



Montana Department of Transportation

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# **State of Montana ITS/CVO Business Plan**

Intelligent Transportation System  
Commercial Vehicle Operations

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# State of Montana ITS/CVO Business Plan

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# State of Montana ITS/CVO Business Plan

## EXECUTIVE SUMMARY

Montana's Intelligent Transportation System/Commercial Vehicle Operations (ITS/CVO) planning process has evolved systematically and incrementally over an eight year period with support from Montana's executive and legislative branches, and with ongoing and broad based input from the citizens of the State of Montana, Montana's commercial motor carrier industry, and each State agency with commercial vehicle responsibilities. This ITS/CVO Business Plan (Plan) provides a chronological overview of that process.

The Plan's purpose is to encourage coordinated, efficient and safe commercial vehicle operations throughout Montana, and to promote inter-agency and regional cooperation as ITS/CVO projects are developed and deployed. The Plan discusses Montana's CVO priorities, explains how they were identified, what Montana is doing to address them, and how Montana's ITS/CVO program and plans compliment national initiatives. Each current or planned ITS/CVO project is discussed and time line, cost and benefit information is provided.

The Plan stresses the cooperation that has developed between the commercial motor carrier industry, state government and the Legislature as they have worked as partners to improve commercial vehicle safety, service, and enforcement through ITS/CVO technology planning and deployment. Specifically, information is provided about the computerization and networking of Montana's 24 Motor Carrier Services Division weigh stations; deployment of ASPEN Safety Inspection Software by the Montana Highway Patrol; development of a CVISN-compatible, automated and integrated commercial vehicle permitting, licensing and registration system by the Montana Department of Transportation in partnership with Lockheed Martin IMS; and the deployment of the HELP, Inc. "PrePass" commercial vehicle weigh station bypass service at Montana's priority weigh stations.

Montana supports and is actively participating in the Commercial Vehicle Information System Network (CVISN) initiative. The Plan explains how Montana is addressing each primary CVISN element including electronic roadside safety inspection and reporting, EDI processing of commercial vehicle credentials and permits over the InterNet, participation in the national IRP and IFTA clearing house projects, electronic vehicle screening at weigh stations, and the automation of critical port-of-entry and international border crossing weigh stations. Montana believes that regional and national ITS/CVO cooperation, as promoted by CVISN, will result in development by individual states of compatible and useful ITS/CVO technology applications.

Finally, Montana's ITS/CVO Business Plan explains the proposed State Truck

Activities Reporting System (STARS) which is a new, multi-program oriented application of weigh-in-motion (WIM) technology. Through STARS, the Montana Department of Transportation (MDT) proposes to centrally process truck weight and classification data collected at 90 sites across the state. As a direct result of this expanded data base of weight and classification information, STARS would improve the accuracy with which Equivalent Single Axle Load (ESAL) demand is calculated by MDT, focus and improve the performance of Montana's commercial vehicle enforcement program, and provide the Federal Highway Administration with the capability to monitor and judge the performance of Montana's commercial vehicle enforcement efforts.

Although Montana's ITS/CVO Business Plan looks to the future, it does not make the mistake of pretending that the future is clearly visible. Technology is ever changing, and while a plan is necessary, within the complex arena where government, elected officials and the commercial motor carrier industry co-exist, Montana believes that to over plan is to limit the ability to effectively react to whatever the future holds in store.

# State of Montana ITS/CVO Business Plan

## 1.0 INTRODUCTION

Development of the State of Montana Intelligent Transportation System/Commercial Vehicle Operations (ITS/CVO) Business Plan (Plan) is a requirement of the Federal Highway Administration's (FHWA) Mainstreaming Project, in which the State of Montana has elected to participate.

The purpose of this Plan is to encourage coordinated, efficient and safe commercial vehicle operations throughout the State of Montana, and to promote inter-agency and regional cooperation as ITS/CVO projects are developed and deployed. Additionally, this Plan documents Montana's broad based preparation for the introduction of ITS technology into the commercial vehicle environment, discusses Montana's priorities and how they support and compliment the goals and objectives of national ITS/CVO initiatives, and provides information about each of Montana's planned, completed and ongoing ITS/CVO projects.

This Plan was developed, organized and written by the Motor Carrier Services Division (MCS) of the Montana Department of Transportation (MDT) with the support of Montana's commercial motor carrier industry, MDT's executive management staff, and the Highway Patrol and Motor Vehicle Divisions of the Montana Department of Justice. The Plan was developed and formatted in general compliance with the technical memorandum entitled "Guidelines for State ITS/CVO Business Plans", as prepared for FHWA by Cambridge Systematics, Inc.

# State of Montana ITS/CVO Business Plan

## 2.0 ITS/CVO BUSINESS PLANNING PROCESS OVERVIEW

Montana's ITS/CVO business planning process has evolved systematically and incrementally over an eight year period with the support of Montana's executive and legislative branches, and with ongoing and broad based input from the citizens of the State of Montana, Montana's commercial motor carrier industry, and each of Montana's State agencies with CVO responsibilities. The following is a chronological overview of that evolutionary process.

### 2.1 CREATION OF THE MONTANA DEPARTMENT OF TRANSPORTATION: 1989 -1990

In addition to each of the nationally standard reasons for creating transportation departments out of highway departments, Montana's Legislature authorized creation of the Montana Department of Transportation (MDT) because the proposed organizational structure for the new agency presented lawmakers with the answer to a mandate from the citizens of Montana for improved governmental services. By reducing the number of state agencies servicing specific customer groups, and by legislatively moving toward consolidation of governmental services for specific customer groups, the creation of MDT set the stage for addressing a host of generalized public concerns.

### 2.2 RESULTS OF THE CREATION OF MDT: 1990 -1995

Within the CVO arena, creation of MDT resulted in two major changes. By 1991, after completion of a detailed business process improvement (BPI) analysis, the state motor fuel tax program, which had previously resided with the Department of Revenue, was transferred to MDT. In 1995, and in conjunction with national deregulation of the trucking industry, specific, remaining commercial vehicle regulatory functions previously the responsibility of the Public Service Commission were also transferred to MDT. With these changes in place, MDT became directly responsible for a comprehensive CVO package including the International Registration Plan (IRP), the International Fuel Tax Agreement (IFTA), the Single State Registration System (SSRS), the State Fuel Tax Program, commercial vehicle licensing, oversize/overweight permitting, and commercial vehicle enforcement.

With these CVO programs in hand, MDT CVO managers began to work toward program improvement by soliciting customer input through a statewide series of public meetings, and by initiating individual program level BPI analysis projects. In conjunction with information obtained through public outreach and the BPI process, CVO concerns within MDT were also identified. The following priority CVO issues

were identified.

2.2.1. Unsafe conditions at the busier weigh stations, excessive congestion and noise in some of Montana's smaller communities, and potential damage to Montana's highways were resulting from increased commercial vehicle traffic.

2.2.2. The existing "manual" commercial vehicle registration program was not meeting customer needs.

2.2.3. Montana's fuel tax filing and processing requirements were burdensome and unnecessarily complicated.

2.2.4. The existing "hand issued" oversize/overweight permit program was not meeting customer needs; and, financial permit record keeping and auditing was difficult and time consuming.

2.2.5. Commercial vehicle enforcement needed to be expanded to include a "value added" or "service" element.

2.2.6. Cooperation and communication between states, and between states and the Canadian provinces, on behalf of the motor carrier industry, needed improvement.

MDT CVO managers understood that each of these concerns could be partially addressed through application of ITS technology. They were, however, concerned that hasty introduction of technology solutions might result in incompatibility with technology systems being developed by other agencies and jurisdictions, money not wisely spent, and loss of opportunities for real improvement.

By mid-calendar year 1992, as a result of the public outreach and BPI analysis that had thus far taken place, MDT CVO managers concluded that they needed a broader prospective before deciding what to do next.

### 2.3 WESTERN STATES TRANSPARENT BORDERS PROJECT: 1992-1993

As a direct result of ITS/CVO information collected in conjunction with the creation of MDT, and along with Idaho, Nevada, Oregon, Utah, Washington and Wyoming, Montana decided to participate in the Western States Transparent Borders Project (Project). Under the sponsorship of the Federal Highway Administration, the Project's goals were to identify barriers obstructing ITS/CVO technology implementation, and to recommend actions to mitigate these barriers. Montana's participation focused attention on ITS technology as a potential CVO service and enforcement solution for both government and the industry.

The Project brought Montana's commercial motor carrier industry, and the four State agencies that at that time shared CVO responsibilities, into a forum where both the intrastate and interstate business problems truckers and government had with one another were discussed constructively, in detail, and with both complaint and solution issues receiving equal time.

In the Project's Final Technical Report, dated August 1993, the Project team concluded that .... "the primary barriers to implementation of IVHS CVO (ITS/CVO) technologies are neither institutional nor regulatory. Instead, the barriers are a lack of shared vision among the various states, state agencies, and trucking industry groups." The Project team recommended that the solution lay with creation of a ..... "modular system that will allow both states and private companies to enter into the IVHS CVO process for little cost"..... and that " benefits commensurate with the costs of participating in the system must be available to all involved agencies and trucking firms."

CVO managers took the local and regional experience gained from participation in the Western States Transparent Borders Project to heart, and started immediately searching for ways to directly apply Project findings and recommendations within their own unique CVO environment, and to Montana's relationships with its neighboring states and provinces.

## 2.4 THE COUTTS/SWEETGRASS BORDER CROSSING PROJECT: 1994-PRESENT

During the last quarter of 1993 and throughout 1994, CVO managers in Montana expanded both formal and informal ITS/CVO interaction with neighboring states and Canadian provinces. One direct result was a joint Montana/Alberta decision to automate the Coutts/Sweetgrass (C/S) Border Crossing. Montana and Alberta had shared a joint port-of-entry weigh station and safety inspection facility at Coutts Alberta since 1990, and the next logical step seemed to be a joint-automation project. During the early 1990s C/S had grown into a busy and often congested facility. In addition to mitigating commercial vehicle congestion and encouraging economic growth, MDT CVO managers believed that a joint-automation project would ensure that at some point in the future the C/S operation would not be faced with a hard choice between two incompatible automated vehicle identification (AVI) and weigh station computer systems, one developed independently in Montana and the other in Alberta. Montana's decision to enter into the C/S Project with Alberta spoke directly to concerns 2.2.1. and 2.2.6. as discussed earlier. Additionally, Montana believed that by jointly automating the C/S Crossing, compatibility with other northern crossings, and with US Customs and Immigration automation plans could also be addressed.



In February 1996, the Coutts/Sweetgrass Project received a \$500,000 Congressional Earmark Appropriation to accomplish the ITS/CVO portion (Phase I) of the C/S work. This money became available as a result of work done by the Western Transportation Institute of Montana State University. Montana and Alberta continue to work through the operational, policy and engineering details of the project and to plan for Phases II and III which will merge ITS/CVO with technological and operational US and Canadian Customs and Immigration requirements. Phase I work will include north and southbound weigh-in-motion capabilities, a shared computerized database of participating carriers and mutually agreeable weigh station by-pass criteria. C/S Project activities are monitored and critical decisions are collectively made by the C/S Oversight Committee comprised of representatives from both Montana and Alberta motor carrier associations, customs houses, transportation departments and from the US and Canadian federal governments. The Western Transportation Institute is coordinating the C/S Project on MDT's behalf.

## 2.5 HEAVY VEHICLE ELECTRONIC LICENSE PLATE, INC. (HELP, Inc.): 1994 - PRESENT

Montana had investigated the HELP, Inc. program prior to completion of the Western States Transparent Borders Project but it was not until after distribution of the final report that MDT CVO managers began to think seriously about it. Initially, MDT joined HELP, Inc. because membership provided an ongoing regional ITS/CVO forum wherein CVO managers and industry managers could gather timely information, learn from the accomplishments of more progressive states like California, have a voice in ITS/CVO decision making in the western United States, and solve CVO problems with ITS technology in a uniform manner.

Later, as MDT's outreach process focused public sentiment, the importance of HELP, Inc. expanded because the HELP, Inc. concept spoke directly to public concerns 2.2.1., 2.2.5., and 2.2.6. Additionally, as a public/private partnership with available private sector financial resources, the HELP, Inc. program provided financially strapped Montana with the only real and affordable weigh station automation option. As a HELP, Inc. state, the cost of automating a weigh station became a shared expense, with HELP, Inc. responsible for the purchase, installation and maintenance of the AVI system and the associated computer software and database. This left Montana responsible for only the purchase, installation and maintenance of the weigh-in-motion equipment. On the industry side, Montana carriers came to support HELP, Inc. because participation is optional and only those carriers who chose to participate are charged for the services. On November 3, 1997, Montana and HELP, Inc. signed a "memorandum of understanding" formally committing Montana to the HELP, Inc. program.

## 2.6 THE MONTANA ONLINE TAX AND REVENUE SYSTEM: 1994-PRESENT

A third direct result of the Western States Transparent Borders Project was to galvanize MDT's resolve to develop a comprehensive, fully automated, motor carrier registration, permitting and fuel tax, accounting, auditing and cashing system. The needs (identified earlier in Sections 2.2.1.-2.2.5.) driving development of this system had surfaced in concept as CVO managers and the public, including the motor carrier industry, exchanged information during MDT hosted, statewide public outreach sessions. Then, during the 1993 Legislative Session at a House of Representatives "listening session", the public spoke clearly and directly to their elected officials about their needs. What the public wanted was staggered vehicle registration, simplified fuel tax filing and refund processing, and faster turnaround and value plus service from the commercial vehicle permit program. The Legislature asked MDT what it would take to get the job done, MDT's CVO managers explained the capabilities and costs of an automated system, and the Legislature responded with its support. Competitive proposals for the automated system were solicited, award was made to Lockheed Martin IMS, and a contract to build the Montana Online Tax and Revenue System (MOTRS) was signed in August 1994.

To date, MOTRS includes fully operational IRP and SSRS processing capabilities, and an approved design plan for the oversize/overweight permit and permitted vehicle routing program. Work continues on the IFTA program, and design plans for the financial and auditing programs have been submitted for MDT review. When MOTRS is completed in mid-1998, its capabilities will address all, or significant portions of each of the public concerns discussed earlier. This does not mean that there will no longer be unaddressed public concerns. It does mean that Montana's Legislature and MDT's CVO managers listened and responded, and that with approved funding and ITS technology, worked with the commercial vehicle industry to develop solutions.

Finally, although MOTRS preceded the Commercial Vehicle Information System Network (CVISN) initiative by several years, MOTRS anticipated and directly addresses five of the seven CVISN goals.

## 2.7 COMMERCIAL VEHICLE INFORMATION SYSTEM NETWORK: 1996-Present

Montana originally agreed to participate in the Commercial Vehicle Information System Network (CVISN) initiative as a member of the Northwest Regional Mainstreaming Consortia along with Washington, Idaho, Wyoming and Utah. Recently the Northwest Region and the Western Region, which is comprised of Oregon, California, Arizona and Colorado, have been combined into a new and expanded Western Region.

CVISN and Mainstreaming are parallel FHWA sponsored initiatives. CVISN's objective is to develop the technical infrastructure necessary to deploy ITS/CVO technology: the parallel objective of Mainstreaming is to develop the organizational infrastructure within which deployment can be accomplished. Montana unconditionally supports these objectives and has worked to develop capabilities in each of the four (4), broad, primary CVISN areas. These "areas" are identified and defined in the January 1997 document titled "CVISN Model Deployment and Mainstreaming; How Do They Fit?", which was prepared for the FHWA by Cambridge Systematics, Inc. Narrative describing these CVISN areas taken from the Cambridge Systematics, Inc. document, and Montana's current and projected CVISN capabilities, are as follows:

### **2.7.1. SAFETY ASSURANCE**

Safety Assurance is comprised of the programs and services designed to assure the safety of commercial drivers, vehicles and cargo. These include automated roadside safety inspections and carrier reviews, safety information systems, and onboard safety monitoring.

The Highway Patrol Division of the Montana Department of Justice is the lead agency for commercial vehicle safety in Montana. As discussed in more detail elsewhere in this Plan, the Highway Patrol's twelve (12) Commercial Vehicle Inspectors are currently utilizing Aspen Safety Inspection Software equipped laptop computers to conduct automated roadside safety inspections and carrier reviews. Additionally, MCS officers at two (2) Montana weigh stations are also using Aspen equipped computers to conduct inspections. MCS will expand the Aspen program to each of Montana's 24 computerized weigh stations in the near future. The Highway Patrol Division is doing a pilot project involving three Patrol vehicles and two Helena, Montana Police Department vehicles. This will provide mobile officers via onboard computers with direct access to the Criminal Justice Information Network (CJIN). It is anticipated that through use of onboard computers, safety inspection and crash data will be electronically generated, and vehicle, cargo and driver safety will be more effectively monitored. Pending completion of this pilot project, development of a cost proposal, and approval of the resulting budget request, this element of the CVISN initiative can be expanded to include onboard computers and direct safety information access and reporting capabilities for each of the Highway Patrol's 60 mobile officers who are certified to do Level One Safety Inspections, and each of the Motor Carrier Services Division's 16 mobile officers.

### **2.7.2. CREDENTIALS ADMINISTRATION**

Credentials Administration is comprised of programs and services designed to

improve the business procedures and systems that manage motor carrier registration, fuel tax and other credential activities through use of electronic application, payment and issuance of these credentials, and automation of CVO related tax reporting and filing.

The Montana Online Tax and Revenue System (MOTRS) is being developed by Lockheed Martin IMS under a partnership agreement with MDT. When completed in mid-1998, MOTRS will directly address each primary element of CVISN's Credentials Administration capability expectations. A more detailed description of each MOTRS capability is provided in Sections 2.6 and 3.4.4. of this Plan.

### **2.7.3. ELECTRONIC SCREENING**

Electronic Screening is comprised of programs and services designed to facilitate the verification of commercial vehicle size, weight, and credentials information. Automated commercial vehicle screening at weigh stations and international border crossings is a primary element of the overall CVISN program.

HELP, Inc. and MDT signed an agreement on November 3, 1997 under which "PrePass" will be the automated commercial vehicle screening program running Montana's automated weigh stations. "PrePass" may or may not become a component part of Montana's border crossing projects. Because border crossing projects generally involve two independent governments, selection of HELP, Inc. as automation services provider must be by mutual agreement.

HELP, Inc. currently is the automated weigh station systems provider for California, Arizona, New Mexico, Colorado and Wyoming. As Montana's weigh station automation services provider, HELP, Inc. will assure that automation decisions made in Montana are compatible with programs in place in other states, and that automation is accomplished at the lowest possible cost. Because there is no cost to commercial carriers who choose not to participate, only compliant carriers who benefit from the "PrePass" program pay for these benefits. Montana's decision to contract with HELP, Inc. assures that Montana's electronic screening accomplishments will be fully compatible with CVISN expectations.

### **2.7.4. CARRIER OPERATIONS**

CVISN seeks to improve Carrier Operations through automation of business activities that routinely occur between governmental agencies with CVO

responsibilities and the motor carrier industry itself, and through congestion reduction, traveler information services and management of commercial vehicle traffic.

The Coutts/Sweetgrass Border Crossing Project (Sections 2.4 and 5.0), the Culbertson Montana Enforcement Automation Project (Section 3.4.3), and Montana's Regional Weather Information System (Section 3.4.5.) are individual examples of carrier operations improvements undertaken by Montana. Additionally, MOTRS will provide carriers with the ability to request, pay for and receive basic oversize/overweight permits, and to file fuel tax reports over the InterNet.

# State of Montana ITS/CVO Business Plan

## 3.0 DESCRIPTION OF MONTANA

Montana is a sparsely populated rural state measuring approximately 500 miles east to west and 300 miles north to south. Montana borders Idaho on the west and southwest, Wyoming to the south, North and South Dakota to the east, and the provinces of British Columbia, Alberta and Saskatchewan to the north. Agriculture, resource development and tourism are the primary areas of employment for Montana's 880,000 residents. Montana is served by three Interstate highways and two east/west railroad lines. In some parts of the State, the distance between the two railroads is over 200 miles. Trucks play a vital role within this transportation environment and an efficient and competitive commercial motor carrier industry is vital if Montana intends to stay competitive in the global marketplace.

Montana has the following number of road miles stratified by surface type and system:

	<u>Paved</u>	<u>Unpaved</u>	<u>Total</u>
Interstate	1,191.229	-0-	1,191.229
Non-Interstate NHS	2,649.421	-0-	2,649.421
Primary	2,840.182	-0-	2,840.182
Secondary	2,938.896	1,726.469	4,665.365
Urban	356.098	4.137	360.235
<u>Local</u>	<u>7,330.923</u>	<u>50,836.143</u>	<u>58,167.066</u>
Total	17,306.449	52,566.749	69,873.498

### 3.1 CURRENT STATE CVO PROGRAM

**3.1.1. CREDENTIALING:** Two agencies are responsible for motor carrier credentialing in Montana:

The Department of Justice, Motor Vehicle Division issues vehicle titles of ownership. The Department of Justice maintains the computerized intrastate carrier registration database, and is responsible for interpreting state law regarding intrastate vehicle fees and registration information. Carriers who do not travel outside Montana must register their vehicles at a county courthouse. The Motor Vehicle Division also administers Montana's commercial driver's license (CDL) program and CDLs are issued at various locations across the state.

The Department of Transportation, Motor Carrier Services Division administers the Federal Single State Registration System insurance program and registers vehicles involved in interstate commerce through the IRP using the Montana Online Tax and Revenue System (MOTRS). MCS interprets the IRP plan and state law applicable

to interstate carriers. When MOTRS becomes fully operational in mid-1998, MCS will also register IFTA vehicles used in interstate commerce. Intrastate carriers are no longer required to file special fuel user reports.

MCS is responsible for administration of the State's commercial vehicle permitting program. Permits are issued out of the MCS central office in Helena for oversize/overweight loads and at each of the Department of Transportation "field" offices, all 21 MCS weigh stations and by authorized "permit agents" across the State. Carriers moving loads in excess of statutory dimensional limits must apply for a special oversize/overweight permit. MOTRS will include automated permit issuance and vehicle routing capabilities when it is completed in mid-1998.

### **3.1.2. SAFETY:**

Commercial vehicle/driver safety and enforcement are priorities in Montana. Two state agencies are responsible for these activities. As "lead" commercial vehicle safety agency, the Montana Highway Patrol Division (MHP) of the Montana Department of Justice administers the State commercial vehicle safety program and the Motor Carrier Safety Alliance Program (MCSAP) funds Montana receives from FHWA. Twelve (12) MHP Commercial Vehicle Safety Inspectors and 60 Highway Patrol Officers who are certified to conduct Level One safety inspections. MHP Inspectors and Officers conduct "terminal" safety inspections as requested by the industry.

The Motor Carrier Services Division officers conduct Level One, Two and Three safety inspections at each of Montana's 24 weigh stations and on the roadside. As of November 1997, eighty (80) MCS officers out of eighty-three (83) are certified to perform Level One inspections. Each MCS officer is required to devote a minimum of 16 hours per month to the safety inspection program. During Federal fiscal year 1997, MCS officers completed 22,563 Level One, Two and Three safety inspections.

### **3.1.3. FUEL TAX EVASION:**

Because of Montana's high State fuel taxes and geographical relationship to three Canadian provinces, fuel tax evasion results in an estimated revenue loss to Montana of \$20 million per year. The MDT Administration Division administers the State fuel tax program with roadside fuel sample collection, investigation and enforcement support from MCS.

### **3.1.4. ENFORCEMENT:**

MCS and MHP jointly enforce State commercial vehicle law and Federal regulations in Montana. The MHP enforces Montana's posted commercial vehicle speed limit for all trucks and MCS enforces speed limit laws for permitted vehicles only. MCS issues citations for size and weight noncompliance and both MCS and MHP issue citations for safety noncompliance. MCS is responsible for

preparation of Montana's Federal Size and Weight Enforcement Plan each year, as well as the accompanying Certification of Accomplishment report required at the end of each annual cycle.



## 3.2 ECONOMIC AND POLITICAL CHARACTERISTICS

### 3.2.1. ECONOMIC

The commercial motor carrier industry is strategically important to the overall health of Montana's economy, having generated \$76,930,860 in state revenue in 1996. There are approximately 3000 commercial carriers and 19,000 commercial vehicles (including motor coaches) based in Montana.

When Montana lost the Milwaukee Railroad, one of two AMTRAK routes, and several Burlington Northern Railroad branch lines during the late 1970's and early 1980's, both the public and private sectors learned the hard way that in Montana, only trucks provide dependable interstate and intrastate freight transportation. Most Montana-produced goods find their markets outside the State. Likewise, with virtually no heavy manufacturing in state, Montana is dependent on out-of-state industrial centers to supply necessary commodities and products.

Montana's ongoing commitment to its citizens is to provide and maintain an adequate transportation system for the movement of persons and goods within the state. As a north/south and east/west "pass through" state, Montana is likewise committed to the development of a transportation environment that reduces both physical and administrative congestion for commercial vehicles traveling within and through the state. Commercial vehicles are expected to use Montana's highways and consequently the highways must be repaired and rebuilt. The Department of Transportation is dedicated to assuring that the permit, licensing, registration and motor fuel tax revenue due Montana, by carriers based in Montana and in other jurisdictions, is collected in full and spent wisely to maintain and improve the infrastructure.

In 1991, the Department of Transportation undertook Montana's first Cost Allocation Study. The objective of the Study was to review motor vehicle related revenues and highway expenditures and suggest revisions to the revenue system, as necessary, so that highway costs would be paid by motor vehicle operators in proportion to their use of the highway system. The Study concluded that "basic vehicles are relatively underpaying for their use of the (highway) system while intermediate and heavy vehicles are relatively overpaying for their use of the system." As a direct result of these conclusions, the 1993 Legislature adjusted taxes and fees to mitigate these inequities. The cost allocation review process is now institutionalized in Montana and has become the primary means of assuring that each size of vehicle using the highway system is paying its fair share of the cost of maintaining that system. The next (updated) Cost Allocation Study will be completed prior to the 1999 Montana Legislative Session.

### **3.2.2. POLITICAL**

The political climate in Montana could be described as aggressively pursuing the concept of doing more with less. Throughout the 1990s, Montana's citizens have clearly stated they will not support or fund growth in government, and they expect state agencies to maintain or increase productivity with fewer employees and smaller budgets. At the same time, the citizen as customer demands better and faster governmental services. Much of state government's ability to meet this challenge has come through automation of activities and services that were previously done manually. In return for accomplishing staff and budgeting reductions mandated by Montana's citizens, the Legislature has funded automation projects that address service concerns raised by the citizen customer.

As an example, during the 1993 legislative session, a Montana-based carrier suggested at a Transportation Sub-Committee hearing that Montana should implement a staggered registration program. He went on to explain that because Montana licensed trucks only one a year, and given the size of his fleet, he was being forced each year to spend around \$40,000 in finance charges on the borrowed money he needed to license all of his trucks at the same time. The Sub-Committee asked the Motor Carrier Services Division to put a plan together to address this problem, reviewed the resulting plan, and supported the associated bill and budget as they moved through, and were approved by both houses of the Legislature. Today, Montana has staggered commercial vehicle registration and both the citizen/customer and the agency responsible for administering the registration process have a better and faster automated system.

The Governor's Office has also worked with and encouraged each agency to review all existing laws and administrative rules with the goal of identifying and eliminating or updating any that are obsolete, unnecessary or redundant. In the commercial vehicle arena, this review process has thus far reduced paperwork for the carrier, clarified and focused existing law through Legislative action, and eliminated laws and rules whose usefulness had been outlived.

Although Montana is a large state with significant economic and political differences from east to west and north to south, it is also a place where people statewide know one another and where concerns are often personally communicated by the people to their elected officials. Even more importantly, Montana is still a place where, having heard a constituent's concern, the elected official immediately goes to work to personally bring resolution. This unique "cause and effect" process is, perhaps, both the greatest strength and the most significant flaw in the way economics and politics co-exist and impact one another in Montana.

### **3.3. ISSUES AND OPPORTUNITIES**

**3.3.1. ISSUES:** The following major issues affect administration and enforcement of CVO regulations in Montana.

**ONE STOP SHOPPING:** Montana's Legislature has systematically consolidated related service activities provided by government for specific customer groups. This resulted in the creation of the Montana Department of Transportation (MDT) to replace the Montana Department of Highways. Administration of the Single State Registration System (SSRS) insurance confirmation program, and responsibility for the State motor fuels tax program were transferred to MDT to improve customer service and to promote standardized business relations between Montana government and the carrier community. These changes have affected both administrative and enforcement activities and other consolidation changes are anticipated in the future.

**HUMAN RESOURCE REDUCTION:** Montana's Legislature has regularly reduced the number of State employees through approval of early retirement buyouts, mandated "vacancy savings" and direct elimination of funding for existing Full Time Employee (FTE) positions.

Faced with the need to do more with less, MDT initiated a series of Business Process Improvement (BPI) studies focusing on the use of technology to accomplish activities that have traditionally been accomplished by people whose positions no longer exist. This BPI process resulted in successful MDT initiated legislation that has reduced permit and credential requirements, simplified the fuel tax filing and payment process, and introduced staggered registration of commercial vehicles, as an option, for carriers who find it valuable. These changes have impacted both administrative and enforcement activities.

**3.3.2. OPPORTUNITIES:** The following opportunities for the application of ITS/CVO technology exist in Montana.

**SAFETY INSPECTIONS:** MDT will begin construction of a two-bay commercial vehicle inspection facility in early 1999. This facility will make it possible for Montana CVO officers to conduct safety inspections at night and during the most severe winter months. Through Summitnet, Montana's statewide communication network, this facility will be linked to SAFETYNET. Aspen Software will be employed to determine a carrier's safety rating and as a standardized method of collecting, entering and reporting data resulting from a safety inspection.

**FUEL TAX EVASION:** Montana loses an estimated \$20 million annually to fuel tax evasion. As a result of revisions in Montana's fuel tax statutes, development of the MOTRS "common" customer account number, and use of Montana's automated Fuel Tracking Program, MDT plans to significantly reduce fuel tax evasion

opportunities.

INTERNET CREDENTIAL REQUEST ACCESS: The speed with which a required credential or permit may be obtained has a direct impact on a carrier's ability to do business. Carrier Automated Transaction (CAT) provides the ability to apply for and receive specific credentials and permits via the InterNet. As a component of MOTRS, Lockheed Martin IMS is developing CAT applications for Montana's oversize/overweight permit program, IRP and IFTA.

WEIGH STATION AUTOMATION: HELP, Inc. is Montana's weigh station automation services provider. Weigh station automation will allow MCS to focus weigh station officer resources on safety verification and enforcement. Weigh station automation improves overall CVO enforcement, reduces congestion and operationally streamlines the compliance conformation process for qualified, participating carriers. ITS/CVO applications will be HELP, Inc. "Pre-pass" based and will include weigh-in-motion (WIM), automated vehicle identification (AVI) and truck-mounted transponders.

### 3.4 MONTANA ITS/CVO PROJECTS IN PROGRESS

#### **3.4.1. WEIGH STATION COMPUTERIZATION:**

MCS operates 24 weigh stations equipped with personal computers, modems and printers. Since 1992 these units have been used to issue commercial vehicle and fuel permits and maintaining records associated with these activities.

In 1996 the Montana Department of Administration installed an improved statewide communications system called SummitNet that services all 24 weigh stations. SummitNet greatly improved the speed and quality of data transmission between each weigh station and Helena, and from one weigh station to another.

MCS replaces computers on a five year cycle, and the original 1992 weigh station computers were therefore recently replaced. Each new computer is equipped with an updated version of the MCS Permit Program, Fuel Sample Tracking Software, PC-Miler Software, WordPerfect 8.0 and Calendar Manager 6.0. Aspen Safety Inspection Software will be installed in the near future. In conjunction with SummitNet, the new computers will greatly improve customer service and employee productivity at MCS weigh stations.

### **3.4.2. MOBILE COMPUTERIZATION:**

The MCS Patrol Program is comprised of sixteen (16) uniformed officers who enforce commercial vehicle laws and regulations within an assigned geographical area of the State. Each officer is assigned a pickup truck with light bar, high-band two-way radio, cellular phone and portable scales. In order to a) access carrier safety status information and conduct safety inspections using ASPEN Software, b) reduce fuel tax evasion through use of Montana's Fuel Sample Tracking Software, c) issue standardized oversize/overweight permits using MCS Permit Software, and d) issue standardized fuel, size/weight and safety citations and courtesy warning tickets, each MCS Patrol officer must be supplied with a computer and printer. Remaining non-computerized Patrol Units will eliminate the MCS Patrol Program from participation in the time and resource saving automation applications FHWA and MDT have developed. As time goes on, it will become impossible for mobile officers to remain productive without computers.

The Montana Highway Patrol and the City of Helena Police Department are currently participating in an onboard computer pilot project for mobile officers. The results of this pilot project will help Montana peace officer organizations to uniformly decide on an acceptable onboard computer.

### **3.4.3. ENFORCEMENT AUTOMATION:**

The Culbertson Weigh Station has been located at the junction of State Highway 16 and US Highway 2, inside the Culbertson city limits since 1937. Throughout the 1980's and early 1990's, MDT and Culbertson officials worked together to identify an alternative location for the weigh station that would mitigate safety concerns, reduce truck traffic and noise within the city, and increase the amount of operating space available to large trucks as they passed through the weigh station. A list of potential sites were discussed and all were rejected by one or both parties until a site on Highway 2 east of the city limits was suggested.

This site was acceptable to Culbertson officials because it removed truck congestion and noise from within the city proper, and because MDT agreed to build a rest area as a component part of the project. The site was acceptable to MDT because it maintained the necessary weigh station enforcement presence on Highway 2 and provided the space to safely process big trucks. The single remaining issue for both parties was what to do about truck traffic moving north and south on Highway 16.

The original location of the weigh station at the junction of Highways 2 and 16 provided the desired enforcement presence for MCS and although residents found the traffic and noise irritating, these were low priority issues until the early

1990s when Canadian originated truck traffic began to increase significantly. Elimination of the “junction” weigh station pleased residents but caused an enforcement problem for MCS. MCS proposed to solve this problem by simply posting signs on Highway 16 instructing all trucks to proceed to the new weigh station east of town for weight confirmation.

Culbertson found fault with this solution which caused all trucks traveling either north or south on Highway 16 to turn east off Highway 16 onto Culbertson’s busiest street, to proceed 8/10 of a mile out to the weigh station, and then to double back over the same route to reconnect with Highway 16. Culbertson believed that the resulting level of truck traffic and noise would be even more detrimental to the quality of life in Culbertson than the old weigh station had been. The site selection process stood at an impasse.

Finally, after review of the situation and issues, the MDT Motor Carrier Services Division proposed installation of weigh-in-motion (WIM) equipment north of Culbertson on Highway 16. Supplemented with a remote camera monitoring system and electronic changeable message signs, the WIM would identify overweight trucks traveling south on Highway 16, take their picture and direct them to the weigh station. Failure to comply would put an overweight truck in direct conflict with State law, and appropriate mobile enforcement action would result. Weight compliant trucks and trucks traveling north on Highway 16, which usually ran empty, would not be impacted. Culbertson officials and MDT both liked this solution and the project was approved for funding by the Montana Transportation Commission and became Montana’s first automated weigh station project.

Bids for the Culbertson Project were awarded in May 1997 and the grand opening of the Weigh Station and associated Rest Area will be held on January 7, 1998.

#### **3.4.4. THE MONTANA ONLINE TAX AND REVENUE SYSTEM (MOTRS):**

MOTRS is a comprehensive, fully automated, common account number-based motor carrier registration, permitting, fuel tax, accounting, auditing, and cashiering system developed through a partnership agreement with Lockheed Martin IMS. Upon completion in mid-1998, Montana’s IFTA, IRP, SSRS, oversize/overweight permitting programs, and all associated financial, audit and accounting activities, will become integrated, MOTRS components. CVO customers will receive improved service because the MDT employee they contact will be able to provide the customer with status information about any of the customer’s CVO related accounts.

#### **3.4.5. REMOTE WEATHER INFORMATION SYSTEM (RWIS):**

RWIS is a network of fifty-nine (59) strategically located weather information sites that provide air and ground temperature, road surface condition, humidity level and wind information to MDT maintenance forces on a real time basis. This information is used by maintenance managers to monitor changing conditions at remote sites like mountain passes, to help decide when to call snowplow crews out, and to determine what kind of equipment to deploy. These sites also provide geographically specific weather and road condition information to the trucking industry and the traveling public through MDT's 800-number Winter Road Report program. All 59 RWIS sites will be fully operational by December 1, 1997.

#### **3.4.6. INTERNATIONAL REGISTRATION PLAN (IRP) PILOT PROJECT:**

IRP, Inc. and IFTA, Inc. are both developing "clearinghouse" programs for member jurisdictions. The two programs differ in that IFTA's clearinghouse will focus on motor carrier data exchange while the IRP program is for funds transmittal and for the netting of funds owed to member jurisdictions. IFTA is pursuing Federal funds that would be used to make a "pilot" out of each VISTA jurisdiction, and to bring them all into the clearinghouse at the same time. Montana would participate in the IFTA clearinghouse pilot project under these circumstances.

Montana is already an IRP clearinghouse project pilot jurisdiction, and was scheduled to begin formal participation on July 1, 1997. IRP, Inc. staffing changes have temporarily delayed participation activities and no new start date has been set.

#### **3.4.7. CVISN PARTICIPATION:**

Montana is participating in the Commercial Vehicle Information System Network (CVISN) initiative as a member of the Western Mainstreaming Region. Montana's CVO managers have attended Regional CVISN and Mainstreaming meetings, participated in the selection of a Regional Mainstreaming Champion, and contributed to CVISN and Mainstreaming planning and outreach activities. Montana will continue to participate in the CVISN/Mainstreaming program, and to support each of the associated program goals.

# State of Montana ITS/CVO Business Plan

## 4.0 STRATEGIC OVERVIEW AND MISSION STATEMENT

ITS/CVO has not been assigned independent “program” status in Montana and a formal mission statement has not been developed. ITS/CVO projects are affordable only if they improve the level of service available to the commercial motor carrier community while simultaneously increasing the regulatory and operational effectiveness of Montana’s government providers. In this capacity, as a collection of technology opportunities, ITS/CVO integrates with or services existing, established programs like enforcement, safety, IRP and IFTA. The Motor Carrier Services Division’s mission is to protect Montana’s and the Federal Government’s investment in Montana’s highway system and to assure the safety of the traveling public through customer service oriented regulation of the commercial motor carrier industry and enforcement of state and federal commercial motor carrier laws and regulations. ITS/CVO technology is a new tool that enables MCS to better accomplish this mission.

### 4.1 GOALS AND OBJECTIVES

#### **GOAL #1:**

Montana’s highway infrastructure is the state’s most expensive asset. Montana’s CVO program is mandated to protect this asset from damage caused by non-permitted, overweight and oversized commercial vehicles.

#### **OBJECTIVE:**

Monitor oversize/overweight vehicle highway traffic and the performance of the MCS commercial vehicle enforcement program using the MCS State Truck Activities Reporting System (STARS). Schedule the enforcement staff and identify the financial benefit to the State of Montana resulting from more effective enforcement of non-permitted overweight commercial vehicles based on STARS output.

#### **GOAL #2:**

The effectiveness with which enforcement action can be taken is directly attributable to the quality and timeliness of information received by enforcement officers in the “field”. Improve the effectiveness with which commercial vehicle safety information is provided to “field” officers. Improve the level of safety experienced by Montana’s traveling public.

#### **OBJECTIVE:**

Aspen Safety Software is currently used by each Montana Highway Patrol Commercial Vehicle Safety Inspector, and will be installed in all 21 MCS weigh



stations in the near future. Provide Aspen-loaded computers for each mobile CVO officer. Assure that Aspen safety inspection data can be electronically accessed at the roadside for identification of high risk carriers. Through the use of Aspen data by Montana CVO officers and inspectors, improve the safety of the traveling public through timely and appropriate prevention or enforcement action.

**GOAL #3:**

Montana's CVO program regulates the commercial motor carrier industry by requiring licensing, registration, fuel tax, safety, insurance and permitting compliance. The compliance process involves constant and repetitious interaction between State CVO service providers and private sector commercial motor carrier customers. Develop an integrated, automated system that provides an improved product for the customer, improves the transaction process for both the customer and the CVO program, and maintains a "cost for service" level acceptable to both parties.

**OBJECTIVE:**

Provide "one stop shopping" for Montana's commercial motor carriers by fully implementing the Montana Online Tax and Revenue System (MOTRS).

**GOAL #4:**

Trucks move over Montana's highways day and night. Through innovative staff scheduling, technology implementation and ongoing business process improvement analysis, provide better, more consistent and more readily available CVO service coverage and enforcement.

**OBJECTIVE:**

Convert Montana's priority weigh stations into HELP, Inc. "PrePass" sites. Automation will include weigh-in-motion (WIM), automated vehicle identification (AVI) and mainline truck bypass capabilities wherever possible. Concentrate on the non-compliant carriers identified by "PrePass" and on those carriers who have elected not to participate in "PrePass". Refocus staff and time resources realized as a result of automation toward improved CVO service, expanded safety, credential and log book review, and fuel tax evasion investigation activities.

# State of Montana ITS/CVO Business Plan

## 5.0 PROJECT SUMMARY

Montana's ITS/CVO projects are categorized, described and prioritized below. "Objective" and "status" information is provided. Estimated cost, funding source and "return on investment" information is provided if available. The lead Montana agency, other participating agencies and the perceived project "market" are each identified per project.

### **PRIORITY # 1: ASPEN SAFETY SOFTWARE DEPLOYMENT**

**CATEGORY:**

Safety Assurance

**LEAD AGENCY:**

The Montana Department of Justice, Highway Patrol Division

**OTHER PARTICIPATING AGENCIES:**

MDT

**MARKET:**

The motor carrier industry, FHWA, the Montana Highway Patrol, MDT

**PROJECT DESCRIPTION AND TECHNICAL APPROACH:**

The Federal Highway Administration developed Aspen Safety Software as a "roadside" safety status identification and data management tool. Once installed in a portable laptop, mobile onboard or stationary weigh station computer, the safety rating of a given carrier is accessible by entering the carrier's DOT number. If the carrier's rating indicates a history of problems, a safety inspection is performed. The results are entered into the computer via Aspen, uploaded periodically into the State safety data base at Highway Patrol Headquarters in Helena, and transferred to the national FHWA safety database.

Safety inspections in Montana are conducted by officers of the Montana Highway Patrol and the Motor Carrier Services Division. The Highway Patrol Division has provided training in the use of Aspen Software. Aspen Software technical assistance has been provided by the Montana Highway Patrol, the MDT Information Services Bureau, and by the FHWA.

**OBJECTIVES:**

In compliance with the CVISN initiative, make commercial motor carrier safety information available at the "roadside", automate and standardize the safety

data reporting process, and standardize the safety data review process at the state and federal level. Improve the level of commercial motor carrier safety compliance in Montana and nationally by targeting carriers with poor safety histories through automation. Provide access to an Aspen Software equipped laptop, onboard or stationary personal computer for each Montana commercial vehicle enforcement officer.

**BENEFIT:**

Increased compliance with Federal and State safety regulations.

**STATUS:**

Twelve (12) Highway Patrol Safety Inspectors are currently using Aspen equipped laptops on a daily basis. Two MCS weigh station computers are currently Aspen equipped and the remaining weigh station computers will be Aspen equipped in the near future. Over 200 mobile MHP officers and 16 mobile MCS officers do not have access to a computer and cannot therefore utilize the Aspen program.

**ESTIMATED COST:**

Aspen is provided by FHWA at no cost to the state. Specialty associated programming, administrative and coordinating costs have been minimal. Please see the Priority # 2 section below for estimated computerization costs.

***PRIORITY # 2: WEIGH STATION AND MCS PATROL PROGRAM  
COMPUTERIZATION***

**CATEGORY:**

Credentials Administration

**LEAD AGENCY:**

Montana Department of Transportation (MDT)

**OTHER PARTICIPATING AGENCY:**

The Montana Department of Administration and the Montana Department of Justice

**MARKET:**

The motor carrier industry, FHWA, the Montana Highway Patrol, MDT

**PROJECT DESCRIPTION AND TECHNICAL APPROACH:**

Personal computers, modems and printers were installed at 24 Motor Carrier Services Division weigh stations in 1992. These computers have been used to issue oversize/overweight permits, collect permit data, maintain a data base of carriers to whom permits had been issued, and to upload permit data to MDT headquarters in Helena via phone line and manually activated modem. In 1996, a newly installed statewide communications system called SummitNet became available at each MCS weigh station.

New weigh station computers were installed in early 1997 in keeping with MDT's five year computer replacement cycle. These new computers are equipped with an upgraded version of the MCS Automated Permit Program, Aspen Safety Software, Fuel Sample Tracking Software, PC-Miler, Word Perfect 8.0 and Calendar Manager. Each weigh station computer automatically uploads data into Helena each hour via SummitNet at a significant savings over the cost of the original phone line-based system. The Internet is accessible through SummitNet via each weigh station computer. With the completion of MOTRS, a carrier will be able to request and receive various types of commercial vehicle permits using the Carrier Activated Transaction (CAT) program being developed for MCS by Lockheed Martin IMS. The cost of the permit will be charged to the carriers credit card and the permit will be sent to the carrier using Electronic Data Initiation (EDI) capabilities.

MCS (mobile) Patrol officers work out of their vehicles on the open road and currently issue permits and citations manually. Each officer is equipped with a 2-way radio and a cellular telephone which may be used to secure or confirm carrier information. Because the Patrol Program is not computerized, there is a very low level of procedural and record keeping standardization from one Patrol officer to another. Lack of computerization also requires the maintenance of an additional, expensive level of manual activities and statistics processing support at MCS headquarters. MCS is waiting for the results of an onboard computer pilot project undertaken jointly by the Montana Highway Patrol and the City of Helena Montana. This project will test several onboard computer configurations and recommend the unit best suited for Montana. After completion of the pilot project, MCS and the Highway Patrol will be jointly and individually pursuing various onboard computer funding sources. Computerization of mobile MCS and Highway Patrol officers would require the purchase and installation of approximately 216 units.

Selection of an onboard computer and the required operating accessories plus ongoing technical support will be provided by the MDT Information Services Bureau and the Montana Department of Administration, Information Services Division.

**OBJECTIVES:**

Improve CVO permitting, safety inspection and citation activities and associated record keeping and reporting capabilities by issuing a computer to each mobile MCS and Highway Patrol officer, and eliminating "hand issued" documents. Provide each mobile officer with access to the automated MCS Permit Program and Aspen Safety Inspection Software. Standardize service and enforcement activities provided by all Montana CVO officers through

automation. Reduce the level of confusion sometimes experienced by the motor carrier industry as a result of bureaucracy.

**BENEFIT:**

Increased ability to detect high risk carriers and to take appropriate enforcement action.

**ESTIMATED COST:**

MCS weigh station computers are 100% State funded. Although there is currently no dependable cost estimate for "on board" mobile computers, other states have paid up to \$4,000 (computer and installation) per unit. \$4,000 X 216 units = \$864,000.

**STATUS:**

Installation of the weigh station computers was completed during November 1997; there is no funding for "onboard" computers.

**PRIORITY # 3: MONTANA ONLINE TAX AND REVENUE SYSTEM (MOTRS)**

**CATEGORY:**

CREDENTIALS ADMINISTRATION

**LEAD AGENCY:**

Montana Department of Transportation (MDT)

**OTHER PARTICIPATING AGENCIES:**

Montana Department of Justice, Montana Department of Administration

**MARKET:**

The motor carrier industry, other jurisdictions, MDT

**PROJECT DESCRIPTION AND TECHNICAL APPROACH:**

MOTRS is a comprehensive, fully automated, motor carrier registration, permitting, fuel tax, accounting, auditing and cashiering system developed through a partnership agreement between MDT and Lockheed Martin IMS. Working with shared resources, MDT and Lockheed Martin are automating primary commercial vehicle service functions and associated administrative activities that were previously manual, improving existing automated functions, reviewing and simplifying procedures previously required of both MDT and the customer, and eliminating unnecessary activities and requirements. This is accomplished through development of a formal Business Area Analysis (BAA) for each primary MOTRS component. The BAA process is accomplished by Lockheed Martin IMS as a requirement of the partnership agreement, and includes input from each impacted organization within MDT and from the motor carrier industry.

MDT believes that MOTRS supports each of the CVISN "Credentials

Administration” goals discussed earlier in Section 2.7.2. MDT and Lockheed Martin, through MOTRS, are developing systems that accomplish CVISN activities including interactive permitting and issuance of IRP credentials, IRP and IFTA clearinghouse administration, and full motor fuel tax services. Lockheed Martin’s overall plan is to develop an integrated CVISN system comprised of a collection of systems which, when combined, will allow seamless electronic transfer of commercial vehicle related data using ANSI X.12 EDI transaction sets. This CVISN system will allow carriers to electronically apply for IRP and IFTA credentials, file IFTA tax returns, and request and receive oversize/overweight permits using EDI. Additionally, the CVISN system will allow states to share data, disseminate information quickly and accurately, and reduce paper processing and storage. Examples of these activities are the inter-jurisdictional exchange of data and the automated monitoring of account information associated with the IRP and IFTA Clearinghouses. Specifically, the CVISN system will provide a status check from foreign jurisdictions on any account prior to, or, as a part of the IRP or IFTA application process, and will monitor accounts that do business in multiple jurisdictions for any type of status change affecting another jurisdiction.

**OBJECTIVES:**

- 1) Accomplish as many CVISN objectives as possible.
- 2) Automate the commercial vehicle registration process to meet customer needs, and integrate the automated registration process with all other MOTRS components.
- 3) Automate the commercial vehicle permitting process to meet customer needs, and integrate the automated permitting process with all other MOTRS components. Specifically, implement Carrier Activated Transaction (CAT) whereby a carrier wishing to purchase a permit, initiate an IFTA renewal or accomplish a fuel tax filing may do so by contacting MCS via the Internet.
- 4) Improve complex and burdensome fuel tax filing and processing laws and procedures.
- 5) Improve financial and statistical record keeping through automation of manual activities resulting in faster service turnaround both for the industry and within MDT.
- 6) Expand the scope of services available to the commercial motor carrier customer, including Internet- based permitting, vehicle registration and fuel tax filing.

**BENEFIT:**

Reduce motor carrier operating costs by streamlining credential filing and improve the effectiveness with which revenue is collected by government.

**STATUS:**

Completion by mid-1998.

**ESTIMATED COST:**

MOTRS is 100% State funded and upon completion will have cost between \$465,000 and \$485,000 to develop and implement.

**PRIORITY # 4: STATE TRUCK ACTIVITIES REPORTING SYSTEM (STARS)**

**CATEGORY:**

ELECTRONIC SCREENING

**LEAD AGENCY:**

MDT

**OTHER PARTICIPATING AGENCIES:**

None

**MARKET:**

FHWA, MDT

**PROJECT DESCRIPTION AND TECHNICAL APPROACH:**

A proposal to fund the State Truck Activities Reporting System (STARS) was submitted to FHWA on August 15, 1997. If approved for funding, STARS will collect commercial vehicle weight and classification data on a continuous or intermittent basis at ninety (90) weigh-in-motion (WIM) equipped sites across Montana that have been established in compliance with the FHWA Traffic Monitoring Guide. Data generated at these sites is uploaded into a central database in Helena and processed into a "scattergraph" for each site showing the weight, classification and time of day of each commercial vehicle that passed over the WIM during the reporting period. MCS managers will then use the "Scattergraph" information to monitor commercial vehicle activity, to identify which vehicle combinations are chronically noncompliant, and to establish what time of day and the geographic areas where these noncompliant vehicles usually operate. STARS has been fully operational at two locations in Montana since January 1997.

The original STARS computer program was developed as a research project for MCS by the Civil Engineering Department at Montana State University. Additional developmental support has been provided by MDT's Data and Statistics Bureau and Pavement Management Section. STARS data is currently processed weekly and provided to MCS monthly by MDT's Transportation Planning Division.

**OBJECTIVES:**

- 1) Improve the performance of Montana's commercial vehicle enforcement program. Document this improvement statistically by reducing the number of illegal overweight incidents, and the size of the average illegal

- overweight load.
- 2) Provide FHWA with both the documentation and the opportunity to evaluate and consider STARS as a performance-based alternative to the Federal Truck Size and Weight Plan/Certification of Accomplishment process in which all states are currently required to participate.
  - 3) Provide MDT with the ability to collect truck weight and classification data at a wider variety of sites, thereby improving the accuracy with which Equivalent Single Axle Load (ESAL) demand is calculated for pavement design.
  - 4) Fully accomplish MDT's long term ITS/CVO goal of automating Montana's seven (7) priority weigh stations (listed under Priority #5, below), contribute to the accomplishment of the objectives of the Strategic Highway Research Program (SHRP), and the Commercial Vehicle Information Systems and Networks (CVISN) initiative.

**BENEFIT:**

Reduce the Montana Department of Transportation's highway pavement costs through improved ESAL calculation and design. Showcase the effectiveness of the Motor Carrier Service Division's CVO weight enforcement program. Provide FHWA with a performance-based method of monitoring and evaluating the effectiveness of a state commercial vehicle weight enforcement program.

**STATUS:**

Formal proposal submitted to FHWA on August 15, 1997

**BUDGET:**

Estimated cost; \$7,708,131.

***PRIORITY # 5: WEIGH STATION AUTOMATION and HELP, INC.***

**CATEGORY:**

Electronic Screening

**LEAD AGENCY:**

MDT

**OTHER PARTICIPATING AGENCIES:**

None

**MARKET:**

The motor carrier industry, MCS

**PROJECT DESCRIPTION AND TECHNICAL APPROACH:**

Montana's ITS/CVO automation plan includes seven (7) traditional "mainline truck bypass" weigh stations and one (1) international border crossing. Additionally, the Culbertson Weigh Station, which is located near the junction of US Highway 2 and Montana Highway 16, is already equipped with a non-



traditional enforcement-oriented WIM system, remote cameras and changeable message signs. The Culbertson grand opening is scheduled for January 7, 1998. The Coutts/Sweetgrass International Border Crossing Project is discussed independently as Priority #6.

The seven (7) traditional locations are discussed individually below as either funded or unfunded projects.

The funded (or partially funded) locations are:

- 1) Mossmain consists of two separate facilities, one eastbound and one westbound, on Interstate 90 between Billings and Laurel, Montana. Mossmain is fully funded for WIM and AVI mainline bypass both east and west and is a designated HELP, Inc. "PrePass" site.
- 2) Lima is a northbound only weigh station on Interstate 15 near the Idaho/Montana border. Lima is partially funded at \$250,000 for northbound only WIM and AVI mainline bypass, and is a designated "PrePass" site.

The unfunded locations are:

- 1) Haugan is a single facility located approximately ten miles east of the Idaho/Montana border on Interstate 90. Haugan processes both east and westbound traffic will be equipped with WIM and AVI for mainline bypass both east and west. Haugan is a joint Montana/Idaho port-of-entry weigh station, and is a proposed "PrePass" site.
- 2) Wibaux consists of two separate facilities, one eastbound and one westbound on Interstate 94 at the North Dakota/Montana border. Both Wibaux weigh stations will have WIM and AVI equipment for east and west mainline bypass. Wibaux is a proposed "PrePass" site.
- 3) Butte consists of two separate facilities, one servicing eastbound traffic and the other servicing westbound traffic near the junction of Interstate 90 and Interstate 15 west of Butte, Montana. Butte westbound is a proposed "PrePass" site and will be equipped with WIM and AVI for mainline bypass. Butte eastbound will not be a "PrePass" site.
- 4) Crow Agency is a single facility that processes both northbound and southbound traffic on Interstate 90 between the Wyoming/Montana border and Billings, Montana. Crow Agency will be equipped for WIM/AVI mainline bypass both north and south. Crow Agency is a proposed "PrePass" site.

- 5) Armington Junction is a single facility located at the junction of Montana Highway 200 and US Highway 89 southeast of Great Falls, Montana and processes vehicles arriving from four directions. Armington Junction will be WIM and AVI mainline bypass and is a proposed "PrePass" site.

An engineering review of each site listed above will be accomplished by a qualified ITS/CVO consultant who will also develop site design and write specifications for the ITS equipment needed per site. Each weigh station automation project will be let-to-bid and awarded through MDT's standard highway construction/maintenance project competitive bidding process. Wherever possible, weigh station automation work will be incorporated into other scheduled highway work to control mobilization and materials costs.

Funding for unfunded and partially funded weigh station sites is available from two traditional sources. First, as a component part of a standard highway project, weigh station automation work may be accomplished with 80/20 (Federal/State) matching funds. In order to become funded in this manner, a larger project, of which weigh station automation is one part, must be approved by the Montana Transportation Commission and included in the State Construction Program. A second method is to secure approval to use "state" money for a specific project or activity from the Transportation Commission and the Legislature.

Funding support is also available from at least one nontraditional source. As a HELP, Inc. member state, Montana's contractual relationship with HELP, Inc. provides for the purchase and installation of specific weigh station automation components by HELP, Inc. Under certain circumstances, this arrangement can reduce the cost to the state for mainline bypass automation of a weigh station by 40-45%.

**OBJECTIVES:**

Provide qualified commercial motor carriers operating in Montana with the option to bypass weigh stations in return for payment of a nominal "user fee" each time a bypass incident occurs. Reduce traffic congestion and improve operational safety at the weigh station. Through automation of traditional, routine and repetitive weigh station activities, refocus staff time and priorities on pro-active service and enforcement activities that add value, improve safety, and target non-compliant carriers.

**BENEFIT:**

Reduced congestion at critical weigh stations. Reduce the burden of government regulatory activities for compliant carriers. Improve highway safety by targeting high risk carriers so that appropriate action can be taken.

**STATUS:**

Culbertson will be fully operational by January 1998. Work on the Lima weigh station will begin in late spring of 1998. Mossmain will be competitively bid in late 1998. There are currently no dates programmed for the remaining sites.

**ESTIMATED COSTS:**

\$648,000 - \$1,295,000 per location

**PRIORITY #6: THE COUTTS/SWEETGRASS BORDER CROSSING PROJECT****CATEGORY:**

Electronic Screening

**LEAD AGENCY:**

MDT

**OTHER PARTICIPATING AGENCIES:**

The Alberta Department of Transport and Utilities, US Customs and Immigration, Canadian Customs, Revenue Canada, The Western Transportation Institute

**MARKET:**

The international motor carrier industry, private sector customs and brokerage houses, MDT and the Alberta Department of Transport and Utilities.

**PROJECT DESCRIPTION AND TECHNICAL APPROACH:**

Montana and Alberta have shared a joint port-of-entry weigh station and safety inspection facility at Coutts Alberta since 1990. Six (6) MCS Enforcement Officers and nine (9) Alberta Constables work together at the facility which is open 24 hours a day, seven days per week under normal circumstances.

Montana and Alberta decided in late 1993 to develop the C/S Border Crossing Project as partners. In addition to economic advantages and improved commercial vehicle traffic flow, Montana and Alberta CVO managers believed that a combined Montana/Alberta project would ensure that two separate automation concepts, one developed in the US and the other developed in Canada, would not come together at Coutts/Sweetgrass and adversely impact the cooperative and compatible working relationship that Montana and Alberta have developed. Additionally, within a partnership arrangement, international compatibility with other "northern" border crossings and with US and Canadian Customs could be more effectively addressed.

The C/S Project is structured in three phases. Phase I focuses on ITS/CVO automation of the Coutts Alberta Weigh Station facility including WIM

installation, computerization of qualified and participating carriers, and weigh station bypass privileges for weight compliant carriers who elect to participate and agree to comply with C/S Weigh Station bypass criteria currently being developed by Montana and Alberta. In February 1996, the C/S Project received a \$500,000 Congressional Earmark Appropriation to accomplish Phase I work. Montana and Alberta continue to work through the operational, policy and engineering details of the project.

Phases II and III, which are not currently funded, will develop compatible links between the ITS/CVO technology deployed under Phase I and the automation of cargo, driver and immigration activities being developed by US Customs and Immigration. Coutts/Sweetgrass is a US Customs and Immigration "showcase" project, and for this reason, Montana and Alberta have specifically decided that Phase I work will not seek to develop the traditional Automated Vehicle Identification (AVI) and transponder capabilities that would normally be included in a weigh station automation project. Montana and Alberta have instead chosen to wait for Customs to identify the communications and transponder technology they will deploy at Coutts/Sweetgrass, then "piggyback" onto the Custom's program. The overall C/S Project goal is to create a "seamless" international border crossing for qualified and compliant carriers. Accomplishment of this goal is entirely dependent on making CVO technology decisions that are compatible with the technology that US Customs has yet to choose.

WHM Consulting Engineers, Inc. of Austin, Texas has completed an engineering site assessment of the C/S Border Crossing. The resulting report recommends placement of the WIM systems and associated ITS/CVO devices needed to accomplish Phase I goals. C/S Project activities are monitored and critical decisions are collectively made by the C/S Oversight Committee comprised of representatives from both Montana and Alberta motor carrier associations, customs houses, FHWA, other US and Canadian federal agencies, and the Montana and Alberta transportation departments. The Western Transportation Institute of Montana State University is coordinating the C/S Project on MDT's behalf.

**OBJECTIVES:**

Reduce shipper costs, control commercial vehicle traffic congestion and improve the quality of governmental CVO services through development of an automated, barrier-free Montana/Alberta economic trade zone at the Coutts/Sweetgrass Border Crossing.

**BENEFIT:**

More effective border management and reduced cost of compliance for above-standard carriers.

**STATUS:**

FHWA has approved the C/S Project “Scope of Work” and “Evaluation Plan” documents prepared by the Western Transportation Institute and Montana and Alberta are currently working toward mutually agreeable weigh station bypass criteria.

**ESTIMATED COST:**

\$500,000 Federal Earmark

\$125,000 State Match

# State of Montana ITS/CVO Business Plan

## 6.0 ITS/CVO TRAINING AND OUTREACH

In 1994, the Motor Carrier Services Division created three (3) state funded MCS officer positions dedicated solely to training. These officers are responsible for assuring that each MCS officer is quickly and effectively trained to do his or her job, including any training needed as a result of the introduction of new safety, enforcement, permitting, registration or fuel tax evasion ITS/CVO technology. The MCS Training officers have also provided technology training for other state agencies and city and county government. Training costs have not increased as a result of the introduction of ITS/CVO technology training. The Montana Motor Carriers Association also plans to hold outreach seminars for interested carriers across the state as current credentialing and permitting services offered by government are ITS/CVO enhanced.

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## 8.0 CONCLUSION

The business planning process is always a worthwhile time and resources investment. Specifically, the process of developing this ITS/CVO Business Plan provided the opportunity for public and private sector officials to collaborate on a single document containing planning and deployment details in which both parties are vitally interested, but from very different perspectives. The process also encouraged the two Montana agencies with commercial vehicle responsibilities to agree on a shared vision of the future, to prioritize, and to communicate and plan with one another in a meaningful and formal manner.

The Business Plan itself is a “living” document and will be updated every five years, or, as requested by Montana’s commercial motor carrier community, agency officials, or the FHWA.