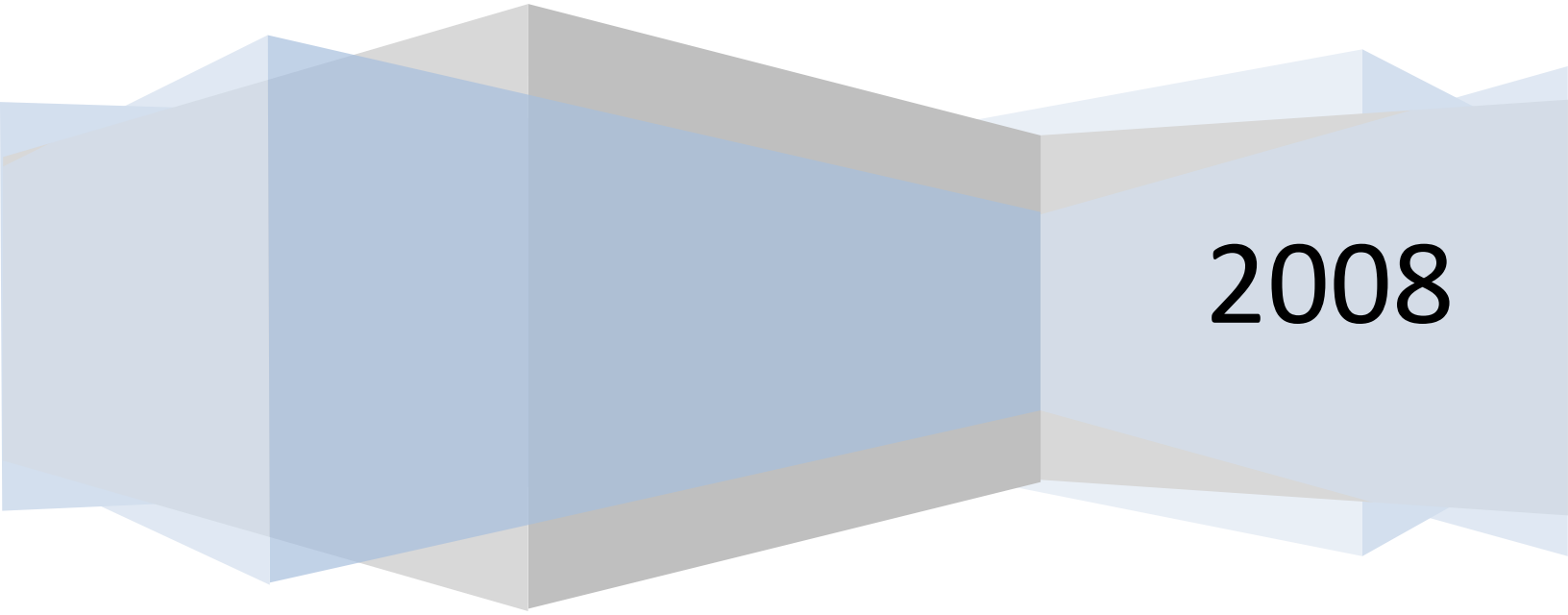
Idaho Transportation Department

ITRMC

Information Technology Achievement Awards



2008

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EXECUTIVE SUMMARY

Motor vehicle services are provided by County Sheriff's and Assessor's offices across the state of Idaho. Providing these services is a shared county and Idaho Transportation Department's (ITD) responsibility. These services include issuance of driver licenses, identification cards, vehicle titles and registrations. In general, the facilities and staff are provided by the counties while the Idaho Transportations Department's Division of Motor Vehicles (DMV) administers the program policies and provides the needed equipment and supplies. ITD is also responsible for all technology services including printers, desktops, information systems and network connectivity. Commercial Vehicle Programs provide critical services ensuring truckers follow federal and state safety regulations. These programs are administered at Ports of Entry across the state, at county DMV offices and at ITD Headquarters. DMV also provides driver and vehicle records to law enforcement agencies and specific-use private sector companies across North America.

In early 2006, the Division of Motor Vehicles (DMV) Modernization Project was formalized for the purpose of modernizing technology and enhancing service delivery at over 100 county locations across Idaho. Providing reliable motor vehicle services to the citizens of Idaho requires complex information systems, and a stable communication network. The current ITD infrastructure has been in service for over 25 years, and due to various technology limitations provided very few options for enhancing service delivery. The estimated cost to modernize the entire service delivery system was over $40 million. The Director of ITD, Pamela Lowe challenged DMV to develop a plan to modernize services within the existing budget constraints facing ITD. The result was the *DMV Modernization Project* that is scheduled to be completed in four phases over the next five to seven years.

This award nomination is for completion of *Phase 1—System Stabilization and Stand Alone Solutions.* The project included:

- Upgrading the communication infrastructure, new desktop computers and printers for 104 county sites
- A new digitized production process for vehicle license plates
- Vehicle registration decals embedded in the registration forms
- Automation of driver license testing
- Interstate exchange of digital driver license photos
- Migration of ITD's mainframe to another state agency
- Program reports received online instead of printed on paper
- State of the art weigh-in-motion system that monitors commercial vehicle traffic crossing from Canada into Idaho.

All projects in Phase 1 of the *DMV Modernization Project* were completed within budget, and with just two exceptions, on schedule. Schedule delays were identified early and were approved in advance by Executive Sponsor Alan Frew.

Completing Phase 1 of the *DMV Modernization Project* provided valuable enhancements to the daily operations for over 60 federal, state, and county governmental agencies. These agencies partnered together in a well-orchestrated strategy that enhanced access and delivery of DMV services, stabilized information systems and maximized the use of public funds.

PROJECT DESCRIPTION INCLUDING LENGTH OF TIME IN OPERATION

The purpose of the *DMV Modernization Project* is to enhance and improve the reliability of Idaho's DMV services which are delivered at over 100 county sites across the state. Processing and maintaining data for over one million drivers, 1.6 million registered vehicles, and 56,000 commercial vehicles requires complex information systems, a stable communication network and the ability to meet a wide variety of data processing and reporting needs. The ITD infrastructure had been in service for over 25 years. Legacy software limitations, aging hardware and software and inadequate network capacity limited the options for service delivery improvements.

A project team was established to plan, design and implement a new service delivery model. The plan, when implemented would enhance functionality, improve business processes and modernize existing services using technology. The estimated cost was over $40 million. The ITD Director, Pamela Lowe and Executive Sponsor Alan Frew challenged the project team to develop a plan that could be implemented within the existing budget constraints facing ITD and that would comply with these guiding principles:

- Implement the new service-delivery model in phases, continually adding business value and improving operations,
- Automate business processes when it will result in improved manageability, staff efficiency, and enhanced decision-making,
- Involve stakeholders in the decision-making process whenever there is an impact to their operations,
- Whenever reasonable, utilize and comply with existing federal, AAMVA (American Association of Motor Vehicle Administrators), and ITD technology, policies, procedures, and standards,
- Partner with public and private sources to maximize the use of public funds,
- Provide sustainable and adaptable information systems that will meet the current and future needs of DMV employees and their customers.

This award nomination is for Phase 1 of the *DMV Modernization Project* which was formalized in early 2006 and included nine projects. All projects have been operational for at least six months.

Phase 1 Projects	**Descriptions**
1. Digital License Plates	Converted to a digital license plate manufacturing process, automated inventory control and an electronic ordering process for the general public and county agents.
2. Mainframe Migration	Transitioned ITD's mainframe computer system to the State Controller's Office
3. 8600 Server Replacement	Replaced aging servers with a reliable communication link from the county system to the mainframe.
4. Automated Driver License Testing	Eliminated paper testing by converting to automated touch screen kiosks at county testing sites.
5. Online Reporting	Program reports are now delivered online instead of printed out on a daily basis.
6. Idaho Smart Roadside System	Monitors trucks for safety issues after crossing from the Canadian Border to Idaho.
7. Digital Image Exchange	DMV's exchanges driver license photos to verify identity of out of state applicants.
8. County Network Infrastructure	Upgraded network capacity and replaced aging hardware.
9. Print on Demand Decals	Installed new printers to provide print-on-demand vehicle registration decals.

SIGNIFICANCE TO THE IMPROVEMENT OF THE OPERATION OF GOVERNMENT

Successful completion of Phase 1 of the *DMV Modernization Project* produced significant operational improvements for government agencies and improved customer services to the citizens of Idaho and across the United States.

Digital License Plates — In a partnership with the Idaho Department of Corrections, ITD implemented a new manufacturing process that allows license plates to be produced digitally rather than stamped out on presses. In addition, electronic ordering and inventory processes replaced manual paper processes. Prior to the online process, many plate orders were completed on paper at the county assessor's offices and sent to ITD Headquarters. The orders were reviewed and then faxed to Correctional Industries (CI) for processing. Specialty plate orders were manufactured using a sheet of tablet paper taped to the stamp press and completed on an individual basis. The new digital process automates the ordering and manufacturing process, dramatically improving productivity for the counties, ITD, and Correctional Industries. The new system includes an inventory management system that has significantly decreased the quantities of plates required to be manufactured by CI and kept in stock at county offices.

Mainframe Migration to State Controller's Office (SCO) — The transition of ITD's mainframe computer to the State Controller's Office Data Center provides improved system reliability, enhanced data security and 24/7 technical support. Disaster-recovery services are also provided including the ability to connect to an alternate site located in Boulder Colorado, in the case of an emergency. Software costs can now be shared among multiple state agencies allowing ITD to purchase software that we could not have afforded alone. For example, the purchase of a software package to plan for disaster recovery was shared among four agencies.

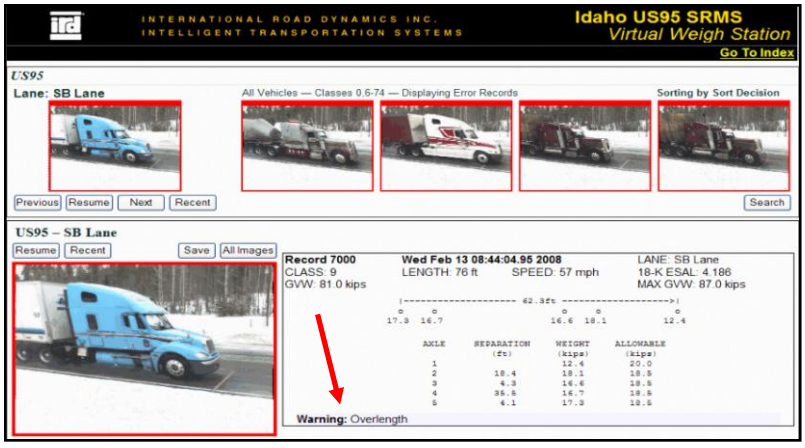
8600 Server Replacement — Several attempts to replace the outdated 8600 Datapoint servers (pictured at the right) had failed in the past due to technology limitations. The project team developed a creative approach that eliminated ITD's reliance on these servers and stabilized critical communication pathways between the mainframe and the county system. As a result, the risk of system failure was dramatically reduced and the ability to implement a phased approach to replacing the entire DMV information system was possible.

The DMV 8600 Servers – Circa 1980 —

Automated Drivers License Testing — In partnership with Federal Motor Carrier Services Association (FMCSA), ITD provided touch-screen testing technology to all county testing offices. The new system replaced paper tests, eliminated inventory control requirements, automated scoring, simplified test management and recordkeeping, and provided better statistical information analysis. Automated testing also minimizes the opportunity for cheating on tests by scrambling test questions and making each test unique. Tests are also provided in multiple languages eliminating the need for interpreters.

Online Reporting — Provides ITD program and technical reports via the Internet in PDF format. These reports were previously printed on paper each morning and delivered on a large cart to individual ITD program and technical staff. This program eliminated over 500,000 printed pages per year and the staff time it took to print and manage the paper.

Idaho Smart Roadside System — In partnership with the Idaho State Police (ISP), this new service provides two automated international commercial vehicle inspection stations on Highway 95 and State Highway 1 that capture weigh-in-motion data and vehicle images. The data and images (pictured at the right) from the "virtual weigh stations" are electronically relayed to nearby ISP officers via the Internet. The data can be viewed by the officers in real time and can also be stored for later roadway/vehicle trend analysis. Immediate online access to the data by ISP officers improves the



safety of the traveling public while protecting Idaho highways from damage by heavy or oversized vehicles. The system also records vehicle speed. Prior to this system being installed, this service was only available via a portable weigh station managed by Port of Entry (POE) inspectors. The new system captures, analyzes, tracks and sends the information to ISP without the intervention of a POE inspector.

Digital Image Exchange — ITD received a grant from the American Association of Motor Vehicle Administrators (AAMVA) to fund a pilot project that sends driver license photos electronically from one state to another. DMV agents in Idaho and participating states perform their duties more efficiently and accurately because they can now visually validate the identity of driver license applicants online. Driver license fraud is a significant problem for law enforcement and for employers. This important process reduces the opportunities for fraudulent licenses. Idaho was just the sixth state in the United States to incorporate the secure technology into their existing operations.

Upgrading County Network Infrastructure — The communication equipment in the county DMV's sites was aging and needed replaced to accommodate the new services planned for modernization. In partnership with FMCSA, The Idaho Military Division, the Department of Homeland Security and all 44 Idaho counties, the aging network switches, hubs, and routers were replaced and new secure wiring closets were installed. Network bandwidth has also been increase to accommodate modernization activities. New desktop computers were installed for each county employee. The new desktops allowed employees to use their desktop computers for multiple purposes instead of just processing DMV transactions resulting in improved employee productivity.

Print-on-Demand Decals — County Assessor's offices now utilize an innovative process that embeds registration decals into the registration form. This new process improves operations by eliminating the inventory and management of thousands of individually packaged registration decals and forms located at each county site. New printers were also installed at each county office resulting in improved printing speed and quality. A sample of the new registration form is provided with this nomination.

Benefits Realized by Service Recipients

Digital License Plates — The new digital license plates provide vehicle owners a much higher quality license plate both in terms of design and the quality of the printed image. The new elk wildlife plate is an example of design opportunities now available with digital images. A sample of the new elk plate is provided as a part of this nomination. Vehicle owners can now order specialty plates from their home computers via Access Idaho. This simplifies the ordering process and reduces customer wait times in the county offices. Previously plate orders were via paper from 44 county offices to ITD and then to Correctional Industries. This process has been replaced with an automated process that manages the entire process electronically. County offices also no longer have to store and inventory specialty plates.

Mainframe Migration to State Controller's Office (SCO) — Businesses and agencies experience improved reliability and performance as DMV data is now processed on a faster, state of the art IBMZ9 mainframe computer. The SCO provides disaster-recovery services that includes the ability to connect to an alternate site located in Boulder Colorado in case of an emergency. The new mainframe also provides enhanced data security and 24/7 technical support for the mainframe and other systems as needed. These new services improve the reliability, stability and performance of the county system

8600 Datapoint Server Replacement — Drivers and vehicle owners receive quicker service at county assessor and sheriff offices due to less computer down-time and faster processing of their driver license and vehicle registration applications.

Automated Drivers License Testing — Installation of a touch-screen testing systems provides a safety benefit to the public because there is a higher likelihood that only qualified drivers will be issued driver licenses. The automated testing also provides visual images related to each question assisting applicants to better understand the questions. Tests are provided in multiple languages eliminating the need for interpreters.

Online Reporting — ITD employees now receive their reports online instead of on paper. This service allows employees to print reports while providing users more functionality such as the ability to sort and search for data. Reports can be saved or printed as needed.

Idaho Smart Roadside System— This new service provides two automated international commercial vehicle inspection stations on Highway 95 and State Highway 1. The data and images from the "virtual weigh stations" are electronically relayed to nearby ISP officers via the Internet. Immediate online access to the data by ISP officers improves the safety of the traveling public while protecting Idaho highways from damage by heavy or oversized vehicles.

Digital Image Exchange — DMV agents in Idaho and participating states perform their duties more efficiently and accurately because they can visually validate the identity of driver license applicants online.

Upgrading County Network Infrastructure — County offices now have Windows-based computers, which speeds their processing times and allows centralized system and software support. The new Windows-based computers allow the county offices for the first time to access web-based functions that are an integral part of the DMV modernization initiative. Training time is also reduced as users are working with modern user interface.

Print-on-Demand Decals — County assessor offices no longer have to warehouse large quantities of registration decals and forms, which frees up valuable space for other required equipment and supplies. License plate numbers are included on the decals so that they can't be transferred to another car. This allows law enforcement to ensure that the correct registration decal is on the appropriate car.

Cost-Benefit Analysis, Short-Term/Long-Term Payback

Digital License Plates — The cost per plate for digital plates is approximately 18% higher than the old production method. However, DMV was facing a 20% increase in material-cost if they had continued using the non-digital process. Cost avoidance was a significant factor in the paybacks for this project. ITD also anticipates increased sales of specialty plates as the designs are upgraded to digital images.

Mainframe Migration to State Controller's Office — Consolidating the purchase of mainframe services with another state agency defrays the overall costs of state mainframe computing as costs are shared among multiple agencies. The cost of the mainframe migration was $350,000. ITD eliminated five temporary positions at a savings of over $100,000 per year and redeployed one permanent employee to another position. ITD also did not have to replace an obsolete mainframe and disk storage array at a cost of over $500,000. Estimated operational cost savings is $51,400 per year. New services that resulted from this project include disaster recovery, improved 24/7 technical support and online reporting services.

8600 Server Replacement — Eliminating the outdated 8600 Datapoint servers allowed ITD mitigate the risk of server failure and eliminate the immediate need to replace the DMV county information system. As a result of this success, ITD developed a phased approach to modernization services that will be completed in the next five to seven years. Phase 2 of the *DMV Modernization Project* which is currently in progress will implement a new county system. This 8600 server replacement cost $50,000 and was completed in less than six months.

Automated Drivers License Testing — A federal grant from the Federal Motor Carrier Services Administration (FMCSA) funded the new touch-screen testing systems. Total cost of the project was $720,000. ITD is responsible for the ongoing operational costs of $75,000 per year. The benefits are quicker testing, improved services, and less fraud.

Online Reporting — Online Reporting was a benefit realized as part of the transition of ITD's mainframe to the SCO. The costs were included in the $350,000 for the mainframe migration. DMV employees now receive their program reports online instead of on paper and have the ability to view, modify and search reports and if necessary save and print reports. As part of this transition ITD eliminated over 500,000 pages of printing for a yearly savings of $8640. Two Xerox printers at a cost of $120,000 per year were also no longer needed .

Idaho Smart Roadside System — Prior to this system being implemented only limited monitoring was possible due to staffing limitations for ISP and DMV's Port of Entry (POE) inspectors. It takes up to three ISP troopers to monitor commercial vehicles entering Idaho from Canada. With the new systems in place, ISP now only requires one officer to monitor traffic. The new system does not require POE staff. IF POE officers were to staff this border crossing 24/7, 365 days a year providing the same coverage as the Smart Roadside System it would cost over $400,000 per year in additional personnel costs. The new system was funded entirely by a federal grant administered from FMCSA in the amount of $500,000.

Digital Image Exchange — The project costs of $40,000 were funded by a grant from the American Association of Motor Vehicle Administrators (AAMVA). The first year of maintenance costs are being covered by the vendor. Because this is new technology and is only being utilized by a few states the cost benefits are unknown. As a result, if the service is not cost effective, ITD has built into the vendor contract the ability to discontinue the service. ITD will also determine over the next year whether to manage the system internally or pay the vendor to manage the system.

Upgrading County Network Infrastructure — The funds to upgrade the ITD network, communication infrastructure and desktop computers was received from numerous sources. The total costs for the project were $1.9 million. Funding of $1.6 million was provided from Department of Homeland Security and FMCSA grants and the remaining came from ITD. ITD is responsible for ongoing maintenance as in the past. New up to date equipment that meets ITD architectural standards is more economical to maintain and is considerably more reliable.

Print-on-Demand Decals — Prior to this project, ITD owned and maintained all of the printers at each of the 104 county sites. ITD also supplied vehicle registration forms and decals to the counties. Under the previous process, the estimated cost per registration form including the decals was 28 cents. ITD allocated $360,000 to purchase new printers. Instead of following the procedures of the past, ITD changed their business model to a "pay per form" system that included all printing costs. With a new contract in place, ITD now pays only 21 cents per printed registration form which includes the decals. This means ITD had no capital investment in printer hardware, forms software, maintenance, hardware warranties, forms or decal costs. The new contract requires the vendor to purchase and maintain all of the county printers. The unused funds originally allocated to purchase printers were reallocated to help fund the county network infrastructure.