# IDAHO INTELLIGENT TRANSPORTATION SYSTEMS COMMERCIAL VEHICLE OPERATIONS BUSINESS PLAN


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Idaho State Tax Commission
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Prepared for:

The Idaho Transportation Department

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# Preface

*In Idaho there are four state agencies that are responsible for commercial vehicle operations (CVO) administration. These four agencies are the Idaho Transportation Department (ITD), the Department of Law Enforcement (DLE), the Idaho State Tax Commission (ISTC), and the Idaho Public Utilities Commission (IPUC). An important feature of each of these agencies is the progressive attitude exhibited toward simplifying and streamlining processes while continuing to maintain safety and protection of the infrastructure.*

*Examples of this progressive attitude can be taken from Idaho's participation in many Intelligent Transportation Systems (ITS) activities. These activities include participation in the Multi-Jurisdictional Automated Preclearance System (MAPS) with Oregon, Washington, and Utah, leading in the development of Aspen and SafetyNet software, being the first participant in the Motor Carrier Safety Assistance Program (MCSAP) 100/200 sites program, and partnering for the Idaho Out of Service Verification Operational Test. In addition to these ITS activities, Idaho continues to demonstrate a strong commitment in improving CVO administration through the reductions of requirements, the One-Stop-Shop for permitting and credentialing, and through streamlining the application process for new carriers.*

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# 1. Executive Summary

In recent years Idaho has benefited greatly from a rapidly expanding economy. From 1987 to 1994 Idaho's economy grew at an annual rate of 5.2%, which was over twice the national average for the same time period. The expanding economy indicates that freight is being shipped both in and out of the state at unprecedented levels. In 1993 the value of freight originating in Idaho was $16,500,000,000; 71% of this value was shipped by truck. While the economy and subsequent freight movement were on the increase, public pressure at state and federal levels has forced government to reduce its size. The purpose of this business plan is to provide the foundation for improved safety and efficiency in commercial vehicle operations through addressing institutional issues and applying technology while supporting efforts to achieve smaller government.

There are four state agencies in Idaho that provide CVO administration. These agencies are: the Idaho Department of Law Enforcement (DLE), the Idaho Public Utilities Commission (IPUC), the Idaho State Tax Commission (ISTC), and the Idaho Transportation Department (ITD). While each agency has a specific set of responsibilities, overlapping activities do occur.

DLE and IPUC have responsibility for monitoring carrier safety. DLE manages Idaho's Motor Carrier Safety Assistance Program (MCSAP) with a total of fourteen Commercial Vehicle Safety Alliance (CVSA) certified inspectors. DLE also conducts carrier safety compliance reviews and numerous other safety and training activities. IPUC has a total of five CVSA certified inspectors that perform safety inspections. In addition, IPUC performs safety compliance reviews, provides operating authority (and can revoke this authority) for carriers to operate in Idaho, and has the rule making authority for the state of Idaho.

The primary responsibility of ITD is to protect and maintain the transportation infrastructure for the state. However, ITD can inspect carriers for safety problems. ITD has the greatest day-to-day interaction with the motor carrier industry. In meeting its responsibilities ITD issues licenses, registers vehicles, provides in-transit and overlegal permits, and collects Idaho's weight distance tax.

The ISTC manages the International Fuel Tax Agreement (IFTA) program. This management includes providing IFTA licenses and decals, revenue collections, and conducting carrier fuel tax compliance reviews.

It is essential that this business plan be supported by the affected state agencies and by industry since these groups must work in cooperation to achieve the goals of the business plan. Industry input was primarily provided through the Idaho Motor Carrier Advisory Committee. Carriers generally find Idaho's CVO administration agencies to be helpful and user oriented. Carriers do question whether there is a need for four separate agencies to

effectively administer CVO in Idaho. Support for electronic credentialing and filings were also shown in the motor carrier input. A universal opinion of industry was that Idaho's weight distance tax was burdensome. This opinion is rooted in the perception that the tax is not applied fairly for all types of carriers since numerous exemptions are present in Idaho code.

To provide a framework for decision making and measuring the effectiveness of projects selected for this plan a mission statement, a set of guiding principles, and goals and objectives were established.

> *It is the mission of the Idaho State ITS/CVO program to promote the public interest in providing a safe and efficient freight transportation system.*

The following guiding principles are the basis for this business plan and the actions that it promotes:

- Public safety and responsible stewardship of the infrastructure are necessary and integral parts of promoting economic development and regulation.
- Administration of policies should always seek to minimize complexity and cost while providing the most efficient interface possible to industry and the general public.
- CVO processes should represent a coordinated effort among Idaho State agencies.
- CVO processes should be interoperable across state boundaries wherever possible and coordinated with national efforts to improve the efficiency of interstate commerce.
- A balanced approach involving ITS/CVO technology as well as institutional changes to achieve improvements in efficiency for carriers, drivers, and CVO agencies.
- Reliance on voluntary motor carrier participation in ITS/CVO processes.

Using the guiding principles given above, this plan seeks to achieve the following four goals:

- Enhance highway safety
- Increase the efficiency of registration, taxation, and auditing of CVO
- Enhanced electronic data exchange and interoperability
- Improved the information and knowledge base for freight operations.

Using the strategic direction established through the mission, guiding principles, and goals and objectives seven projects have been selected. These projects address safety, administrative streamlining, improving the knowledge base on commercial vehicles, and electronic credentials and filings. The seven projects are listed below along with a short description of each.

- Streamline Administrative Processes

  The objective of this project is to analyze current administrative processes and regulations to eliminate unnecessary burdens for industry and state regulatory agencies.

- Create Interagency Virtual Database

  Currently each agency maintains its own databases with little or no interaction with the other agencies. The objective of this project is to provide a non-centralized virtual database that will allow each agency to view and use data of other agencies where appropriate.

- Distributed One-Stop-Shop

  The objective of this project is to extend Idaho's One-Stop-Shop beyond a physical location so that industry can conduct registration, permitting, and licensing operations from their place of business.

- Electronic Filing of Fuel Use Tax Reports

  The Objective of this project is to make available electronic methods for filing of IFTA returns and funds transfer for carriers that choose to use the service to improve efficiency.

- Mainline Bypass

  The objective of this project is to increase the number of sites for mainline bypass.

- Safety Screening

  This project will integrate Automated Vehicle Identification (AVI) technology with automated screening for safety using safety-related databases and software such as Inspection Selection System (ISS).

- CVO Safety and Remote Traffic Operations

  The objective of this project is to reduce crashes, runaways, and weight damage on state highways that are not serviced by the permanent ports of entry. ITS technology will be used to deploy on-road driver safety information systems, enhanced portable or "roving" port capabilities, and extended traffic information

networks that would better characterize CVO weight and use patterns on secondary highways.

These seven projects are projected to cost $8.7M for initial deployment and to have maintenance costs of $310K/year. The projects will however provide an annual cost benefit of $990K/year once all are deployed. It should be noted that while some absolute dollar savings can be determined for improved safety, such as the replacement/repair costs for vehicles and infrastructure, other aspects of improved safety cannot be quantified such as the social cost of human suffering.

# 2. Introduction

The reason for this business plan is to provide the framework for the State of Idaho to modernize and improve its commercial vehicle administration processess. This modernization will come through changes in processes and the application of advanced technology that will be beneficial for the State of Idaho, the motor carrier industry, and the public.

The Idaho National Engineering and Environmental Laboratory (INEEL) at the request of the Idaho Transportation Department developed an objective analysis of the processes and technologies that form the basis of this business plan. Input and support for the plan was obtained from the Idaho Department of Law Enforcement (DLE), the Idaho State Tax Commission (ISTC), the Idaho Public Utilities Commission (IPUC), and the Idaho Motor Carrier Advisory Committee (IMCAC) in addition to various motor carriers.

An underlying principle that guided the development of this plan is that processes should be optimized before technology is applied. Following this approach, technological innovations should not be used until an understanding of the underlying flow of information and institutional needs has been attained. To do otherwise runs the risk of automating a “bad” process or elimination of necessary human interactions that provide a critical function.

Development of this business plan was supported through a grant from the U.S. Department of Transportation, Federal Highway Administration and through in-kind contributions from the affected state agencies and the motor carrier industry.

# 3. The Business Planning Process

The business planning process occurred in five stages with each stage allowing the plan to become more focused on commercial vehicle administration needs in Idaho. Stage 1 encompassed a general information collection activity involving all affected state agencies and the motor carrier industry. The objective of stage 1 was to gain an appreciation for the administrative complexities in Idaho and to formulate the required makeup for the business plan steering committee.

The steering committee was established in Stage 2. Steering committee constituents included individuals from each of the four state agencies and one representative for the motor carrier industry. Initial efforts of the steering committee were focused upon establishing the mission, vision, guiding principles, goals, and objectives for the plan. These statements of purpose, direction, and performance measures were used for the foundation of the plan.

Stage 3 builds upon the foundation established during Stage 2 and defines a process for continuous improvement. Stage 3 began with a more focused approached based upon the information gathered in Stage 1. Through this focused effort, a process has been recommended and agreed upon by the state agencies and the motor carrier industry.

A draft plan was developed and presented to the steering committee for Stage 4. This process involved a facilitated session with the steering committee that ensured that impressions derived from the information gathering were correct and that the plan could and should be implemented.

Stage 5 rolled steering committee input into the draft plan to allow the final version to be completed. Prior to submission of the final plan, the proposed final plan was distributed to each of the steering committee members to ensure that input from Stage 4 was correctly stated in the plan.

At the conclusion of Stage 5, input was compiled into the Idaho ITS/CVO Business Plan. The results of this effort demonstrate a comprehensive review of current commercial vehicle operations (CVO) within the State of Idaho. Implementation of this plan is with the consensus of the agencies responsible for Idaho's commercial vehicle administration and the motor carrier industry.

# 4. Idaho CVO and Administration

This section gives a synopsis of commercial vehicles operations within Idaho from three different perspectives. Industry perceptions of how CVO is administered and where improvements can made form the first perspective. The second of these perspectives is how the combined efforts of four state agencies work together to meet the objectives of administering commercial vehicle operations in Idaho. The third perspective is from an economic point of view. This perspective shows the impact that commercial freight transport has on the economy of Idaho. A description of some of the issues and the opportunities that implementation of this plan will need to take into account can also be found in this section.

## *4.1 Current Idaho CVO Program*

### 4.1.1 The Idaho CVO Process from an Integrated Viewpoint

A consistent theme in the state agency and industry interviews was potential overlap and redundancy in some functions that creates a more complex and possibly inconsistent interface for the trucking industry. Whether or not such a condition exists, it is not the role of technology or this business plan to proscribe alternative organizations. The organization structure of any state's commercial vehicle administration is determined by the legislative manifestations of constituencies that range from the trucking industry to bicycle and rail interests. Some would argue that a small amount of redundancy in state functions is valuable in that it creates checks and balances and increased efficiency through informal competition.

What is important, is that technology and plans such as this business plan contribute to a continuing improvement of business processes and maximum simplicity in how all users interact with the system. If done properly, implementation of the business plan and its associated technologies should provide users with the best interface possible and decision-makers with the information necessary to continue the evolution of policy and processes.

Broadly stated there are three main functions in the CVO program – public safety, the protection of the transportation infrastructure of the state, and revenue collection. The Idaho Department of Law Enforcement (DLE) and the Idaho Public Utilities Commission (IPUC) handle public safety functions. The Idaho Transportation Department (ITD) in coordination with the Idaho State Tax Commission (ISTC) administers infrastructure protection. These differentiations are not quite as precise as the above statements imply since Hazardous Materials Endorsements are obtained from ITD, and ITD can and does inspect vehicles for safety.

### 4.1.2 Industry Perspectives

Industry generally views state agencies as helpful and customer focused. To that end Idaho's efforts in One-Stop-Shop are seen as a significant improvement by industry. It should be noted, however, that there is universal sentiment for streamlining administrative processes.

During the industry interviews there were questions raised on whether the number of agencies involved with administration was appropriate. In the area of streamlining processes industry responses were supportive of increased electronic filings, renewals, and applications in addition to accelerating mainline bypass installations. In particular, the ability to register new vehicles electronically was cited as a needed improvement. It is also important to note that inspections are seen as not being applied fairly; that is, different inspectors interpret inspection criteria differently. It was suggested by industry that the percentage of inspections performed on routes other than interstate highways should be increased. Additionally, the comment was made that there should be more roving inspections and ports. This industry attitude demonstrates a willingness to participate in a process that enhances efficiency and safety for all highway users.

Another issue that was voiced with near uniformity by industry was a perception that Idaho's weight distance tax should be replaced by other means for allocating costs. Part of the argument for this desired change is the perception that the tax is not applied fairly and that it is a "paperwork nightmare" to handle. It is surmised that this perception arises largely because of exemptions[1] in Idaho code for certain industry sectors.

### 4.1.3 CVO Program Administration by Agency

#### *4.1.3.1 Idaho Department of Law Enforcement (DLE)*

The Idaho State Police (ISP) have responsibility for motor carrier safety within DLE. ISP meets its responsibility for enforcing motor carrier safety regulations through administering the Motor Carrier Safety Assistance Program (MCSAP). There are a total of fourteen Commercial Vehicle Safety Alliance (CVSA) certified inspectors in addition to various support staff used by ISP in performing commercial vehicle safety enforcement. Under MCSAP, ISP performs compliance reviews of carrier safety as provided for in 49 CFR sections 390 to 397, conducts CVSA certified inspections of interstate and intrastate carriers, investigates accidents involving commercial vehicles, and handles hazardous materials safety issues. ISP provides technical assistance to carriers for interpreting safety and hazardous materials regulations and provides training to fire departments, county

[1] *Exemptions for certain commodities and industry sectors were also seen as a problem by state agency personnel. State agencies believe that the exemptions make regulations more difficult to interpret and to enforce.*

sheriffs, and police forces on hazardous materials response. ISP views itself as a protector of public safety and directs resources toward that objective.

During state fiscal year 1997 ISP's fourteen MCSAP officers conducted over 5,800 commercial vehicle inspections. In a typical year, ISP performs approximately thirty detailed compliance reviews of carrier safety management systems at the carrier's place of business. In state fiscal year 1996 there were 1,667 commercial vehicle crashes in Idaho, ISP investigated approximately half of these incidents. During 1996 27% of vehicles and 13% of drivers inspected by ISP were placed out of service. There were a total of 21,251 violations recorded for 1996. Increased safety monitoring and safety compliance has reduced commercial vehicle accidents by 47.8% since 1984.

Although not formally documented, ISP has a significant level of interaction with industry beyond its enforcement role. This interaction is through regular meetings with industry, responding to requests for safety presentations, participation in joint events, and assistance with industry projects such as the annual commercial vehicle driver competition where ISP officers are requested by industry to be judges for the competition.

Numerous databases and software packages are used by ISP in the performance of their duties. The FHWA, Office of Motors Carriers' Aspen inspection software is used in conducting inspections along with the Inspection Selection System (ISS) software to augment selection of vehicles for inspection. Aspen inspection reports are uploaded to Idaho SafetyNet from laptop computers running Aspen. CAPRI is used in the performance of compliance reviews. In addition, other data sources are routinely consulted in meeting MCSAP responsibilities. Among these data sources are: the Safety and Fitness Electronic Record (SAFER), Commercial Drivers License Information System (CDLIS), National Law Enforcement Telecommunication System (NLETS), National Crime Information Center (NCIC), and Crash Analysis Reporting System (CARS). CARS was developed by the Idaho Transportation Department in an effort to add consistency to the reporting of crashes.

#### *4.1.3.2 Idaho State Tax Commission (ISTC)*

The ISTC has the responsibility for administering the IFTA program[2]. Responsibility for administering this program falls under two groups within ISTC; the Revenue Operations Division and the Audit and Collections Division. Revenue Operations handles International Fuel Tax Agreement (IFTA) licenses, record keeping, voluntary collections, issuance of IFTA decals, and processing of quarterly and annual returns. Audit and Collections provides services for forced collections, enforcement of fuels tax laws, and fuel tax audits. The number of audits conducted are based upon IFTA mandated percentages. ISTC serves the interests of the people of Idaho by collecting and

[2] Idaho's weight distance tax which is actually a use fee and not a tax is administered by the Idaho Transportation Department.

distributing funds that allow vital public functions to be maintained. ISTC's involvement in CVO administration is one of collecting funds that allow ITD to maintain the State's highway system for the public good. In addition, ISTC assists the Internal Revenue Service by identifying carriers to inspect for the use of dyed diesel fuel.

In state fiscal year 1996 the ISTC collected nearly $40M in special fuels tax revenue. The amount of special fuel taxes collected in state fiscal year 1997 was over $58M. This significant jump in collections is primarily due to a $0.04 per gallon increase in the fuel tax rate between FY-96 and FY-97. The remainder of the increase is attributed to a small increase in consumption along with better compliance. There are approximately 2700 IFTA licensees in Idaho that file quarterly with an additional 400 filing annually. The volume of IFTA returns filed for these licensees is approximately 11,200/year.

Currently ISTC uses a single proprietary Hewlett-Packard database known as View. Software development for providing access and features for this database is performed in-house. This feature of in-house software development is seen as a positive attribute, since it allows for maximum flexibility to meet ISTC needs.

#### *4.1.3.3 Idaho Public Utilities Commission (IPUC)*

IPUC is the agency responsible for adopting commercial vehicle regulations within the State of Idaho. Typically, these regulations are based on federal regulations, thereby allowing for consistency across state boundaries. Operating authority for motor carriers to transport persons and/or property within the State of Idaho is granted by IPUC.

There are five CVSA certified inspectors in the IPUC. The IPUC issues citations and warnings for violations of the Motor Carrier Act and Federal Motor Carrier Safety Regulations (FMCSR). This responsibility also allows IPUC to conduct in-depth safety audits of both interstate and intrastate carrier safety practices. IPUC can initiate civil penalties on carriers for acute and severe violations in accordance with FMCSR. During state fiscal year 1997 IPUC's five CVSA certified inspectors conducted 839 commercial vehicle inspections. These 839 inspections revealed 2,508 violations of which 409 were out of service violations, resulting in 253 vehicles and 26 drivers being placed out of service. In a typical year, IPUC performs fifty-five comprehensive compliance reviews of motor carrier safety management systems at the carrier's place of business.

The IPUC's goal is to assist all motor carriers in achieving and maintaining compliance with safety regulations. It is recognized by the IPUC that an important responsibility for their agency is to concentrate their efforts on providing compliance assistance by conducting on-site safety management reviews to ensure that carriers are familiar with safety regulations. An enforcement tool that the IPUC may use to meet this responsibility is the provision to suspend for-hire motor carriers, conduct CVSA North American Standard roadside and terminal driver and vehicle inspections, and conducting hazardous materials inspections.

Interstate for-hire motor carriers register their interstate operating authority with the IPUC along with proof of financial responsibility. Exempt and private interstate carriers also file with the IPUC and certify that they assume minimum levels of financial responsibility, as required by Idaho law.

IPUC uses SAFER and Idaho SafetyNet in performance of their duties. Currently on site inspections are preformed using a paper system. Completed inspection data is forwarded to the ISP for manual entry into Idaho's SafetyNet database.

#### *4.1.3.4 Idaho Transportation Department (ITD)*

The Idaho Transportation Department's CVO responsibilities are to protect the state's highway infrastructure investment and ensure that commercial vehicle operations within the state are consistent with public policy. This is accomplished through a three pronged approach that includes motor vehicle registration, driver licensing, issuance of in-transit and overlegal permits; field enforcement and auditing; and collection of use fees.

Organizationally, ITD meets these objectives through its Motor Carriers Services, Ports of Entry, and Driver Services sections. These sections are within the Division of Motor Vehicles, which reports to the ITD director. Motor Carrier Services is primarily responsible for registrations, and administration and auditing of the Idaho weight-distance tax. The Ports of Entry section is responsible for enforcement and overlegal permitting, and the Driver Services section issues commercial drivers licenses.

In terms of frequency and volume of interaction, ITD has the greatest day-to-day interaction with the trucking industry. In recognition of this, the CVO One Stop Shop is located at ITD headquarters.

A Motor carrier seeking to do business in Idaho can use the One-Stop-Shop. The One-Stop-Shop has the capability of: processing the Internal Revenue Service (IRS) form 2290 for heavy duty vehicle use tax, fee collection for the IPUC, IFTA fuel tax processing and licensing for the ISTC, hazardous material endorsements for DLE, registration for the International Registration Plan (IRP), registrations for intrastate operators and for operators from non IRP jurisdictions, and issuance of any overlegal permits that may be required in their operation[3].

In 1996 Idaho registered 27,105 commercial vehicles under IRP. In addition, 38,094 buses and commercial and farm vehicles for intrastate operation were registered. During 1996 Idaho issued over 50,000 trip permits, of which 4,670 were Western Regional permits[4]. When one considers the overall scope of interactions with annual renewals,

[3] *Carriers need to apply to the Federal Highway Administration for federal operating authority and to obtain a USDOT number.*

[4] *The states of Arizona, Colorado, Idaho, Montana, New Mexico, Oklahoma, Oregon, Texas, Utah, and Washington also issue Western Regional permits. Idaho issued approximately 65% of all Western Regional permits in 1996.*

quarterly reporting for weight-distance tax, Port-of Entry operations, and issuance of overlegal permits the approximate number of individual transactions handled by ITD exceeds 2.5 million per year.

Field enforcement activities alone resulted in the weighing of over 2.2 Million vehicles in 1997 with 6,918 vehicles found in violation of weight regulations. It is worthy of note that the recent implementation of high speed weigh-in-motion at the East Boise Port of Entry enabled mainline screening of over 600,000 vehicles in 1997. The ports also enforce Idaho code for a number of registration and non-weight issues that range from agricultural fumigation statutes to plumbing plate compliance on mobile trailers.

Information and processing needs encompass a wide variety of systems and software, but the current mainstay of ITD information needs is the IBM mainframe computer located at ITD headquarters and networked to the ports and other agencies. While the system is accessible from other locations, the interface it represents to other agencies, is a manual one where, for example, an individual at the Idaho Tax Commission needs to log on to the ITD system to obtain information which is then manually transferred to the tax commission's system. The corollary is also true.

While the ITD responsibilities, by necessity, include the duties of enforcer and auditor, the staff maintains a strong orientation towards treating the motor carrier industry as a customer. In a very real sense they perceive themselves as a bridge between public interests in infrastructure investment and the state's economic development interests as represented by shippers and the transportation industry.

## 4.2 The Economics of Commercial Vehicles in Idaho

The 1993[5] Commodity Flow Survey for Idaho[1] shows that freight transportation in Idaho is an important component of Idaho's economy. There were 48,600,000 tons of freight originating in the state of Idaho in 1993 having a value of $16,500,000,000. Approximately 68% of those shipments and 35% of the weight were to other states. By value the most important destination states were California, Washington, Oregon, Utah, and Texas. These five states account for nearly 55% of the value in shipments originating in Idaho. By weight the five most significant states were Washington, Oregon, California, Montana, and Utah. Nearly 61% of the weight of shipments originating in Idaho were delivered to these five regional trading partners. In turn, the states of California, Oregon, Utah, and Washington account for 63% of the value and 61% of the weight of freight shipped into Idaho. Reflecting a trend that began in the early 1900's, and accelerated by World War I[2], 71% of the value of commodities shipped from Idaho and 66% of the weight was transported by truck.

[5] *This is the most recent Commodity Flow Survey available from the Bureau of Transportation Statistics. This survey was printed for general distribution in October 1996. The next survey will be for 1997 and therefore is not available for the current plan.*

For the period 1987 to 1992[6] Idaho sustained an increase of 73% in commercial vehicles registered in the state with gross vehicle weights (GVWs) greater than 10,000 pounds. Individual increases of over 329% and 307% were seen for the weight ranges of 80,001 to 100,000 pounds and 100,001 to 130,000 pounds respectively[3] for this same period. Five year intervals of 1981 to 1986, 1986 to 1991, and 1991 to 1996 show changes for state-wide commercial vehicle miles traveled of –7%, 26%, and 44%.[4] An increase of 26% in the net taxed gallons of special fuels was seen from Idaho fiscal year 1996 to 1997.[5] In general, the increases over the last ten years exhibited by these data are reflective of national trends showing increasing commercial vehicle traffic.

The economy of Idaho has seen rapid expansion in recent years. An indicator of this expansion is that Idaho's Gross State Product for the period from 1987 to 1994[7] was over twice the national average at 5.2%/year. This rate of growth was second to only Nevada for the same period.

All these data indicate that there is and will be increasing pressure on the resources of the state to administer CVO. Recent difficulties in transportation of agricultural products and subsequent calls for increased truck weight limits will in all likelihood apply additional pressure on those administering CVO in Idaho. It is imperative from an economic health perspective that improved efficiencies be introduced into the system. It is the purpose of this plan to provide the foundation for developing strategies to provide this increased efficiency and the resulting economic benefit. In addition, and not surprisingly, the data shows that attention should be paid to coordinating to the highest degree possible, Idaho initiatives in ITS/CVO with those of the states of California, Oregon, Utah, and Washington.

## *4.3 Issues and Opportunities*

As is the case with many state governments, the federal government, and private industry there is pressure in Idaho to reduce the size of government. The consequence of reducing government means that there are fewer people who are expected to provide equal or better services. In reality it is extremely difficult to simultaneously reduce budgets and numbers of personnel while improving service. A bright spot in this picture is that, over the long term, technology holds out promise for improving the situation and allowing state agencies to meet both goals. In the short term the picture is not as positive, particularly in the case of ITS/CVO where much of the future technology requirements are in the area of improved computer and information systems. Currently the automated data processing groups of each of the state agencies are strained and are having difficulty meeting present

[6] *These data taken from the 1992 Census of Transportation. This is the most recent data available with the next census period being from 1993 through 1997, which will not be available until 1999.*

[7] *The most recent period for which figures are available.*

needs. For this plan to be successfully implemented availability of personnel and resources must be addressed.

Opportunities for seamless interfaces to neighboring states and Idaho's most important trading partners exist. Idaho has a strong history of working with other jurisdictions to improve efficiencies in CVO administration. Examples of this global approach to CVO administration can be found in ITD's work with Western Regional Permits and collection of the Federal Heavy Vehicle Use Tax, ISP's foundational support for, and involvement in, MCSAP and computerized inspections, ISTC's work with American National Standards Institute (ANSI) standards on developing an Electronic Data Interchange (EDI) transaction set, and the IPUC's continued efforts in streamlining and reducing unnecessary regulatory functions. These examples are not all inclusive, but they do demonstrate the desire of Idaho to make advances in efficiency for commercial vehicle administration. A very promising development is Idaho's involvement with the Multi-jurisdictional Automated Preclearance System (MAPS) with the states of Oregon, Utah, and Washington. The Idaho Transportation Board has recognized MAPS as an organization and has directed ITD to be involved in MAPS activities. This involvement provides the opportunity for the development of regional partnerships that will foster rapid seamless integration of Idaho's CVO functions with that of neighboring jurisdictions and Idaho's most important trading partners.

# 5. Strategic Overview

## *5.1 Mission Statement*

It is the mission of the Idaho State ITS/CVO program to promote the public interest in providing a safe and efficient freight transportation system.

## *5.2 Guiding Principles*

This business plan and the actions it promotes are based on the following principles:

- Public safety and responsible stewardship of the infrastructure are necessary and integral parts of promoting economic development and regulation.

- Administration of policies should always seek to minimize complexity and cost while providing the most efficient interface possible to industry and the general public.

- CVO processes should represent a coordinated effort among Idaho State agencies.

- CVO processes should be interoperable across state boundaries wherever possible and coordinated with national efforts to gain efficiencies in interstate commerce.

- A balanced approach involving ITS/CVO technology and institutional changes to achieve improvements in efficiency for carriers, drivers, and CVO agencies.

- Reliance on voluntary motor carrier participation in ITS/CVO processes

## 5.3 Goals and Objectives

Goal: Enhance Highway Safety.

- Objective: Improve the ability to focus safety inspections on problem areas.

- Objective: Develop processes that encourage carriers to maintain a safe fleet irrespective of any auditing process.

- Objective: Improve the uniformity of inspections between jurisdictions

Goal: Increase the efficiency of registration, taxation, and auditing of CVO.

- Objective: Simplify the interface for the motor carrier by providing a single entry and exit point in the state process.

- Objective: Reevaluate the interaction between all state processes and reengineer them to achieve minimal redundancy and maximal connectivity.

- Objective: Automate processes wherever practical and cost effective. This is especially true where carriers (and the state) can benefit from electronic exchange of information on the highway or in the office.

Goal: Enhanced electronic data exchange and interoperability.

- Objective: Develop a single state database to support CVO processes, while protecting necessary privacy between state agency operations.

- Objective: Link this database and any associated automated data acquisition systems such as mainline bypassing to Commercial Vehicle Information Systems and Networks (CVISN) compliant systems where appropriate.

- Objective: Ensure that carriers are not burdened with redundant technologies and data interfaces, i.e. a single transponder and a single electronic filing system.

Goal: Improved information and knowledge base for freight operations.

- Objective: Develop improved methods for measuring the day-to-day activity of freight operations on all highways in the state.

- Objective: Minimize carrier delays due to weight enforcement while improving the scope of information.

- Objective: Develop improved methods for communicating the status and volume of freight operations to the public, policy makers, and affected agencies.

# 6. Program Summary

The Federal Highway Administration has invested heavily in the development of ITS/CVO since the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. This investment has included the development of the CVISN architecture. CVISN specifies, at a very high level, the databases, protocols, and services that are the national plan for improving efficiency in CVO. It is up to each state and the motor carrier industry to choose what portions of the CVISN architecture are most appropriate for the particular jurisdiction[6]. By following the CVISN architecture, Idaho and other states will be able to develop and deploy systems that provide seamless interoperability and that interface correctly with neighboring jurisdictions and national systems. FHWA plans call for deployment of most components of CVISN in more than 50% of the states by 2005. FHWA's plans expand to 75% by 2010.[7]

Idaho has been moving toward ITS/CVO for several years. Important activities occurring in this area are mainline sorting operations that are part of MAPS, the Idaho Out of Service Operational Test, and the development of a partnership with the state of Utah to apply for CVISN participation in July of 1996. The purpose of this plan is to provide the planning for further developments in ITS/CVO, and where appropriate, build upon these earlier successes. Successful use of this plan requires that each of the state agencies responsible for CVO administration be proactive in the implementation of this plan and in interacting with industry.

## 6.1 Business Plan Structure

Projects selected for inclusion in this plan support one or more of the strategic goals:

- Enhanced highway safety
- Increased efficiency of administrative processes
- Enhanced electronic data exchange and interoperability
- Improved information and knowledge base for freight operations

These four goals provide a framework for projects designed to improve safety, efficiency in administrative functions, and to provide economic benefit to the state and industry. While not listed as a specific goal, process reengineering is also a critical element of this framework since it is important that improvements in technology are not simply used to automate a bad or outdated process. The table below shows projects that have been selected for each of the four goals and the objectives that they are designed to meet.

**Projects, Categories, and Objectives**

| Project Title and Objective | Goal |
|---|---|
| **Streamline Administrative Processes**<br>The objective of this project is to analyze current administrative processes and regulations to eliminate unnecessary burdens for industry and state regulatory agencies[8]. | Increased efficiency of administrative processes |
| **Create Interagency Virtual Database**<br>Currently each agency maintains its own databases with little or no interaction with the other agencies. The objective of this project is to provide a non-centralized virtual database that will allow each agency to view and use data of other agencies where appropriate. In addition, data from the virtual database will be used to develop the Idaho's Commercial Vehicle Information Exchange Window (CVIEW)[8]. | Enhanced electronic data exchange and interoperability<br>Improved information and knowledge base for freight operations |

***Continued on following page.***

[8] *This project will build upon the previous pooled fund study "Removing Instituional Barriers" conducted in the Pacific Northwest.*

## Projects, Categories, and Objectives (continued)

| Project Title and Objective | Goal |
|---|---|
| **Electronic Credentials and Filings (two coordinated projects)**<br><br>**Distributed One-Stop-Shop**<br>The objective of this project is to extend Idaho's One-Stop-Shop beyond a physical location so that industry can conduct registration, permitting, and licensing operations from their place of business.<br><br>**Electronic Filing of Fuel Use Tax Reports**<br>The Objective of this project is to make available electronic methods for filing of IFTA returns and funds transfer for carriers that choose to use the service to improve efficiency. | Enhanced electronic data exchange and interoperability |
| **Electronic Screening (two coordinated projects)**<br><br>**Mainline Bypass**<br>The objective of this project is to increase the number of sites for mainline bypass.<br><br>**Safety Screening**<br>This project will integrate AVI technology with automated screening for safety using safety-related databases and software such as ISS. | Enhanced electronic data exchange and interoperability<br><br>Enhanced highway safety |
| **CVO Safety and Remote Traffic Operations**<br>The objective of this project is to reduce crashes, runaways, and weight damage on state highways that are not serviced by the permanent ports of entry. ITS technology will be used to deploy on-road driver safety information systems, enhanced portable or "roving" port capabilities, and extended traffic information networks that would better characterize CVO weight and use patterns on secondary highways. | Improved information and knowledge base for freight operations<br><br>Enhanced highway safety |

## *6.2 Description of Projects*

### 6.2.1 Streamline Administrative Processes

Current processes for administering CVO have evolved over the past several decades. Processes designed to administer CVO have in some cases become outdated or are cumbersome to implement with the ever-increasing volume of commercial vehicles. The objective of this project is to critically analyze all state processes for administering CVO in order to remove redundant systems and ineffective regulations. This activity has the potential for significant payoff for state agencies and the motor carrier industry.

This project will be conducted in three phases.

*Phase 1:* Each of the state agencies defines and documents their processes. Once this documentation has been completed each agency will analyze their processes and identify redundant or inefficient processes.

*Phase 2*: A group assessment of all processes for all agencies will be conducted to identify redundant activities and to identify any additional unnecessary process components.

*Phase 3:* This phase of the project will be the replacement of the current system with the newly modified processes.

This project is important since it is inefficient to automate improper processes as ITS/CVO advances. In addition, this activity will aid in the successful creation of an interagency virtual database (see Create Interagency Virtual Database project). It may be helpful for the process reengineering to be facilitated by a disinterested third party.

The schedule for this project is as follows:

- Phase 1: May, 1998 – September, 1998
- Phase 2: September, 1998 – March 1999
- Phase 3: March, 1999 – June 1999

### 6.2.2 Create Interagency Virtual Database

A consistent theme identified among state agencies was the need for some access to data collected by other agencies, the fact that redundant data was being collected, and that interagency computer networks were not available or were difficult to access. The objective of this project is to build a virtual database to allow access to each agency's data

by another agency on an as-needed basis. This capability will enhance efficiency for administering CVO since redundant data entry will be eliminated. Under the model of a virtual database there is no centralized data source but rather a collection of independent data sources that are accessed as if they were a single database in a centralized location. As part of this effort, Idaho's Commercial Vehicle Information Exchange Window (CVIEW)[8] will be developed. CVIEW will manage segments of snapshots[8] for Idaho based interstate carriers. CVIEW will also manage whole snapshots[8] for intrastate carriers. These snapshots will include safety, credentialing, and tax system information.

There are eight phases to this project.

*Phase 1:* Each agency defines the databases they currently use and which of these databases, if any, are proprietary.

*Phase 2:* Determination of what data is redundant and to what extent databases can be consolidated for each agency.

*Phase 3:* Each agency specifies what data within the respective databases should be viewable by other agencies and what data should remain secure.

*Phase 4:* Selection of software for achieving a virtual database. This software will be required to have user level security and to access databases in an industry standard way.

*Phase 5:* The final phase of the project will be testing and modification of the virtual database.

*Phase 6:* Evaluate methods for development of Idaho CVIEW (e.g. Internet/Intranet Web site, proprietary interface, etc.).

*Phase 7:* Build interface from virtual database to CVIEW using EDI.

*Phase 8:* Test, evaluate and modify Idaho CVIEW.

This project requires that results from the Streamline Administrative Processes project be available. In addition, the Idaho Department of Administration will need to be consulted and involved in the project from a system specification standpoint.

The schedule for this project is as follows:

- Phase 1: September, 1998 – December, 1998
- Phase 2: January, 1999 – June, 1999
- Phase 3: June, 1999 – September, 1999
- Phase 4: January, 1999 – December, 1999
- Phase 5: January, 2000 – April, 2000

- Phase 6: January, 1999 – December, 1999
- Phase 7: April, 2000 – December, 2000
- Phase 8: December, 2000 – June, 2001

### 6.2.3 Electronic Credentials and Filings

Electronic Credentials and Filings constitute two projects (see above table). The two projects should be closely coordinated so that a carrier uses a single application to interface with the system rather than two or more unrelated interfaces. Additionally, development in this area must be closely coordinated with the CVISN architecture and the activities of adjacent jurisdictions. If these principles are not adhered to the resulting system may be a cumbersome and confusing replication of current paper based systems.

The early phase of this project requires that software for carriers to use will need to be identified and evaluated with the guiding principle that it should be intuitive to use and low cost to maintain. This software will need to convert carrier input into the ANSI X12 transaction sets for electronic data interchange. Using X12 transaction sets ensures national interoperability per the CVISN architecture.[9],[10],[11],[12] The carrier software may connect with Idaho's virtual database through standard means such as an Internet Web site.

*Distributed One-Stop-Shop* is the first project in the Electronic Credentials and Filings group. This project will build upon the success of Idaho's One-Stop-Shop located at the Idaho Transportation Department Headquarters in Boise. It is not the purpose of this project to replace the physical One-Stop-Shop, but rather to add to this capability. This project will develop an electronic system that will allow carriers to perform One-Stop-Shop operations such as (but not limited to) International Registration Plan (IRP) registrations, applying for IFTA licenses, and obtaining overlegal permits from their place of business.

The second project in this group is *Electronic Filing of Fuel Use Tax Reports*. This project can have significant benefit for both the carrier and the state in that it should reduce the labor required for administering the system. Checks of data can be done automatically allowing the carrier to file reports that are arithmetically correct and manual checks of information by the ISTC will no longer be required.

The two projects in this group will be accomplished in nine phases as stated below.

> *Phase 1:* Determine the input required from the carrier for each project using the results of the Streamline Administrative Processes and Create Interagency Virtual Database projects.
>
> *Phase 2:* Evaluate methods for enabling carriers to access state systems. For example, value added networks, dial-in connections, or Internet Web sites.

*Phase 3:* Evaluate software for converting carrier input into the ANSI X12 transaction set for EDI.

*Phase 4:* Recruit motor carrier(s) to participate in the electronic credentials pilot projects.

*Phase 5:* Develop, test, and modify the system for electronic registrations, permitting, and licensing.

*Phase 6:* Add, test, and modify Electronic Filing of Fuel Use Tax Reports to system.

*Phase 7:* Develop interface between Overlegal Trip Permit Application and GIS data for automated routing of overlegal vehicles.

Phase 8: Add, test, and modify Electronic One-Stop-Shop.

The schedule for the credentialing projects is as follows (some phases run concurrently):

- Phase 1: June 1999 – December, 1999
- Phase 2: June 1999 – December, 1999
- Phase 3: September, 1999 – March 2000
- Phase 4: April 2000
- Phase 5: January, 2000 – June, 2000
- Phase 6: June, 2000 –June, 2001
- Phase 7: December, 2000 – May, 2001
- Phase 8: May 2001 – March, 2002

### 6.2.4 Electronic Screening

This project group will build upon Idaho's activity in the MAPS project. Additional sites will be instrumented with weigh-in-motion (WIM) sensors and AVI transponder readers to allow mainline bypass for vehicles meeting acceptable weight limits. In addition, transponder identifiers will be integrated into safety operations so those vehicles bypassing ports are not only within legal weight limits but also meet predetermined safety criteria. Integrating safety into mainline sorting will require that vehicle and carrier specific data be available so that ISS can be automatically consulted and that automated SAFER queries are integrated into the system.

This project has thirteen phases, some of which run concurrently.

*Phase 1:* Link ISS with ITD data using transponder identifier at the East and West Boise Ports to add safety as additional bypass criteria.

*Phase 2:* Evaluate methods for linking SAFER, and other national databases into the mainline sorting operation.

*Phase 3:* Develop, test, and modify linking national databases with mainline sorting operation.

*Phase 4:* Install mainline sorting hardware (WIM and AVI) at Cotterel POE both east and west bound.

*Phase 5:* Link safety information into bypass operation at Cotterel POE.

*Phase 6:* Install mainline sorting hardware (WIM and AVI) at Lewiston POE.

*Phase 7:* Link safety information into bypass operation at Lewiston POE.

*Phase 8:* Install mainline sorting hardware (WIM and AVI) at Inkom POE.

*Phase 9:* Link safety information into bypass operation at Inkom POE.

*Phase 10:* Install mainline sorting hardware (WIM and AVI) at Huetter POE.

*Phase 11:* Link safety information into bypass operation at Huetter POE.

*Phase 12:* Install mainline sorting hardware (WIM and AVI) at Sage Junction POE.

*Phase 13:* Link safety information into bypass operation at Sage Junction POE.

The schedule for the electronic screening projects is as follows:

- Phase 1: July, 1998 – October 1998
- Phase 2: October, 1998 – February, 1999
- Phase 3: February, 1999 – July, 1999
- Phase 4: March, 1998 – August, 1998
- Phase 5: March, 1999
- Phase 6: March, 1998 – August, 1998
- Phase 7: March, 1999
- Phase 8: March, 1999 – August, 1999
- Phase 9: August, 1999
- Phase 10: March, 1999 – August, 1999
- Phase 11: August, 1999
- Phase 12: March, 2000 – August, 2000
- Phase 13: August, 2000

### 6.2.5 CVO Safety and Remote Traffic Operations

Currently, most field CVO resources are focused at ports on interstate routes. It is generally believed that there is a need to extend this functionality to secondary routes in order to ensure safety, equity, and protection of the public infrastructure. This is especially difficult to do with limited resources and technologies.

The objective of this project is to reduce crashes, runaways, and weight damage on state highways that are not serviced by the permanent ports of entry. ITS technology will be used to deploy on-road driver safety information systems, enhanced portable or "roving" port capabilities, and extended traffic information networks to characterize CVO weight and use patterns on secondary highways.

One of the first visible products of this project will be the deployment of advanced driver information systems at critical safety points such as downgrades. WIM sensors coupled with automated "safe speed" message signs would be used to reduce roll over or runaway events where historical data has indicated there would be a reasonable payoff.

Rover operations would be enhanced with more easily deployed WIM or scale technologies and with real-time electronic links to CVISN databases. Portable data systems utilizing cell phone or other radio frequency links would enable roving operations to have the same functionality as a permanent port of entry.

The use of rovers and driver information systems are to be guided by the information developed from integrating existing state sensor systems to develop statewide information for CVO operations.

This project has three phases as follows:

> Phase 1: Quantify statewide CVO operations through automated monitoring to characterize freight operations and safety records on selected secondary routes.
>
> Phase 2: Identify high-risk areas and install automated driver information systems. Verify effectiveness of systems compared to baseline data.
>
> Phase 3: Implement remote monitoring pilot projects on secondary routes that can be coordinated with quick response rover teams.

The schedule for these phases is:

- Phase 1: June 1999- June 2000
- Phase 2: June 2000 – November 2002
- Phase 3: January 2003 – January 2004

# 7. Organization and Management Approach

## *7.1 Lead Agency*

The Idaho Transportation Department has the largest day-to-day interaction with the motor carrier industry and also has responsibility for ITS development and deployment. Therefore, ITD will be the lead agency for all projects defined in this plan. These projects will be conducted in cooperation with each state agency and the FHWA. Depending on the nature of the project the state agency most affected may be the technical lead on the project while relying on ITD for management and coordination of the overall ITS/CVO activity.

## *7.2 Costs, Funding, and Return on Investments*

It is the intent of this version of the business plan to lay a groundwork for establishing a state dialog on the important decisions to be made for the future of Idaho ITS/CVO operations. As such, the description of costs, funding, and return on investment will benefit from a wider discussion and the development of the State's commitment to a coordinated ITS/CVO program.

Any cost benefit analysis at this stage should be used to explore how Idaho will implement part or all of the program described in this document. Once the issues identified in this plan are under broader discussion within the agencies and legislature, it is likely that specific areas of emphasis will be identified. For example, if more emphasis is placed on process reengineering it will affect the costs and return on investment projections of the other projects.

The ITS/CVO capabilities described in this plan generally fall into one of two categories. Projects either enhance the on-highway inspection/operations process or they restructure the information process used by agencies and the industry. While the two categories of projects are intimately and undeniably linked, the on-highway projects, such as mainline bypass, may address a more publicly visible and immediate need. Because of this, such projects were the first to receive state support and will likely continue to be one of the top priorities given the projected increase in commercial vehicle operations.

The category of projects that deal with the information infrastructure, are more difficult to visualize but are no less important in terms of system efficiency and public safety. This point must be made if there is to be an objective analysis of the costs and benefits, setting

the appropriate priorities between physically dissimilar but very much interconnected projects are an important part of the discussion.

The following table gives a summary of the estimated costs and benefits associated with the projects described.

| Project | Duration | Costs | | Benefits $M per year (FTEs)[9] |
|---|---|---|---|---|
| | | Initial $ M | Recurring $ M per year | |
| Streamline Admin. Processes | 5/98-6/99 | $ 0.7 | 0 | $ 0.2 |
| Interagency Virtual Data Base | 9/98-4/00 | $ 1.8 | $ 0.1 | $ 0.3 |
| Electronic Credentials | 6/99-3/03 | | | |
| • One Stop Shop | 6/99-3/02 | $ 1.6 | $ 0.02 | $ 0.2 |
| • IFTA Fuel Use Reports | 6/00-6/01 | $ 0.5 | $ 0.02 | $ 0.1 |
| Electronic Screening | 3/98-8/00 | | | |
| • Mainline Bypass | 3/98-8/00 | | | |
| Cotterel POE | 3/98-5/98 | $ 0.6 | $ 0.02 | $ 0.04 |
| Lewiston POE | 3/98-5/98 | $ 0.4 | $ 0.01 | $ 0.02 |
| Inkom POE | 3/99-8/99 | $ 0.7 | $ 0.02 | $ 0.04 |
| Huetter POE | 3/99-8/99 | $ 0.4 | $ 0.01 | $ 0.02 |
| Sage Jnct. POE | 3/00-8/00 | $ 0.3 | $ 0.01 | $ 0.02 |
| • Safety Screening | 7/98-8/00 | $ 0.8 | $ 0.01 | $ 0.02 |
| CVO Safety and Remote Ops. | 6/99-1/04 | $ 0.9 | $ 0.02 | $ 0.1 |
| Totals | | $ 8.70 M | $ 0.31 M | $ 0.99 M |

It is important to note that the benefits analyzed above do not incorporate any cost savings realized by industry such as reduced congestion and delay, reduced time spent in compliance activities, and avoided costs from crashes and breakdowns. Nor are the public costs and benefits from improved safety included. Even a conservative estimate of these benefits would increase the per year benefit figure by a minimum of $ 0.3M which implies an estimated payback of approximately 10 years without considering net present values and the time phasing of the projects.

[9] *FTEs (Full Time Equivalents) refers to avoided salary costs associated with reduced rework and redundant actions across industry and state agencies. For the Electronic screening tasks it also includes avoided salaries that would be required to staff for increased traffic. It does not include industry cost savings which are estimated at over $ 0.3 M per year.*

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