific functions or see any particular information. AIIN also has the capability of offering more financial options for payment of statutory fees or taxes and appropriate enhanced services fees than is available when dealing directly with the individual government departments.

Such an interface or "middle tier" approach facilitates the development of information objects that can be shared among the separate functions being performed. The necessary changes, modifications, or replacement of the old obsolete systems need not be visible or disruptive to the users. The evolution of the old systems into a new architecture can be accomplished incrementally at a pace consistent with the importance of the value delivered and the availability of resources and funding.

A follow on project plan will be required to develop detail funding and resource requirements and specific implementation steps. This business plan proposes ways to set in place measures to be used for identifying improvements, realized savings, delivered economic value, and other progress indicators. An ongoing stakeholder feed back mechanism is also part of the plan. The business plan is dynamic and adaptive. An implementation plan development project can be undertaken immediately and at the same time actual steps, consistent with the plan principles and objectives, can be taken to address the critical obsolescence and year 2000 vulnerability issues.

The adoption of this plan and its concepts presents MCS with a new way of justifying and prioritizing projects through the concept of developing expanded economic value propositions for projects. The plan also introduces a way to move positively toward the development of a modern adaptive system architecture through object technology that will further enhance Indiana's leadership in the CVO area. By continuing the efforts toward providing single point or "One-Stop-Shop" access through MCS leadership, Indiana will further strengthen the positive cooperative relationship with the motor carrier industry. During the development of this plan representatives from Department of Commerce, Board of Accounts, and Data Processing Oversight Committee as well as all of the major government stakeholders have expressed preliminary concurrence with the basic concepts of the plan. All that remains is to begin the implementation planning process.

APPENDIX A - Existing Systems Inventory

A.1 International Registration Plan (IRP) System

A.1.1 Purpose

The IRP is a base state agreement for interstate registration of commercial motor vehicles in all continental US and three Canadian provinces. It is governed by IRP, Inc. and the IRP Plan and Policies and Procedures. It allows the registrant to obtain a single plate for a specific set of jurisdiction as specified in the IRP application form.

The IRP system is operated by the Indiana Department of Revenue. It is a registration system which accepts applications for license plates and registration cab cards. The registrant is sent a billing notice for fees due. Credentials (license plates and/or cab cards) are issued upon receipt of payment of fees due. It processes initial applications, renewals and supplements, produces invoices and credentials for the applicant, and provides reports about fee sharing among jurisdictions.

Temporary permits are issued to established accounts in good standing. These permits are valid for a period of sixty days and are not issued in lieu of permanent credentials. Some large companies are on-line and input their own information via a line drop from our system.

A.1.2 Current System and Processes

The IRP system is written in the GENER/OL language. It was purchased in 1986 from North Carolina. It is maintained by Information Systems Division (ISD). It is an IBM 9000 mainframe application.

The IRP system processes applications and renewals, issues billing notices, accepts payments, produces accounting records (recaps and transmittals, Daily Deposit reports and other accounting reports), and issues credentials after payment is received. The system also issues and tracks 60 day temporary permits.

The IRP personnel receive hard copy applications and supporting documentation. Data is entered into the system via 3270 Terminal Emulation. The billing notices are produced in-house and mailed out to the registrant. Upon payment, credentials are issued in batch mode overnight and then mailed the next day. Edit checks are done on entry programs with checks done manually from overnight batch reports.

A.1.3 Required Modifications

Projects currently underway for the IRP System include:

- IRP Software Replacement
- IRP Clearinghouse Capabilities
- Permanent Power Unit Plate
- Paperwork Reduction
- Staggered Registration
- Ability to estimate the cost of a permit

Projects proposed for the IRP System include:

- Access by taxpayer for filing electronic returns and renewals
- Remote access to system from weigh stations
- Year 2000 compliance
- IRP fee calculation via the Internet

A.2 International Fuel Tax Agreement (IFTA) System

A.2.1 Purpose

International Fuel Tax Agreement (IFTA) is a base state agreement whereby interstate motor carriers file fuel tax returns with a single state for all states in which they operate. Several Canadian provinces have joined. Initial steps toward developing an IFTA Clearinghouse have begun.

The Vehicle Information System for Tax Apportionment Tax System (VISTA/TS) is a software system operated for the Indiana Department of Revenue - Motor Carrier Services Division by Lockheed Information Management Systems. VISTA/TS processes International Fuel Tax Agreement applications and renewals, "issues" credentials, and accepts IFTA quarterly tax returns.

A.2.2 Current System and Processes

The VISTA/TS system runs on an IBM 9000 at Lockheed Information Management Systems in Tarrytown, New York. Indiana DOR-MCS personnel receive hardcopy applications, review the information for correctness, and enter the application or renewal interactively into the system via a 3270 terminal emulation and then upload to VISTA by modem. VISTA/TS returns credential (decal) information to DOR-MCS. It also accepts quarterly tax filings. The system is Year 2000 compliant, has connection to IFTA Clearinghouse, and can accept tax returns via the Internet.

A.2.3 Required Modifications

In order to meet the requirements for the CVISN Prototype, the VISTA/TS system needs to be modified to:

- Accept EDI transactions for IFTA/Intrastate Indiana Fuel Tax applications and renewals, and IFTA tax quarterly returns.
- Send EDI messages acknowledge receipt of a transaction, rejection of a transaction, and provide information to produce the resulting credentials.
- Any time there is a new registration or renewal, VITA/TS needs to create a snapshot segment.
- Respond to requests for report information.
- Create EDI transactions for the IFTA Clearinghouse.
- Remote access from the weigh stations.

A.2.4 Issues

Although changes to the VISTA/TS system have been proposed, outstanding issues need to be resolved in order to implement them.

Lockheed is under contract to develop, maintain and operate the VISTA/TS system on behalf of the State of Indiana. Changes to the system must be negotiated under the contract and will carry an additional cost to Indiana.

VISTA/TS is Year 2000 compliant, but the PC-based portion at DOR-MCS is not.

A.3 OS/OW Permitting System

A.3.1 Purpose

The Oversize/Overweight (OS/OW) system is operated by the Indiana Department of Revenue. It is a permitting system which accepts applications for various types of OS/OW permits and produces hard-copy permit credentials. Most of the requests are received from transmissions companies who get the permits and then send (e.g., fax) them to pick-up points. Trip permits are for a single trip. Blanket permits are good for 1 year.

A.3.2 Current System and Processes

A legacy INDOT developed system that has undergone multiple revisions. There is no knowledgeable programming resource available today. Documentation is scant and incomplete.

A.3.3 Required Modifications

Total replacement or rewrite.

A.3.4 Issues

- Resources are needed to modify the current OS/OW system.
- Quick turnaround is critical for OS/OW permits, which are often requested after a vehicle has been loaded. This places a requirement on the design to provide near real-time response.
- Network connectivity needs to be established.
- System is not Year 2000 compliant.
- Implement envelopes (sizes and routes) on VRU.
- Internet access to request permits.

A.4 Single State Registration System (SSRS)

A.4.1 Purpose

The Single State Registration System (SSRS) is similar to a base state agreement in that it provides a single point of registration for interstate, for-hire, carriers. The SSRS is the result of federal legislation and applies to 38 states. Each SSRS state collects, and later distributes, registration fees from carriers on behalf of all SSRS participating states.

A.4.2 Current System and Processes

Uses an outdated version of the system developed by Illinois. Requires another system, CICS, which is a carryover system from a former agency to prepare mailings.

A.4.3 Required Modifications

- Convert to current release of Illinois SSRS System or Rewrite.
- Enable direct link to Federal insurance system.
- Facilitate electronic filing by insurance companies.

A.4.4 Issues

- System is not Year 2000 compliant.
- CICS is also not Year 2000 compliant.

A.5 Superloads

A.5.1 Purpose

An extension of the Over Size / Over Weight (OS/OW) permit system for certain vehicles over 108,00 pounds that requires bridge and vehicle configuration analysis.

A.5.2 Current System and Processes

Uses BARS (both mainframe and PC versions) by C. W. Beilfuss and Associates, Inc., for bridge analysis for superloads permitting. Also, uses OS/OW Permitting System.

A.5.3 Required Modifications

- DOR-MCS is to assume administrative responsibilities for superloads.
- Same as OS/OW in A.3.3

A.5.4 Issues

- System is not Year 2000 compliant.
- Same as OS/OW in A.3.4

APPENDIX B - Bibliography

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www.ai.org/isp/, Indiana State Police Home Page

APPENDIX C - Participation Lists

◆ Interviews

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- Linda Risley, Motor Carrier Services Division *
- Tom Sullivan, Motor Carrier Services Division *
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- Dave Martikee, Information Technology
- Sandy Bowling Motor Carrier Services Division *

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- Guy Boruff, Motor Carrier Division *
- Scott Fleming, Motor Carrier Division
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- John Higgins, Inspector, Weigh Station I-65 (Seymour)
- Mike Addisson, Motor Carrier Division
- Martin Kipp, Motor Carrier Division

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- Firooz Zandi, Deputy Chief Highway Engineer
- John Nagle
- Ken Michael, Division of Technical Services *
- Pat Haugh, Information Systems Department
- Mike Jenkins, Business Consultant
- Kathy Noland
- Dave Tolbert *
- Tariq Alvi *

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- Jeff Byrd, Director Vehicle Titles
- Jeff Golc, Deputy Commissioner

Indiana Department of Environmental Management (IDEM)

- Tim Method, Deputy Commissioner

ISD

- Fred Pacheco, Programmer
- John Michael, Business Consultant

State Board of Accounts

- Paul Gray, Director ITS
- Cathy Kleyn, ITS Auditor
- Scott Wright, DOR Auditor

Data Processing Oversight Commission (DPOC)

- John Harris, Systems Consultant

Intelenet Commission

- Philip Bruce

Access Indiana Interactive Network (AIIN)

- Mike Wilson, Marketing
- Kent Hiller, Development
- Steve Akers, Applications Developer
- Brad Bradley, Network General Manager
- Norman Suh, Marketing

EDARC

- Chuck Coffey, Indiana Department of Administration

Department of Commerce, Business Development Division

- Pat Vercauteren, Director

US Department of Transportation / Federal Highway Administration

- Dan Beaver, Office of Motor Carriers *
- Mike Nighbert, Office of Motor Carriers

Trucking Companies

- Rick Reeves, North American Van Lines *
- Dick Houston, H & H Bulk Transport
- James Card, Perkins Furniture Transport, Inc.
- Clay Smith, Underwood Machinery Transport
- Phillip Stump Sr., AG Trucking, Inc. *
- Mike Stall, Star Fleet
- Joel Pladson, Star Fleet
- Paul Borghesani, Morgan Drive Away, Inc.
- Robert Kelso, AmeriTruck
- Dan Hoover, AmeriTruck
- Dan Frieden, Zipp Express *
- Mac McCormick, Bestway Express *

Permit Services

- Cheryl Jackson Reeves, Comdata *

- Carolyn Safford, Tel-Trans
- Shirley Lovins, Jet Permit
- Carla Brocksmith, Tel-Trans National Permit Service

Trucking Associations

- Kenny Cragen, Indiana Motor Truck Association, Inc. *
- Chris Quinn, Indiana Motor Truck Association, Inc.

Insurance Companies

- Richard Bren, Great West Casualty Company
- Rich Wright, Great West Casualty Company
- Steve Defibaugh, Marvin Johnson & Associates, Inc. *
- Steve Johnson, Marvin Johnson & Associates, Inc. *
- Mark Thayer, Marvin Johnson & Associates, Inc. *

Attorney

- Richard Trettin, Lewis & Kappes, P.C. *

Bulk Fuel

- Bob Kelso, AmeriTruck

Truck Sales

- Stoops Freightliner

Vendors

- Charles Beilfuss, C. W. Beilfuss & Associates, Inc.
- John Bennet, C. W. Beilfuss & Associates, Inc.
- Bill Weber, POLK
- Richard Schulte, POLK
- Harry Jones, HAS
- John Tarr, GEOPAK-TMS
- Jerry Bleser, GEOPAK-TMS
- Stan Smith, GEOPAK-TMS
- Mike Kornblith, Bentley Systems, Inc.
- Jim Showalter, Sun Microsystems
- Mike Hayden, Sun Microsystems

* Indicates ITS/CVO Committee Member

3.7 Summary of Goals, Principles, and Measurements

Each goal, in order to be valid, will be based on one or more of the underlying principles and will have a means of identifying the trends relative to its attainment. Figure 4 illustrates an example of the kind of relationship statement that will be developed. A goal could be the basis for a new project, a new functional application, an enhancement to an existing function, or may not require any immediate change at all. Each declared goal will require a relationship statement.

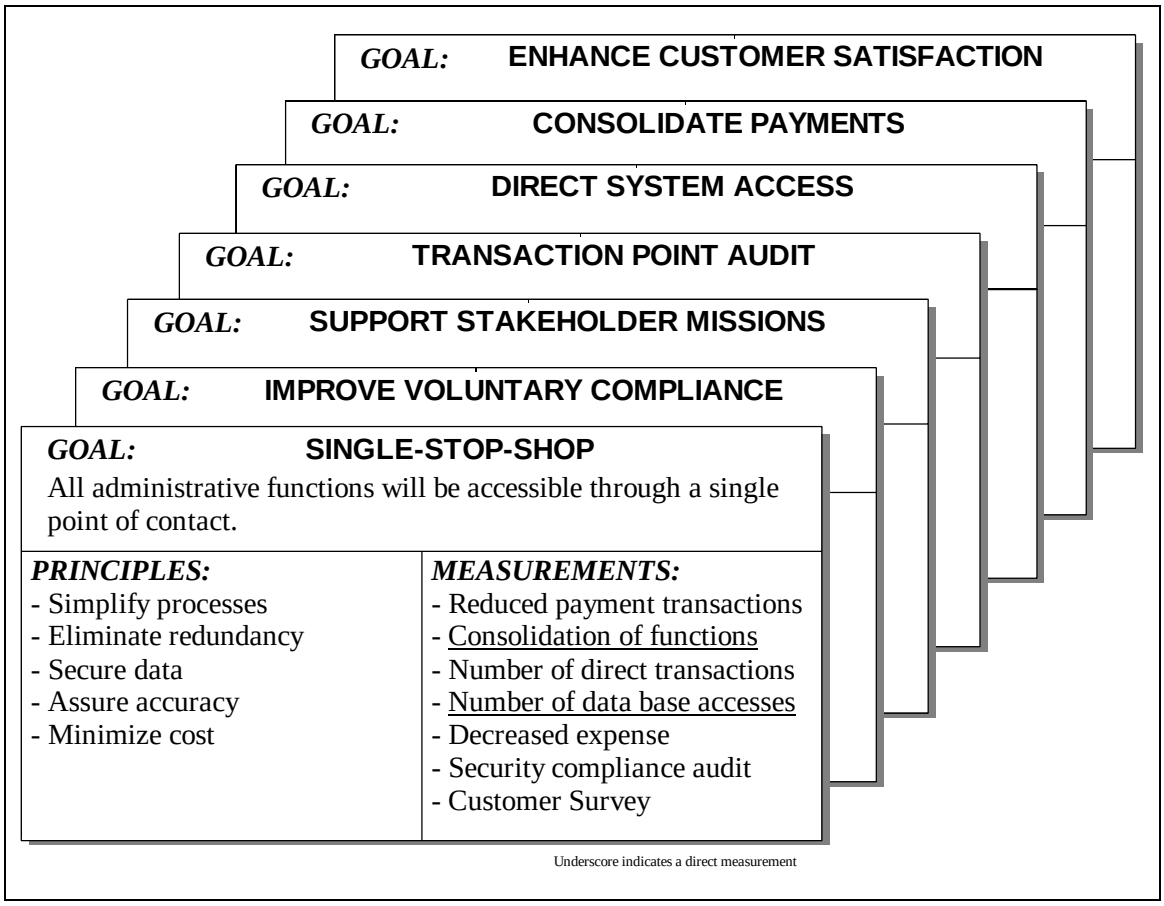

Figure 4 Summary of goals, principles, and measurements

Link F Principles and measurements will be developed for project goals

For each goal, the associated principles and measurements will be developed and agreed to by the stakeholders. These will be documented in the ITS/CVO Project Plan.

Michigan Trains Permit Issuance

The Michigan Trains Permitting System is used as an illustration of several characteristics that will be featured in the ITS/CVO Project Plan.

- New technologies will supplement, not replace, existing technologies. Usage will function as the selective agent to determine when old technologies will be abandoned.

- High economic value to stakeholders (truck and driver road time returned to the motor carrier).

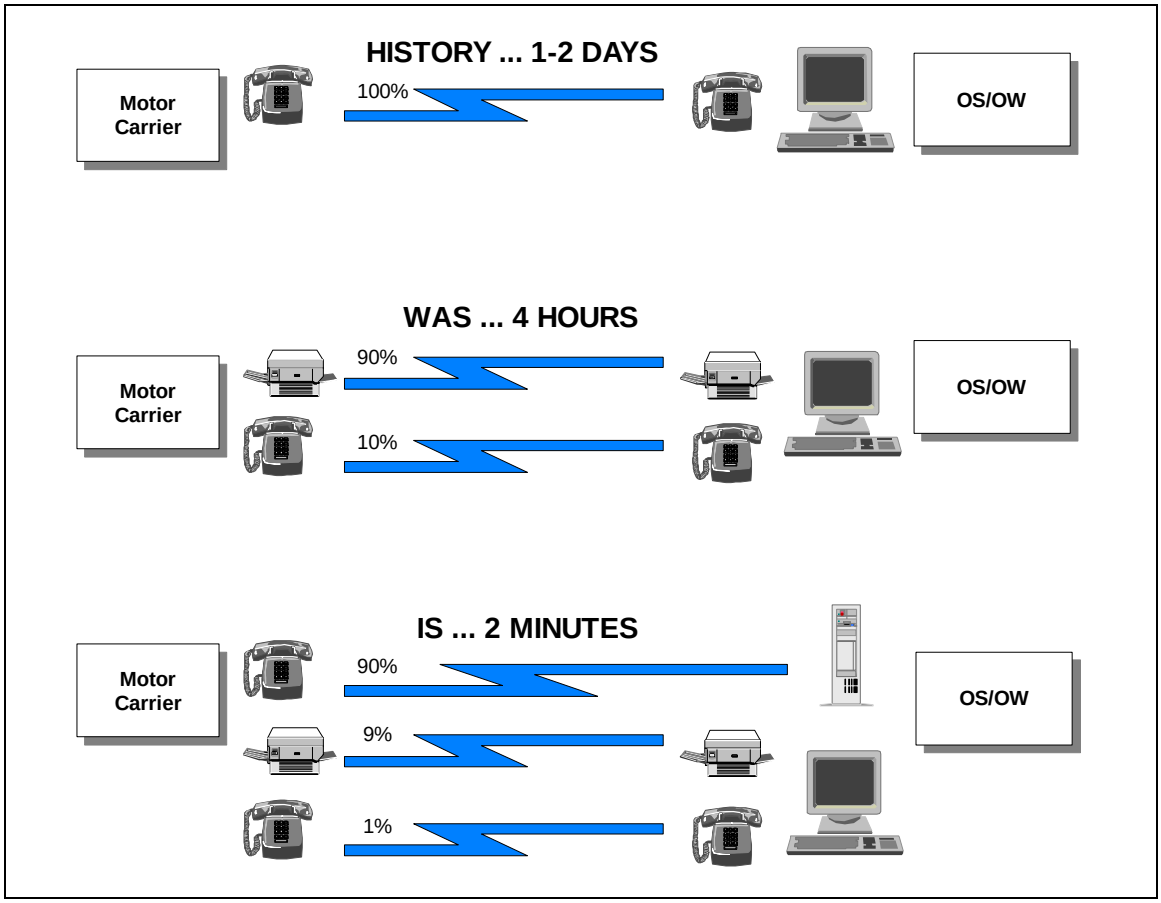

Figure 8 Chronology of Michigan Trains Permitting

Indiana ITS/CVO Business Plan

Indiana Department of Revenue
Motor Carrier Services Division

ITS/CVO Business Plan Evaluation Form

RESPONSE

June 1, 1998

This document is the response to the comments in the State ITS/CVO Business Plan Evaluation Form dated 2/18/98 attached to the March 11, 1998 letter from the Office of Motor Carriers, Federal Highway Administration. We have summarized and supplemented information contained in Indiana's Business Plan. This document and the attached Project Summary Table map directly to the Evaluation Form. Indiana continues to actively participate in the regional consortium to support the development of the ITS/CVO Regional Coordination Plan. The last consortium meeting attended was April 29 and 30, 1998. The Indiana ITS/CVO Working Group continues to be enthusiastically cooperative in their support of the Business Plan strategy and the next step of developing an Implementation Plan. The last meeting of the Working Group was April 14, 1998 and the next meeting is scheduled for September 1998.

I. Summary

A. Major Strengths – no response

B. Recommended Improvements

1. Projects are defined including benefits, estimated costs, potential funding sources, schedules, and responsible lead agencies in the attached Project Summary Table. This table reflects some of the near term projects that have been, or will be, launched. We know that there are longer-term projects to be pursued and many that will arise during current projects. The follow on Implementation Plan development has begun. The consultants who developed the Business Plan have been engaged to develop the Implementation Plan. The strategy for that development includes a modular approach. Following the Business Plan principles, each project will have a complete implementation plan. It will include cost and benefit analyses along with human resource requirements. Each of these project plans, although consistent and compatible with the long range strategy and architecture, could be treated and justified as a standalone project. This allows a modular or "plug-in" approach that does not necessarily depend upon other projects' completion and can be adjusted if funding for the overall plan is disrupted. The maximum benefits to the stakeholders can only be derived from the interaction of all of the projects combined. The projects will be launched based upon their priority and any number of projects can be in process concurrently, depending on available resources. Several projects are already underway and some will be completed by year-end 1998. The Business Plan and the Implementation Plan are dynamic working documents that will be adjusted and tuned on an on-going basis.

2. Officials of the Department of Revenue, Department of Transportation (INDOT), and the Indiana State Police have signed a Memorandum of Understanding that supports the "One Stop Shop" and ITS/CVO initiatives led by Revenue's Motor Carriers Services Division (MCS). The Bureau of Motor Vehicles is also in full support of these efforts as evidenced by their agreement to transfer the CDL function to MCS now and the intrastate license registration function in the future. MCS has participated in and contributed to the INDOT ITS/CVO business planning in two recent meetings (2/26/98 and 3/5/98). We expect the level of respective business plan integration to continue to increase.

3. Safety concerns are inherent in several of the projects identified in the Project Summary Table. They include those projects led by INDOT. Highlighting economic value in the Business Plan and Implementation Plan has its origins in the Motor Carrier Regulation Fund. This fund was established with concurrence of the motor carrier industry and enabled by legislation. It specifically earmarks a fixed amount of certain fuel taxes to be set aside for the exclusive purpose of enhancing the systems and procedures in MCS, or any other agency that directly supports commercial vehicle operations. The objective is to make improvements that benefit both the state and the motor carrier industry. The existence of this fund implies an obligation to insure that economic benefits to the industry are quantified and are given a reasonable priority in project justification. Since economic value related to safety improvement and other safety issues can be quantified from a business perspective, safety is an integral part of the value equation.

4. We are prepared to make modifications, if appropriate, to or plans after the completion of the regional coordination plan.

II. Checklist for Completeness and Internal Consistency

In this section we will address only the items that were rated Partial (P) or Not Provided (NP). No response is offered for those items rated Exceptional (E) or Good (G).

A. Overall Business Plan

Are the state ITS/CVO program's goals and objectives clearly defined and in agreement with the national ITS/CVO program's mission statement?

The attached Project Summary Table lists several projects related to safety.

Does the business plan describe projects in the following areas?

The attached Project Summary Table groups projects in three categories. They are Electronic Credentialing, Electronic Clearance, and Automated Safety Management. The project ranking is reflected in the order in which the projects are listed combined with the timing of each project.

Does the business plan rank its component projects by priority?

The attached Project Summary Table ranks projects within each of the three categories.

Does the plan describe the roles and responsibilities of the participating state agencies, and the private sector, with respect to implementation?

The attached Project Summary Table reflects the lead state agency for each project and other agencies or stakeholders involved.

Does the program schedule indicate the duration and sequencing of individual projects?

The sequencing of projects is reflected by the priority assignment shown in the Project Summary Table. Rough timing estimates can be derived from the Timing column. The exact duration of each project will be determined later and reflected in the Implementation Plan. In addition the attached Project Cost and Timing Chart graphically illustrates timing information.

Is the schedule consistent across projects?

Since most projects can be implemented without absolute dependence on other projects at the outset, the schedule is flexible. The attached Project Cost and Timing Chart illustrates project relationships.

Is the overall cost of the plan's implementation estimated?

The cost estimates for each project is reflected in the Project Summary Table. The attached Project Cost and Timing Chart summarizes all project costs by area.

Are the amounts and sources of available funding clearly identified?

The funding sources are named, but the precise percentage of the overall cost from each source is not yet derived. That information will be determined and reflected in the Implementation Plan.

Does the projected funding cover all anticipated costs?

This information is not known at this time. It will be determined later and included in the Implementation Plan.

Are the benefits of the plan's deployment estimated, qualitatively or quantitatively?

The qualitative benefits for each project are described in the Project Summary Table. Quantitative estimates will be included in the more detailed Implementation Plan in the next phase.

Does the business plan address human resource requirements?

The Cost column of the Project Summary Table reflects this requirement with "Personnel" label. As refinements to these estimates are made, they will be reflected in the Implementation Plan.

Does the business plan define training programs?

Estimates of training costs have not yet been made. However, we plan to take full advantage of the formal ITS/CVO training that is planned to be offered by FHWA and coordinated by the regional consortium. Other training costs will be reflected in the Implementation Plan, as they are determined.

Does the business plan describe outreach programs?

A basic element of our outreach program is the continuing proactive functioning of the ITS/CVO Committee. In addition, the Indiana Motor Trucking Association cooperates in including MCS input in their newsletters. MCS also distributes a newsletter that is included in IRP and IFTA mailings. Other state agencies are solicited for articles and information for inclusion in this newsletter. In addition, MCS occasionally makes calls on individual motor carriers at their place of business for their direct input to the CVO improvement process.

B. Project Evaluation Checklist

The Project Summary Table is an approximation of this checklist.

III. Institutional Participation

Indiana regulates the hazardous waste disposal within the state. Registration and permits are issued by MCS for this activity. Meetings have been held with the Indiana Department of Environmental Management (IDEM) to determine if functions beyond those currently being performed are appropriate. None were deemed required. The transport only of hazardous waste is monitored only to the extent that SSRS requires declarations and appropriate insurance coverage. Indiana relies on the current federal programs that regulate this activity. The Indiana Toll Road Commission has been included in the INDOT efforts associated with the Gary Chicago Milwaukee Corridor Project. They will be invited to participate in the MCS ITS/CVO activities.

IV. Qualitative Assessment

A. For All States

Does the business plan define projects and processes with a commitment to standards for electronic communication; unique identifiers for carriers, vehicles, drivers, cargo, and trips; and interoperable systems, as defined in the CVISN architecture?

The overall architecture of the Business Plan focuses on the evolution of current systems platforms to an object-programming platform. Commitment to incorporation of electronic communication standards is inherent in this plan. This architecture is predicated on the development of specific objects that represent carriers, vehicles, drivers, cargo, and trips. This is a fundamental part of the direction and requires

unique identifiers for each object. Interoperable systems standards will also be included as they are developed and adopted. These standards will be consistent with the CVISN architecture as currently defined and adopted.

Does the business plan define projects and processes in a manner that is consistent with the national ITS/CVO program?

The Project Summary Table defines the near term projects. As indicated above, they all relate to the CVISN architecture.

Does the business plan define projects and processes in a manner that is consistent with the appropriate regional ITS/CVO program?

The Project Summary Table defines the near term projects. We are committed adapting the Business Plan and the Implementation Plan to the regional ITS/CVO program as appropriate.

B. For CVISN Pilot/Prototype States – no response

C. For non-CVISN States

Does the business plan include a strategy for initiating CVISN deployment, including the development of a CVISN project plan?

Indiana will develop and document an ITS/CVISN deployment strategy and project plan by year-end 1998. This strategy document will be consistent with the format of the ITS/CVISN Deployment Incentive Strategy draft document dated October 14, 1998 that was attached to the Office of Motor Carriers, FHWA letter dated March 11, 1998.

Does the plan provide sufficient detail to lead the state agencies toward the development of a CVISN project plan?

The strategy document referenced above will have sufficient detail to provide the leadership for an interagency project plan.

June 1, 1998

Mr. Kenneth Strickland
US Department of Transportation
FHWA Office of Motor Carriers
575 North Pennsylvania Street
Indianapolis, IN 46204

Dear Mr. Strickland:

We are pleased to submit this letter and attachments in response to your request for additional information and suggestions for refinement to our Business Plan, contained in your letter of March 11,1998. Some of the information in the Business Plan has been reorganized and more information has been added. We think that the enclosed attachments conform to the general format suggested by the Business Plan Evaluation Form included in you 3/11/98 letter. We agree that the refinements you suggested will be of

benefit in enhancing our Business Plan as an outreach tool for all interested parties and more clearly illustrate Indiana's commitment to ITS/CVISN deployment.
We chose to amend our Business Plan by means of these supplemental attachments rather than reorganize and rewrite our original plan, an option you offered in your 3/11/98 letter. Your consideration of allowing us some additional time to prepare our response is also greatly appreciated.
The items in the Evaluation Form that were marked "partial" (P) or "not provided" (NP) have been addressed in this response. We have also included a cross reference to those specific items.
We believe that this response should satisfy the requirements to move forward to the next step of developing a detailed Implementation Plan. We are also supplying an electronic copy per your request.
The ITS/CVO Budgetary Impact Analysis Tool you enclosed with your 5/11/98 letter was useful. It will continue to be of value during the Implementation Plan phase. Thank you again for your assistance.
Sincerely,

James Poe
Administrator
Motor Carrier Services Division

Enclosure: 2

cc: Kenneth L. Miller, Commissioner