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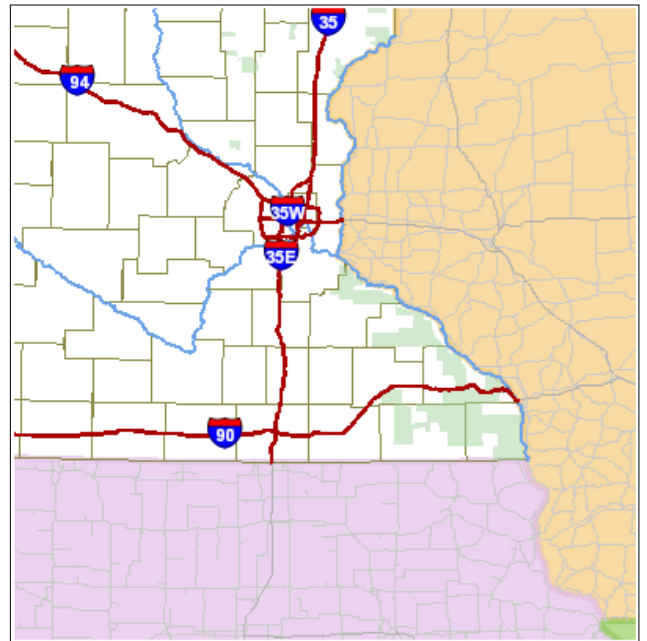
Online Systems for Oversize and Overweight Freight Permitting and Motor Carrier Credentialing

Prepared by CTC & Associates LLC

MnDOT uses two online systems implemented in the 1990s to issue and manage permits for oversize/overweight (OS/OW) freight and motor carrier credentials:

- RouteBuilder, an OS/OW permitting system with a routing component.
- Motor Carrier Information System (MCIS), which processes and tracks motor carrier credentials, operating authority and associated transactions. MCIS also tracks enforcement cases and hazardous materials incidents.

MnDOT's Office of Freight and Commercial Vehicle Operations (OFCVO) is preparing to develop a scope of work to design and implement new online systems that will replace these outdated systems. To inform the OFCVO's review of system alternatives, selected state departments of transportation and other state agencies received a survey that examined the agencies' systems and practices for online issuance and management of OS/OW permits and motor carrier credentials. This Transportation Research Synthesis provides the findings of that survey along with the results of a limited literature search.



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The purpose of this Transportation Research Synthesis (TRS) is to serve as a synthesis of pertinent completed research to be used for further study and evaluation by MnDOT. This TRS does not represent the conclusions of either the authors or MnDOT.

Online Systems for Oversize and Overweight Freight Permitting and Motor Carrier Credentialing

Introduction

MnDOT's Office of Freight and Commercial Vehicle Operations (OFCVO) is preparing to develop a scope of work to design and implement new online systems that will replace two outdated systems:

- RouteBuilder, an oversize/overweight (OS/OW) freight permitting system with a routing component.
- Motor Carrier Information System (MCIS), which processes and tracks motor carrier credentials, operating authority and associated transactions. MCIS also tracks enforcement cases and hazardous materials incidents.

The OFCVO is interested in learning about the types of systems other state agencies use to manage these processes, including each system's functional and reporting capabilities, costs, benefits and drawbacks. This information will inform MnDOT's review of alternatives to the current systems.

Summary of Findings

This Transportation Research Synthesis is divided into four sections:

- Current MnDOT Practice
- Overview of Survey of Practice
- Oversize/Overweight Permitting Systems
 - Survey of Practice
 - Related Resources
- Motor Carrier Credentialing Systems
 - Survey of Practice
 - Related Resources

Current MnDOT Practice

MnDOT's current systems for issuing and managing OS/OW permits and motor carrier credentials were launched in the 1990s and require replacement. RouteBuilder, the agency's OS/OW permitting system, offers many of the features and functions of the typical OS/OW permitting system. However, the time required to develop and execute system corrections and enhancements, its incompatibility with other agency systems, and financial and payment discrepancies have prompted interest in replacing RouteBuilder.

MCIS, the agency's motor carrier credentialing system developed in-house, is only available to MnDOT credentialing staff members using in-house workstations. These staff members use MCIS to process credentialing applications submitted by customers. MnDOT is seeking a replacement system that offers online availability to customers, integrates with other systems, corrects inconsistencies in data entry and expands the hours of operation (currently limited to MnDOT's regular business hours).

Overview of Survey of Practice

An online survey was distributed to selected state departments of transportation (DOTs) and other state agencies expected to have experience with online systems used for OS/OW permitting and motor carrier credentialing. All 11 states surveyed provided a response.

Respondents from all 11 states surveyed reported on their use of online OS/OW permitting systems. Seven respondents described online systems used to issue and manage motor carrier credentials; four are considering replacing their existing systems. None of the agencies responding to the survey use a single system to manage both processes.

Survey responses related to the two types of systems are examined separately in this report, beginning with respondents' use of online systems to manage OS/OW permits. Each set of survey responses is supplemented by websites, reports, articles or other resources related to the online systems described by respondents.

Oversize/Overweight Permitting Systems

Survey of Practice

System Description

The table below summarizes the 11 OS/OW permitting systems described by survey respondents.

Respondents' Online OS/OW Permitting Systems				
Vendor	State	System	Launch Date	Hosting
Composite (internally developed and supplemented by Bentley Systems Inc. modules)	Illinois	Illinois Transportation Automated Permits (ITAP)	February 2013	Internally hosted except for the Bridge Analysis module hosted by Bentley Systems Inc.
	Virginia	Automated Routing Solution (ARS)	March 2010	Internally hosted; internal system supplemented by a few Bentley Systems Inc. modules.
Bentley Systems Inc.	Iowa	Iowa Automated Permitting System (IAPS)	2015	Hosted by vendor in its cloud domain.
	Maryland	Maryland One	May 2016	Hosted by vendor via annual subscription.
	Wisconsin	Superload	2002	Not hosted by vendor.
ProMiles Software Development Corporation	Colorado	Colorado Oversize Overweight Permitting and Routing (COOPR)	November 2014	Hosted in secure hosting facility (not associated with vendor).
	Georgia	Georgia Permitting and Routing Optimization System (GAPROS)	July 2014	Maintained and operated by vendor for the state of Georgia for a percentage of total permit revenues.

Respondents' Online OS/OW Permitting Systems				
Vendor	State	System	Launch Date	Hosting
ProMiles Software Development Corporation	Kansas	Kansas Truck Routing and Intelligent Permitting System (K-TRIPS)	Soft launch early December 2013; full launch late January 2014	Hosted by vendor for an annual fee; the 24/7 Web-based system is hosted off-site because the agency does not support a 24/7 environment.
	New York	Highway Oversize/Overweight Credentialing System (HOCS)	Soft launch March 2017; full launch April 2017	Internally hosted.
	North Dakota	Enhanced Automated Routing (EAR)	June 2013	Routing hosted by vendor; other elements internally hosted.
	Texas	Texas Permitting and Routing Optimization System (TxPROS)	August 2011	Hosted by vendor.

System Features

Most of the systems described by respondents are fairly robust, offering most of the 24 features identified in the survey. The features *least likely* to be supported by a respondent's online system include issuance of regional permits, the transfer of permits and customized customer reporting. Only two state systems are limited to generating route information without real-time updates. Some systems offered features not identified in the survey, such as interfacing with other systems, sharing data and automating user notifications.

System Use

All but one of the responding states—Wisconsin—give law enforcement officers access to the online OS/OW permitting system. All but three responding states—Kansas, North Dakota and Wisconsin—engage in some type of regional agreement or coordination to issue OS/OW permits. (Wisconsin DOT is considering possible regional integration with neighboring states.)

Eight respondents provided details of the types of OS/OW permits that are automatically issued by their online systems without staff intervention. Several respondents noted that almost all permits can be auto-issued if the load dimensions and weight fall within agency limits. Ten of the 11 respondents provided the dimensions and weights associated with auto-issued permits. Survey responses indicate no consensus among responding states with regard to these limitations.

System Costs

Implementation costs ranged from \$240,000 for Iowa DOT's Bentley-based IAPS to slightly more than \$3 million for New York State DOT's soon-to-be-launched HOCS. (The higher end of the cost spectrum is more typical.) Funding sources for implementation varied; some agencies used agency funds while others used federal grants. North Dakota used a line of credit to implement EAR; the \$15 permit service fee is used to pay down the line of credit.

Annual maintenance costs ranged from \$50,000 for the Bridge Analysis module Bentley Systems Inc. provides for Illinois DOT's internally developed ITAP to \$264,000 for North Dakota's EAR. North Dakota and Virginia use

permit fees to cover maintenance and administrative costs. Other agencies use only internal funds or a mix of federal and state funds for ongoing maintenance.

Strategies to Encourage Management Support

Almost half of respondents reported that process improvement was part of the rationale for a new system. Some proposals began with a standard agencywide process (Colorado DOT's Lean process improvement or Kansas DOT's project management methodology), while others used a cost-benefit analysis to justify the system expense (Texas and Wisconsin DOTs).

System Assessment

Most respondents are highly satisfied with their OS/OW permitting systems. When asked to rate a series of system characteristics using the rating scale of 1 (not at all satisfied) to 5 (extremely satisfied), all but two respondents gave a 4 or 5 rating for overall agency satisfaction with its system. The two respondents least satisfied with their systems are either planning a system upgrade (Virginia) or considering system replacement (Wisconsin).

System Benefits and Challenges

Respondents reported multiple and wide-ranging benefits in these categories:

- Cost savings
- Time savings
- Enhanced customer service
- Reduction in errors
- Improved carrier compliance
- Increased safety
- Other benefits

Most of the challenges experienced by respondents relate to data, system functionality and technology.

Future Plans

Both of the agencies using internally developed systems supplemented by Bentley-provided modules are planning a system upgrade; the state with the oldest system in current use is planning to replace it.

- Illinois DOT is planning a system update that may replace the Bentley Bridge Analysis module now used with AASHTOWare Bridge Rating analytical software. In-house resources will be used for the system upgrade that is expected to be completed in 12 months.
- Virginia Department of Motor Vehicles is beginning a process to upgrade its current system. The Bentley modules that supplement the internally developed system will likely remain in the upgraded system, which is expected to be finalized in 2018.
- Wisconsin DOT expects to issue a request for proposal (RFP) during the first quarter of 2017 to solicit proposals for a new online permitting system. Implementation is contingent on the current legislative session budget allocation.

Case Study: New York State DOT's Implementation of HOCS

New York State DOT is preparing to launch HOCS, a new OS/OW permitting system. A full launch is scheduled for April 2017. The agency plans to roll out additional functionality, including additional automated credential checks and grade crossing OS/OW safety functionality, within a year after the initial launch. HOCS will supplement One Stop Credentialing and Registration (OSCAR), the state's existing permitting system, by replacing the existing back-end system that connects to OSCAR.

New York State DOT is collaborating with other state, regional and local agencies involved in issuing OS/OW permits to develop and use HOOCS. Current partnering efforts are focused on New York City DOT, New York State Thruway Authority, Port Authority of New York and New Jersey, Metropolitan Transportation Authority, New York State Bridge Authority and Albany County. The DOT plans to continue to develop partnering relationships with other agencies in the state issuing OS/OW permits.

The director of New York State DOT’s Central Permits Bureau offered a series of recommendations for agencies preparing to implement an online OS/OW permitting system similar to HOOCS, including the following:

- Focus on building a foundation of geospatial data.
- Concentrate on system requirements, the most critical aspect of preparing a successful RFP.
- Use technology to overcome institutional, legal and regulatory barriers that make it difficult for customers to obtain permits and credentials.
- Explore shared information technology services and the related government efficiency gains.
- Build on existing strengths.

Related Resources

Websites for each of the 11 OS/OW permitting sites are highlighted in this section of the report, along with articles, reports and other resources that describe system development and use. Supplementing information about the state systems are publications from the National Cooperative Highway Research Program (NCHRP) and the U.S. Government Accountability Office that address OS/OW regulations and permitting practices, and vehicle size and weight requirements. Also included are websites for the two primary vendors providing the commercial products used by respondents.

Motor Carrier Credentialing Systems

Survey of Practice

System Description

The table below provides summary information about the seven motor carrier credentialing systems described by survey respondents. Most systems have been in place for 10 or more years.

Respondents’ Online Motor Carrier Credentialing Systems					
System Type	State	System(s)/Vendor	Launch Date	Operating System	Hosting
Commercial product customized for agency use	Iowa	International Fuel Tax Agreement (IFTA) and International Registration Plan (IRP)/Celtic Systems	2008	Microsoft Windows	Internal
	Kansas	Commercial Vehicle Information Exchange Window (CVIEW)/Iteris Inc.	N/A	N/A	External

Respondents' Online Motor Carrier Credentialing Systems					
System Type	State	System(s)/Vendor	Launch Date	Operating System	Hosting
Internally developed system	Maryland	Maryland International Registration Program (MIRP)	Approximately 2000	Oracle Forms; Microsoft Windows	Internal
	North Dakota	Motor Carrier Online Services (CVISN*)	2006	Microsoft Windows	Internal
	Texas	Motor Carrier Credentialing System (MCCS)/Complaint Management System (CMS)	Approximately 2006	N/A	Internal
	Virginia	webCAT	2001 (Web application in 2012)	N/A	Internal
	Wisconsin	Wisconsin Carrier Registration System (WisCRS) (used by carriers) Carrier and Trucking System (CaTS) (used by insurance companies)	WisCRS: 2009; CaTS: 2003	N/A	Internal

* As defined by U.S. DOT, CVISN, or Commercial Vehicle Information Systems and Networks, is a framework or architecture that assists transportation agencies, motor carrier organizations and other stakeholders in planning and deploying integrated networks and systems.

The other four states responding to the survey either do not support motor carrier credentialing systems, or the respondents we contacted did not provide details of the online system.

System Features

Only three of the 14 system features presented in the survey are supported by six of the seven systems described by respondents. (The Kansas respondent did not respond to this portion of the survey.) The supported features are processing new credentials, changing credentials and printing credentials and other documents. None of the respondents' systems track enforcement cases or hazardous materials incidents. The other features *least likely* to be supported by a respondent's online system include standard customer reporting, and customized customer and agency reporting.

System Use

Only three responding states—Kansas, Maryland and Wisconsin—offer law enforcement personnel access to the motor carrier credentialing system. Several respondents reported on interaction between the credentialing agency and law enforcement, including these systems used to support this interaction:

- Iowa's IFTA/IRP system has a back-end connection to the state law enforcement agency's license plate lookup system.
- The motor carrier credentialing system used in Kansas interfaces with the state's OS/OW permitting system, K-TRIPS.

- North Dakota law enforcement agencies obtain motor carrier credentialing information through North Dakota’s participation in Nlets, an “interstate justice and public safety network in the nation for the exchange of law enforcement-, criminal justice-, and public safety-related information.”
- Texas Department of Motor Vehicles maintains the Truck Stop website, which law enforcement and the general public can access to verify a carrier’s status, insurance information and vehicle information as well as the carrier company’s owners or officers.
- In Wisconsin, law enforcement personnel engage with the credentialing agency through CVIEW and a telephone hotline.

Respondents from Iowa, Virginia and Wisconsin offered information about the types of credentials that are fully automated and can be issued by the credentialing system without agency intervention. Only the Texas and Wisconsin respondents reported that their online systems issue an operating authority credential.

System Costs

Few respondents were able to provide costs for implementation and ongoing maintenance of the motor carrier credentialing system. Implementation costs ranged from a low of \$250,000 for Maryland’s MIRP to a high of \$2 million for North Dakota’s CVISN. Only the Wisconsin DOT respondent addressed in detail the rationale used to encourage management support and funding for an online motor carrier credentialing system. The agency cited saving employee time, an overall interest in improving service to the motor carrier industry, phaseout of the agency’s previous system and availability of federal grant funding.

System Assessment

When asked to rate a series of system characteristics using the rating scale of 1 (not at all satisfied) to 5 (extremely satisfied), four of the six respondents answering this question gave a 4 or 5 rating for overall agency satisfaction with the system. (Ratings for some individual system characteristics were lower.) This is somewhat surprising, given that three of these respondents reported plans to upgrade or replace the existing system. The North Dakota and Iowa DOT respondents are the least satisfied with their systems, giving their systems an overall rating of 2 and 3, respectively. (Iowa DOT is considering replacing its current system.)

System Benefits and Challenges

Only Wisconsin DOT reported system benefits, noting that customer service has been enhanced by the system’s customer self-entry and processing. Respondents were more forthcoming when asked about system challenges. Three agencies noted that their existing systems were outdated (Maryland and Virginia) or difficult to update (North Dakota). The Wisconsin DOT respondent reported that it can be challenging to make the system changes needed to keep the system current.

Future Plans

Four of the seven states responding to the survey are considering replacing their systems:

- In Iowa, system replacement is being prompted by the lack of functionality in the current system and a desire to modernize it. The agency has applied for a federal grant to fund the replacement project; a response to that application is anticipated by the end of April 2017. If funding is obtained, the agency expects to issue an RFP later this year.
- The Maryland Motor Vehicle Administration is preparing to update its core operating systems. As part of that update, the agency has documented both the “as is” and “to be” processes and is currently reviewing them. The agency anticipates implementing a new MIRP system no later than 2020.
- Texas DOT is considering replacing its internally developed system with a new internally developed system; implementation of the new system is targeted for September 2017.

- Virginia’s Department of Motor Vehicles has issued an RFP to replace its current webCAT system.

Related Resources

Resources related to motor carrier credentialing systems include websites and other publications about the systems maintained in Iowa, Texas, Virginia and Wisconsin.

Next Steps

After completing its review of the March 2017 Transportation Research Synthesis report, the Technical Advisory Panel identified areas where additional information was needed, including:

- Payment processing in OS/OW permitting systems.
- Follow-up questions about OS/OW permitting systems. These questions seek clarification of survey responses from respondents in Colorado, Maryland and New York.
- Systems used to issue operating authority credentials to for-hire operators. These operators include special transportation service providers (for elderly/disabled), limousine operators (luxury), motor carriers of passengers (including charter buses), motor carriers of property, household goods movers, and building and house movers.

See [Appendix C](#) for the supplemental findings from this follow-up inquiry.

Detailed Findings

Current MnDOT Practice

MnDOT uses two online systems to issue and manage oversized/overweight (OS/OW) freight permits and motor carrier credentials:

- RouteBuilder, an OS/OW permitting system with a routing component.
- Motor Carrier Information System (MCIS), which processes and tracks motor carrier credentials, operating authority and associated transactions. MCIS also tracks enforcement cases and hazardous materials incidents.

These systems are described below.

Oversize/Overweight Permitting System

MnDOT launched RouteBuilder, a commercial product customized for agency use by Bentley Systems Inc., in 1990. The most recent system upgrade, in 2013, took more than a year to complete, and MnDOT continues to resolve issues associated with these system changes.

RouteBuilder offers many of the features and functions of the typical OS/OW permitting system. Customers can apply for permits, copy previous permits, make one-time revisions, manage their company profiles, manage the vehicle template, view previous permits and pay for permits without MnDOT staff intervention. Law enforcement personnel have access to RouteBuilder through a portal that can be used to validate permits. The current system issues permits for only the state highway system.

Permits that are fully automated for issuance through RouteBuilder include annual permits and single-trip permits that fall within (at or below) the agency's permitted dimensional envelope (14 feet 6 inches wide, 14 feet 6 inches high, and 110 feet long) and have a gross vehicle weight of up to 104,000 pounds.

Over the 27-year life of RouteBuilder, MnDOT has invested millions of dollars upgrading, modifying and patching the system, with the most recent enhancement project costing nearly \$500,000. Annual maintenance costs for the system are estimated at \$110,000. Trunk highway funds were used to implement the system and are used to pay for ongoing maintenance. Though RouteBuilder is considered to be outdated and in need of replacement, MnDOT has realized benefits from its use, including time savings for customers, a reduction in errors and increased safety through the calculation of the road area used, or RAU. (RAU is used to determine when a loaded vehicle encroaches over the centerline and escort restrictions are needed.)

Contributing to MnDOT's interest in replacing RouteBuilder are the system's current Java requirements, incompatibility with other agency systems, financial and payment discrepancies, outdated operating rules and policies, limited availability of vendor programmers, and the time required to develop and execute system corrections and enhancements.

Motor Carrier Credentialing System

MCIS, developed in-house in 1993, uses client/server architecture, an Oracle database and Oracle Forms. The system has been modified since its initial launch, with the last update in 2008.

No credentials can be issued automatically through MCIS without MnDOT staff intervention. Unlike other online credentialing systems, MCIS is not available to the public via the Web. The online component of MCIS is only

available to MnDOT credentialing staff members using in-house workstations. These staff members use MCIS to process credentialing applications submitted by customers and enter payments; MnDOT's finance office manually processes these payments. Law enforcement personnel do not have access to MCIS, although MnDOT does maintain a collaborative working relationship with Minnesota State Patrol.

Implementation costs for MCIS are not available; annual maintenance costs are estimated at \$40,000 (the cost for technical support). Funds from MnDOT's operating budget supported implementation and are used for ongoing maintenance.

Contributing to MnDOT's interest in replacing MCIS are its inability to process credentials and payments online, limited data and reporting, inconsistencies in data entry, limited hours of operation (processing is available only during MnDOT's regular business hours), lack of integration with other MnDOT systems, no opportunity for staff members to telework and law enforcement's inability to access data.

MnDOT's credentialing staff members expect a new system with online public access will provide both cost and time savings by reducing the staff effort now required to process requests for credentials. A new automated system is also expected to improve the customer experience and streamline the credentialing process by better educating customers about the information needed to apply for a motor carrier credential, register vehicles and renew operating authority.

Next Steps

MnDOT's Office of Freight and Commercial Vehicle Operations will use the findings presented in this Transportation Research Synthesis, supplemented by additional information about system options, to prepare the Executive Briefing Tool, which MnDOT will use to document relevant information while making important and strategic decisions. MnDOT will then use the tool to brief senior leadership about system needs, costs and business impacts, including how the new systems will advance customer service and improve efficiencies. If approved, new systems could be implemented within the next two years.

Overview of Survey of Practice

Survey Approach

An online survey was distributed to selected state departments of transportation (DOTs) and other state agencies expected to have experience with online systems used for OS/OW permitting and motor carrier credentialing. These states were:

- Colorado
- Georgia
- Illinois
- Iowa
- Kansas
- Maryland
- New York
- North Dakota
- Texas
- Virginia
- Wisconsin

[Appendix A](#) provides the full text of the survey questions. [Appendix B](#) lists the contact information for survey respondents and other individuals providing information for this report.

Overview of Survey Results

Respondents from all 11 states surveyed reported on their use of online OS/OW permitting systems; seven respondents described online systems used to issue and manage motor carrier credentials. Of the seven states using online systems to manage motor carrier credentials, four are considering replacing their existing systems. None of the agencies responding to the survey use a single system to manage both processes.

The table below summarizes how respondents use online systems to manage OS/OW permitting and motor carrier credentialing.

Respondents' Use of Online Systems for OS/OW Permitting and Motor Carrier Credentialing	
Types of Online Systems	State
One online system to issue and manage OS/OW permits, but no online system to issue and manage motor carrier credentials	Colorado
	Illinois
One online system to issue and manage OS/OW permits and a second online system to issue and manage motor carrier credentials; the systems do interface with each other	Iowa
	Kansas
	Maryland
	New York
One online system to issue and manage OS/OW permits and a second online system to issue and manage motor carrier credentials; the systems do not interface with each other	North Dakota
	Texas
	Virginia
	Wisconsin

The Georgia DOT respondent noted that the DOT does not support a motor carrier credentialing system and was not able to provide information about such a system used in the state. A representative from New York State DOT provided detailed information about an OS/OW permitting system that will be launched in the coming months, but did not complete the portion of the survey related to the agency's motor carrier credentialing system. The scope of this project did not permit an independent, in-depth review of that system.

Presentation of Survey Results

Survey responses related to the two types of systems are examined separately in this report. Presentation of survey results begins below with an examination of respondents' use of online systems to manage OS/OW permits, followed by resources related to OS/OW permitting systems. The presentation of survey results for respondents' motor carrier credentialing systems begins on page 39, followed by resources related to those systems.

Oversize/Overweight Permitting Systems

Survey of Practice

Respondents from all 11 states surveyed provided information about their online OS/OW permitting systems. Nine of these agencies use a commercial product customized to fit agency needs; two agencies use an internally developed system that is supplemented by at least one vendor-supplied module.

Survey results are presented below in these topic areas:

- System description
- System features
- System use
 - Use by law enforcement
 - Regional permitting agreements
 - Fully automated permits
 - Allowable dimensions and weights
- System costs
 - Strategies to encourage management support
- System assessment
 - System benefits
 - System challenges
- Future plans
- Case study: New York State DOT's Implementation of HOOCS

Citations for publications and other resources related to respondents' OS/OW permitting systems follow the presentation of survey results.

System Description

The following table provides information about the types of systems used by respondents, including the vendor, system launch date and implementation period, operating system and system hosting. Eight of the systems were implemented within the last four years, with New York State DOT reporting the most recent implementation. (A full launch is expected in April 2017.) Wisconsin DOT's system has been in place the longest (since 2002), and the agency is considering replacing it. (See page 30 of this report for Wisconsin DOT's replacement plans.)

Respondents' Online OS/OW Permitting Systems						
Vendor	State	System	Launch Date	Time Required to Implement	Operating System	Hosting
Composite (internally developed and supplemented by Bentley Systems Inc. modules)	Illinois	Illinois Transportation Automated Permits (ITAP)	February 2013	1 year to less than 2 years	Web-based system; Microsoft Windows	Internally hosted except for the Bridge Analysis module hosted by Bentley Systems Inc.
	Virginia	Automated Routing Solution (ARS)	March 2010	2 years to less than 3 years	Oracle	Internally hosted; internal system supplemented by a few Bentley Systems Inc. modules.
Bentley Systems Inc.	Iowa	Iowa Automated Permitting System (IAPS)	2015	2 years to less than 3 years	Microsoft Windows Server for the cloud; Web-based for users	Hosted by vendor in its cloud domain.
	Maryland	Maryland One	May 2016	Approximately 2 years	Microsoft Windows Server	Hosted by vendor via annual subscription.
	Wisconsin	Superload	2002	Ongoing	Oracle, DB2	Not hosted by vendor.
ProMiles Software Development Corporation	Colorado	Colorado Oversize Overweight Permitting and Routing (COOPR)	November 2014	1 year to less than 2 years	Compatible with Windows and iOS	Hosted in secure hosting facility (not associated with vendor).
	Georgia	Georgia Permitting and Routing Optimization System (GAPROS)	July 2014	2 years to less than 3 years	Not provided	Hosted by vendor.*
	Kansas	Kansas Truck Routing and Intelligent Permitting System (K-TRIPS)	Soft launch early December 2013; full launch late January 2014	2 years to less than 3 years	Web-based system; requires device that supports a modern browser	Hosted by vendor for an annual fee.**
	New York	Highway Oversize/Overweight Credentialing System (HOCS)***	Soft launch March 2017; full launch April 2017	2 years to less than 3 years	.NET Web-based application; fully functional on most common browsers	Internally hosted.

Respondents' Online OS/OW Permitting Systems

Vendor	State	System	Launch Date	Time Required to Implement	Operating System	Hosting
	North Dakota	Enhanced Automated Routing (EAR)	June 2013	Less than 1 year****	Not provided	Routing hosted by vendor; other elements internally hosted.
	Texas	Texas Permitting and Routing Optimization System (TxPROS)	August 2011	2 years to less than 3 years	Web-based	Hosted by vendor.

- * ProMiles Software Development Corporation maintains and operates GAPROS for the state of Georgia. The vendor provides a turnkey solution for permit ordering and issuance, which includes a call center and website, for a percentage of total permit revenues.
- ** The 24/7 Web-based system is hosted off-site because the agency does not support a 24/7 environment.
- *** New York State DOT's current online permitting system, One Stop Credentialing and Registration (OSCAR), will not be replaced by HOOCS. Instead, HOOCS replaces the agency's existing back-end system that connects to OSCAR and is designed specifically to issue permits and manage the permitting process. One of the agency's stated goals for HOOCS is to increase the number of permit types offered to OSCAR customers. For most customers, OSCAR will remain the primary customer access point into HOOCS.
- **** North Dakota started implementing its system slowly, beginning with basic trip and fuel permits and slowly adding other permit types to the system. System upgrades were required to implement self-issue of permits on a specific route. The state developed the permitting elements of the system; ProMiles developed the routing portion of the system. The vendor-supported routing element was launched in less than one year.

System Features

Respondents were asked to indicate which of 24 features were supported by their online systems. (See the following three tables.) Most systems described by respondents are fairly robust, offering most of the features identified in the survey. The features **least likely** to be supported by a respondent’s online system include:

- *Issuing regional permits.* Only the Colorado, Virginia and Texas systems are currently issuing regional permits.
- *Transferring permits.* Only systems in New York, Virginia and Wisconsin allow for the transfer of permits.
- *Generating route information without real-time updates.* Only the Georgia and Wisconsin systems are limited to generating route information without real-time updates. Other state systems generate route information using only real-time data or offer both real-time and nonreal-time routing information.
Note: While the Virginia respondent indicated that ARS does not provide route information, an ARS instruction guide indicates that “[t]he ARS route analysis process will check the continuity of your route, all horizontal and vertical clearances along the route, and all temporary restrictions (construction or otherwise) in effect during the extent of the permit.”
- *Generating customized customer reporting.* Only three state systems—Colorado, Maryland and New York—offer customized reporting for system users.

System Features										
Vendor	State	System	Issue Permits for the State Highway System	Issue Permits That Include Local Roads	Issue Regional Permits	Issue Single-Trip Permits	Issue Blanket Permits	Issue Superload Permits	Issue Exempt Permits	Transfer Permits
Composite (mostly internal)	Illinois	ITAP	X	X		X	X	X		
	Virginia	ARS	X	X	X	X	X	X	X	X
Bentley Systems Inc.	Iowa	IAPS	X	X		X	X	X	X	
	Maryland	Maryland One	X	X		X	X	X	X	
	Wisconsin	Superload	X			X	X	X		X
ProMiles Software Development Corporation	Colorado	COOPR	X	X	X	X	X	X	X	
	Georgia	GAPROS	X	X		X	X	X	X	
	Kansas	K-TRIPS	X			X	X	X		
	New York	HOOCs	X	X		X	X	X		X
	North Dakota	EAR	X			X	X	X	X	
	Texas	TxPROS	X	X	X	X	X	X	X	
Number of Systems Supporting the Feature			11	8	3	11	11	11	7	3

System Features

Vendor	State	System	Amend Existing Permits	Calculate Permit Fees	Allow Payment of Fees	Generate Route Information Using Real-Time Updates	Generate Route Information Without Real-Time Updates	Provide Turn-by-Turn Directions	Identify Temporary Restrictions	Identify Permanent Restrictions
Composite (mostly internal)	Illinois	ITAP	X	X	X	X		X	X	X
	Virginia	ARS		X	X			X	X	X
Bentley Systems Inc.	Iowa	IAPS	X	X	X	X	X		X	X
	Maryland	Maryland One	X	X	X	X	X	X	X	X
	Wisconsin	Superload	X	X	X		X		X	X
ProMiles Software Development Corporation	Colorado	COOPR	X	X	X	X		X	X	X
	Georgia	GAPROS	X	X	X		X	X		X
	Kansas	K-TRIPS	X	X	X	X		X	X	X
	New York	HOCS	X	X	X	X		X	X	X
	North Dakota	EAR	X	X	X	X		X	X	X
	Texas	TxPROS	X	X	X	X	X	X	X	X
Number of Systems Supporting the Feature			10	11	11	8	5	9	10	11

System Features										
Vendor	State	System	Allow Customer Inquiries About Restrictions	Allow Smartphone Access	Allow Tablet Access	Allow Users to Print Permits	Allow Standard Customer Reporting	Allow Customized Customer Reporting	Allow Standard Agency Reporting	Allow Customized Agency Reporting
Composite (mostly internal)	Illinois	ITAP	X	X	X	X	X		X	X
	Virginia	ARS		X	X	X	X		X	X
Bentley Systems Inc.	Iowa	IAPS				X	X		X	X
	Maryland	Maryland One	X	X	X	X	X	X	X	X
	Wisconsin	Superload	X			X	X		X	
ProMiles Software Development Corporation	Colorado	COOPR	X	X	X	X	X	X	X	X
	Georgia	GAPROS		X	X	X	X		X	X
	Kansas	K-TRIP	X	X	X	X	X		X	X
	New York	HOOCs	X	X	X	X	X	X	X	X
	North Dakota	EAR	X	X	X	X			X	
	Texas	TxPROS		X	X	X	X		X	X
Number of Systems Supporting the Feature			7	9	9	11	10	3	11	9

Other System Features

Many state systems support features not addressed by the survey. The table below summarizes these features, which include interfacing with other systems, sharing data and automating user notifications. Respondents using a commercial product did not indicate if these additional system features are associated with the vendor's standard offering or were developed solely for use by the respondent.

Other System Features			
Vendor	State	System	Description of Feature
Composite (mostly internal)	Virginia	ARS	Permits can be validated at the roadside by law enforcement personnel using PreView, a Web-based Xerox product.
Bentley Systems Inc.	Iowa	IAPS	After permit issuance, the system will notify the permit holder if a restriction appears along the route that will impact the load.

Other System Features			
Vendor	State	System	Description of Feature
	Maryland	Maryland One	<ul style="list-style-type: none"> • Users can initiate and self-issue extensions and revisions, attach documents and make comments. • The system transfers data between jurisdictions and the agency's bridge department. • The agency can revoke auto-issue and suspend permit privileges. • Law enforcement personnel can invalidate permits for user groups or classes.
ProMiles Software Development Corporation	Colorado	COOPR	COOPR interfaces with other systems, including Commercial Vehicle Information Exchange Window (CVIEW)* and the agency's 511-type system. (511 is a national traveler information telephone number that offers real-time traffic information.)
	Kansas	K-TRIPS	The system offers online chat, generation of an online bid route (a quote to determine how much an OS/OW permit will cost), a permit wizard and bridge analysis.
	New York	HOOCS	<p>The system offers:</p> <ul style="list-style-type: none"> • Fully integrated, automated bridge live load engineering analysis • A Web-based OS/OW restriction management subsystem for permit office restriction maintenance with map-based user interface • Automated, point-to-point geographic information system (GIS) based routing • An interface for tollbooth operators to validate permits • Radius permit issuance
	North Dakota	EAR	<ul style="list-style-type: none"> • Customer reporting is in test mode and will be launched with the next system upgrade. • The system's login page is used to share information with carriers.
	Texas	TxPROS	Permit holders are notified of restrictions put in place after a permit is purchased (i.e., when a route changes) and advised to contact the agency to have the route updated.

* The Federal Motor Carrier Safety Administration describes CVIEW as "a state system that collects information from the commercial vehicle credentialing and tax systems to generate portions of the interstate carrier, vehicle and driver snapshots and reports for exchange within the state (e.g., to roadside sites) and with the SAFER system." SAFER, or Safety and Fitness Electronic Records, is a website that displays carrier information available to the public; the system also handles user queries and data transfers.

System Use

Respondents were asked to describe the use of their OS/OW permitting systems, including:

- Use of the system by law enforcement personnel and the types of interaction between law enforcement and the permitting agency
- The agency’s participation in regional permitting agreements
- The types of permits that are fully automated
- Allowable dimensions and weights for fully automated permits

Use by Law Enforcement

All but one of the responding states—Wisconsin—give law enforcement officers access to the online OS/OW permitting system. Most respondents described the types of information law enforcement can view, and several expanded on the relationship between law enforcement and the permitting agency. The table below summarizes survey responses.

Law Enforcement Access to and Use of OS/OW Permitting System Data	
State	Description of System Access and Use
Colorado	Information from COOPR is uploaded to CVIEW; individual officers can also be given access to COOPR.
Georgia	Law enforcement personnel have complete system read access. All permits have a bar code that is scanned at weigh stations to populate permit information for officers’ use; bar codes are also used to track permit use or misuse.
Illinois	Law enforcement officers have access to all permit information as permits are issued; officers can invalidate permits.
Iowa	Law enforcement personnel can view and verify permits; searches can be conducted using various types of data, including vehicle identification number, license plate and state.
Kansas	Law enforcement personnel have access to K-TRIPS, but most officers prefer to access data through CVIEW, which integrates with K-TRIPS. Officers can look up a permit number, view the status of a carrier and invalidate a permit through CVIEW.
Maryland	Law enforcement personnel can view all permit information and invalidate permits when a permit holder violates conditions of the permit. Officers can also use Maryland One to retrieve information for escort vehicles.
North Dakota	North Dakota Highway Patrol maintains EAR and offers law enforcement personnel access to the complete computer system. There has been limited interaction between Highway Patrol officers and the permitting office after initial collaboration on testing and training before the system’s launch.
Texas	Law enforcement personnel have access to all permit information.
Virginia	The agency extracts the first two pages of each permit and makes it available through the Web-based PreView, which is used by law enforcement to validate permits.

Regional Permitting Agreements

All but three responding states—Kansas, North Dakota and Wisconsin—engage in some type of regional agreement or coordination to issue OS/OW permits. (Wisconsin DOT is considering possible regional integration with neighboring states.) The table below summarizes responding agencies’ engagement in regional OS/OW permitting.

Respondents’ Engagement in Regional OS/OW Permitting	
State	Description of Regional Activity or Engagement
Colorado	The agency is finalizing its first intergovernmental agreement to allow for regional OS/OW permitting that involves the state, city and county for permits issued in the Denver area. More local agencies are expected to participate in a regional application of COOPR.
Georgia	All Georgia-issued permits can be used for statewide travel on all roads; the agency routes from origin to destination and includes local roads.
Illinois	Coordination only.
Iowa	The agency issues an “all systems permit,” which is an annual permit for size only, in cooperation with some counties. All local roads have been added to the permitting system, and the agency is testing the feasibility of issuing single-trip permits for local agencies.
Maryland	Maryland State Highway Administration is the only agency other than the City of Baltimore that issues OS/OW permits in Maryland. Maryland One is considered a “one-stop shop” that has handled all billing and OS/OW-related matters for the state since May 2016.
New York	Initially, the state will issue permits in partnership with New York State Thruway and New York State Bridge Authority. Over time, partners are expected to include counties; cities; various state authorities (Port Authority, other bridge authorities and Metropolitan Transportation Authority); international border crossings; and other facilities owners issuing OS/OW permits in the state.
Texas	Texas issues multistate, single-trip permits under the Western Regional Permitting Agreement executed by the Western Association of State Highway and Transportation Officials (WASHTO). Current WASHTO members include Arizona, Colorado, Idaho, Louisiana, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah and Washington.
Virginia	The agency issues annual permits and selected single-trip permits as required by state code* by reflecting local jurisdictions’ rules and fees in the permits issued. The appropriate funds for permits issued are forwarded to local jurisdictions.

* See VA Code § 46.2-1139 (2016), Permits for Excessive Size and Weight Generally; Penalty, available at <http://law.justia.com/codes/virginia/2016/title-46.2/chapter-10/section-46.2-1139/>.

Fully Automated Permits

Respondents were asked to identify the types of permits that are fully automated. The table below presents the types of OS/OW permits that are automatically issued by respondents’ online systems without staff intervention. Some respondents indicated that an agency website contained this information; that data is not reflected in the table below.

Types of Fully Automated Permits

State	Description of Automated Permit
Colorado	Annual permits and routed single-trip permits that fall within the agency's auto-issue envelope can be issued without staff intervention. (The auto-issue envelope can be increased or decreased without assistance from the vendor.)
Iowa	Auto-issue is determined by size and weight limitations, and may include single-trip, annual, registration trip, fuel trip, radiation and rubbish permits.
Kansas	The agency offers 24 OS/OW permits that can be self-issued.
Maryland	All permits that can be obtained in Maryland and the City of Baltimore can be applied for and issued through Maryland One, and most are auto-issued (if the request meets current dimension and weight thresholds).
North Dakota	All permits are fully automated if the dimensions and weights fall within the restrictions set by North Dakota DOT.
Texas	All permits are fully automated except superload, route inspection and quarterly crane/well service (mileage reported quarterly) permits.
Virginia	Auto-issue permits include exempt, annual and some single-trip permits.
Wisconsin	The system auto-issues single-trip, multiple (annual)-trip, miscellaneous equipment, raw forest and sealed container permits.

Allowable Dimensions and Weights

Respondents were also asked to provide the dimension and weight limitations associated with respondents' auto-issued permits. The table below summarizes survey responses.

Dimension and Weight Limitations for Fully Automated Permits

State	Width	Height	Length	Weight
Colorado	14 feet	15 feet	110 feet	140 kip (k)* = 140,000 pounds
Georgia	16 feet	16 feet	110 feet	150,000 pounds
Illinois	Not provided	Not provided	Not provided	Up to 249,999 pounds
Iowa	11 feet	14 feet 6 inches	120 feet	120,000 pounds (gross weight)
Kansas	16 feet 6 inches	15 feet	126 feet	1 axle: 22,000 pounds; 2 axle: 45,000 pounds; 3 axle: 60,000 pounds; and 4 axle: 65,000 pounds
Maryland	12 feet	14 feet 6 inches	90 feet	150 k = 150,000 pounds
North Dakota	18 feet	17 feet 6 inches	200 feet	250,000 pounds (gross weight)
Texas	16 feet	16 feet 6 inches	110 feet	180,000 pounds
Virginia	14 feet	14 feet	100 feet	Up to 115,000 pounds on 7 axles
Wisconsin (single trip)	14 feet	14 feet 6 inches	125 feet	250,000 pounds (gross weight)

Dimension and Weight Limitations for Fully Automated Permits

State	Width	Height	Length	Weight
Wisconsin (multiple trip)	14 feet	16 feet	150 feet	170,000 pounds (gross weight)

* Pounds are typically calculated in weight; mass is calculated per 1 kip unit. 1 kip (or “k”) in mass equals 1,000 pounds.

System Costs

Respondents were asked about the costs for system implementation and ongoing maintenance, and the sources of funding to pay for those expenses. All but the Maryland and Texas respondents provided cost information.

Implementation costs ranged from \$240,000 for Iowa DOT’s Bentley-based IAPS to slightly more than \$3 million for New York State DOT’s soon-to-be-launched HOOCS. (The higher end of the cost spectrum is more typical.) The sources of funds for implementation varied, with some agencies using agency funds while others used federal grants. In North Dakota, a line of credit was used to implement EAR; the \$15 permit service fee is used to pay down the line of credit. Georgia DOT’s GAPROS is operated by its vendor ProMiles Software Development Corporation; ProMiles receives a percentage of permit revenues for its management of the system.

Annual maintenance costs ranged from \$50,000 for the Bridge Analysis module Bentley Systems Inc. provides for Illinois DOT’s internally developed ITAP to \$264,000 for North Dakota’s EAR. North Dakota and Virginia use permit fees to cover maintenance and administrative costs. Other agencies use only internal funds or a mix of federal and state funds for ongoing maintenance. The table below summarizes respondents’ system costs.

System Costs						
Vendor	State	System	Implementation		Maintenance	
			Cost	Source of Funding	Annual Cost	Source of Funding
Composite (mostly internal)	Illinois	ITAP	\$450,000	Road funds	\$50,000 (Bridge Analysis)	Road funds
	Virginia	ARS	\$1.7 million	All internal funding	\$100,000	Permit revenue is used to cover administrative fees.
Bentley Systems Inc.	Iowa	IAPS	\$240,000	Agency funds (Originally a combination of federal grants and agency funds; federal grants were suspended.)	\$700,000* (annual license fee) \$7,700 (monthly hosting fee)	Agency funds
	Wisconsin	Superload	\$2 million	Legislative budget allocation and user-based temporary fee increase	Approximately \$250,000 for licensing and support	Bureau/division operating budget
ProMiles Software	Colorado	COOPR	Approximately \$2 million	Internal funding source	Approximately \$130,000	Internal (annual budget)

System Costs

Vendor	State	System	Implementation		Maintenance	
			Cost	Source of Funding	Annual Cost	Source of Funding
Development Corporation	Georgia	GAPROS	None**	N/A	N/A	N/A
	Kansas	K-TRIPS	\$1.3 million	CVISN*** matching funds; budget authority to use state highway funds	Approximately \$103,000	State highway funds
	New York	HOOCs	\$3.056 million (plus IT costs)	Federal State Planning and Research program	N/A	Mix of federal and state funds
	North Dakota	EAR	\$2.5 million line of credit	\$15 service fee on each permit	\$264,000	\$15 service fee on each permit

- * This licensing fee is for all Bentley software used by Iowa DOT; IAPS is only a portion of the agency's overall Bentley-related costs.
- ** ProMiles Software Development Corporation operates GAPROS for the state of Georgia and receives a percentage of permit revenues.
- *** As defined by U.S. DOT, CVISN, or Commercial Vehicle Information Systems and Networks, is a framework or architecture that assists transportation agencies, motor carrier organizations and other stakeholders in planning and deploying integrated networks and systems.

Strategies to Encourage Management Support

Respondents were asked about the strategies used to encourage management support for funding of a new system or the upgrade of an existing one. Almost half of respondents reported that process improvement was part of the rationale for a new system. Some proposals began with a standard agencywide process (Colorado DOT's Lean process improvement or Kansas DOT's project management methodology), while others used a cost-benefit analysis to justify the system expense (Texas and Wisconsin DOTs). The table below highlights the strategies and rationales used by respondents to enlist management support for a new or upgraded online OS/OW permitting system.

Strategies to Encourage Management Support			
Strategy/Rationale	State	System	Description
Efficiency (addressing issues such as staff reductions and process improvements)	Illinois	ITAP	The new system was expected to reduce staff and overtime, increase efficiency and standardize permit issuance.
	Iowa	IAPS	The old system was based on legacy software that lacked integrated mapping and the capacity for automated analysis and permit issuance. The new system gained efficiencies to manage increasing workload during a time of staff reductions and hiring freezes.
	North Dakota	EAR	During the oil boom, state legislators received complaints about permit processing delays and sought solutions. Engagement with industry groups—North Dakota Motor Carriers Association,

Strategies to Encourage Management Support			
Strategy/Rationale	State	System	Description
			Associated General Contractors of North Dakota and North Dakota Petroleum Council—also provided support for the new system.
Agency- or state-sponsored process	Colorado	COOPR	An agencywide Lean process improvement effort spurred the Oversize/Overweight Permits Process Improvement Project that led to COOPR.
	Kansas	K-TRIPS	The state’s project management methodology, which includes conducting a feasibility study, was used to investigate alternatives. The agency also met with the state’s motor carrier association to obtain buy-in and provide updates on project progress.
Cost-benefit analysis	Texas	TxPROS	The agency prepared a cost-benefit analysis and cited expected improvements in safety and increased levels of service.
	Wisconsin	Superload	A cost-benefit analysis led to a legislative budget proposal.
Process improvement	Virginia	ARS	Industry demand and the agency’s desire to improve on a 30-day turnaround for some permits contributed to obtaining the full support of management.
	New York	HOOCS	Among the agency’s goals for HOOCS: Increase in types of permits offered to OSCAR customers; process improvement, including integrated permitting; and system modernization and integration.

System Assessment

Most respondents are highly satisfied with their OS/OW permitting system. When asked to rate a series of system characteristics using the rating scale of 1 (not at all satisfied) to 5 (extremely satisfied), all but two respondents gave a 4 or 5 rating for overall agency satisfaction with the system. The two respondents least satisfied with their systems—Virginia and Wisconsin DOTs—gave overall system ratings of 2 and 3, respectively. Both of these agencies are either planning a system upgrade (Virginia) or considering system replacement (Wisconsin); see page 30 for more information. The table below provides respondents’ ratings of system characteristics.

System Assessment									
Vendor	State	System	Ease of Use	Flexibility	Reliability	Opportunity to Customize	Vendor Support	Customer Satisfaction with the System	Overall Agency Satisfaction with the System
Composite (mostly internal)	Illinois	ITAP	5	5	5	5	5	5	5
	Virginia	ARS	2	2	4	2	3	1	2
Bentley Systems Inc.	Iowa	IAPS	4	3	4	3	4	4	4
	Maryland	Maryland One	5	5	5	5	5	4	5
	Wisconsin	Superload	2	2	4	1	4	3	3
ProMiles Software Development Corporation	Colorado	COOPR	5	5	5	5	5	4	5
	Georgia	GAPROS	5	5	5	5	5	5	5
	Kansas	K-TRIP	5	5	5	5	5	4	5
	North Dakota	EAR	4	4	4	3	4	4	4
	Texas	TxPROS	5	5	5	5	5	5	5

System Benefits

The survey provided seven categories of possible benefits that could be associated with an online OS/OW permitting system:

- Cost savings
- Time savings
- Enhanced customer service
- Reduction in errors
- Improved carrier compliance
- Increased safety
- Other benefits

Respondents were asked to describe the specific benefits that their systems generated. The respondents' descriptions highlight multiple and wide-ranging benefits, with many respondents describing benefits achieved in all categories presented in the survey. The tables below summarize participant responses:

Cost Savings			
Category	State	Auto-Issued Permits as Percentage of All Permits	Description
Fee reductions	Maryland	70%	The system has produced "major cost savings for industry." Customers no longer pay engineering fees for permits that the system auto-issues.
	North Dakota	87%	The system provides a large cost savings for the industry.

Cost Savings			
Category	State	Auto-Issued Permits as Percentage of All Permits	Description
Staffing reductions	Colorado	N/A	The agency's previous system had no routing component and required more full-time staff support.
	Georgia	80%	Permit Unit staff dropped from 25 to eight employees.
	Illinois	N/A	The staff of 27 could be reduced to seven. Also, overtime could be reduced.
	Iowa	50%	The system allows the agency "to do more with less."
	Maryland	70%	No overtime is needed for staff to catch up, especially after holidays.
	North Dakota	87%	Permit office staffing was reduced from seven to four.
	Virginia	N/A	Staff was reduced by two employees.
	Wisconsin	N/A	Auto-issue allows the agency to reduce permit staffing resources by an unspecified amount.

Time Savings		
Category	State	Description
Better use of staff time	Kansas	Reduces manual processes and increases the time available for exception management.
Real-time permit issuance	Georgia	Allows 80% of permits to be self-issued in real-time.
	Illinois	Provides "huge" time savings; it now takes seconds for a customer to get an approved permit.
Reduction in staff time	Iowa	Allows 50% of total permit volume to be processed by the system.
	Wisconsin	Allows customers to auto-issue, which reduces staffing time. Also allows permit staff to replicate historic routing and permit information for a particular carrier.
Reduction in turnaround time	Colorado	Reduces turnaround time for all permit types; some permits that required two weeks or more to review now take two days to issue.
	Maryland	Reduces turnaround time. Before Maryland One, superload permits required 10 to 15 days for review when backlogs existed. Now almost all standard and "mega" load permits are turned around in less than two days.
	Texas	Reduces turnaround time (from hours to minutes).
	Virginia	Reduces overall turnaround time.
Carrier time savings	Kansas	Increases self-issuance; faster routing for superloads and large structures.
	North Dakota	Provides time savings to industry through auto-issuance.

Enhanced Customer Service		
Category	State	Description
24/7 availability	Georgia	Permit issuance is available 24/7.
	Wisconsin	Permits are available 24/7 and also accessible by email.
Customer satisfaction	Illinois	Customers “love it.”
	Kansas	Self-issuing permits enhance customer service, along with online chat and vehicle inventories the user can keep.
	Texas	Customers save time with predictable and accurate routing.
More time for customers	Colorado	More time is available for more focused customer service.
	Iowa	Auto-issue allows staff to spend more time on complicated loads and provide better overall service.
	Maryland	Staff can spend more time with customers and provide faster turnaround on loads that are not auto-issued.
Reduced wait times	Georgia	Wait times have been reduced.
	North Dakota	Customers not using the online system have shortened wait times to speak with a staff member.

Reduction in Errors	
State	Description
Colorado	The respondent reported a “huge positive impact” in reducing errors.
Georgia	Permit revisions are “way, way down.”
Illinois	The online system takes human interpretation out of the equation.
Iowa	Automated analysis and restriction management provide a 100% error-free permitting process. (Iowa was 99% error-free before system implementation.)
Kansas	The system automatically checks vertical clearances and weights to confirm the user is applying for the correct permit.
Maryland	Errors are reduced by having data fields validated against the system’s knowledge base.
North Dakota	The agency has identified one area where errors can still occur with the online system—when a staff member has not properly entered data in the 511 map. For example, a construction project began before the project’s engineer entered the width restriction in the online system.
Texas	Routes have been 100% accurate since system implementation.
Wisconsin	Less manual entry is required.

Improved Carrier Compliance

State	Description
Colorado	The system has assisted with tracking noncompliant carriers.
Georgia	Evaluating this metric is still a work in process.
Illinois	24/7 access makes it easier for carriers to comply.
Iowa	The agency integrated vehicle checks to reject invalid permits and identify vehicles that do not qualify. The agency also cross-checks permits against federal records for out-of-service orders.
Kansas	Users can obtain a permit more quickly and efficiently, making it less likely that a carrier will operate without a permit.
Texas	Shorter turnaround time has led to more carriers purchasing permits (i.e., a carrier may decide not to get a permit if it has to move immediately and knows it may take a day or two to get a permit).
Virginia	Carrier compliance improves as more permits are issued.

Increased Safety

State	Description
Colorado	System tools allow annual permit holders to run any load through the system's routing component, which provides the most current construction restrictions and road information.
Georgia	Evaluating this metric is still a work in process.
Illinois	Restrictions included in the GIS routing portion of the system reduce the number of bridge hits, cornering issues and other safety-related issues.
Iowa	Automated restriction checking helps protect infrastructure.
Kansas	New restrictions can generate a notice to the permit holder that recommends a new route.
Maryland	The state's roads and bridges are safer because the agency is analyzing all loads over all structures.
North Dakota	The system has resulted in fewer bridge hits. Bridge hits recorded since the system's launch were related to incorrect information, the load not being tied, or the driver operating off the designated route.
Texas	Completely accurate routing increases safety.
Virginia	The agency cannot quantify this but is hopeful that safety has improved.
Wisconsin	Unknown at this time.

Other Benefits	
State	Description
Iowa	The online system allows staff to work from anywhere.
Kansas	The system has been highly reliable from both the agency and user perspectives.
Maryland	Maryland One offers 24/7 service, accessibility from all platforms and a “one-stop shop” for permitting. The respondent noted that Maryland One is “working great.”
North Dakota	The stress level of permit office staff and officers in the field has been greatly reduced with the knowledge that the system checks routes for bridge heights, construction zones and weight issues.
Texas	Without a continuous backlog of permits to address, the agency has time for supportive services. Staff can focus on customer outreach and provide an increased level of “hand-holding” for new carriers.

System Challenges

Respondents were asked to describe any challenges they had encountered with their OS/OW permitting systems. Most of the challenges relate to data, system functionality and technology. The table below summarizes survey responses.

System Challenges		
Type of Challenge	State	Description
Data	Colorado	Agency data did not have the degree of accuracy necessary to support an automated routing component. Implementing COOPR resulted in better data management.
	Maryland	Obtaining and updating restrictions from districts in real time proved challenging.
	Virginia	Updating the bridge inventory and GIS network was challenging.
Effective collaboration	Maryland	Getting everyone on board and keeping everyone focused in a multijurisdictional environment were issues.
Learning curve	Kansas	Learning a new system was challenging, though not an issue after initial implementation.
Staffing	Texas	It can be a misconception that an automated system will require fewer staff members. While this could be the case, staff can also be redirected to other services, and additional staff is needed to manage the application.
System functionality	North Dakota	System downtime was challenging.
	Wisconsin	The current system lacks GIS and a mobile application. The system also supports limited queries and no real-time data.
Technology	Illinois	Replacing Silverlight, Microsoft’s media format, was problematic.
	Iowa	IAPS uses Java for mapping. With some Web browsers dropping support for Java, customers are limited to using only Internet Explorer. The agency will address this in a system upgrade.

Future Plans

Both agencies using internally developed systems supplemented by Bentley-provided modules are planning a system upgrade; the state with the oldest system currently in use is planning to replace it.

- Illinois DOT is planning a system update that may replace the Bentley Bridge Analysis module now used with AASHTOWare Bridge Rating analytical software. In-house resources will be used for the system upgrade that is expected to be completed in 12 months.
- Virginia Department of Motor Vehicles is beginning to upgrade its current system. The Bentley modules that supplement the internally developed system will likely remain in the upgraded system, which is expected to be finalized in 2018.
- Wisconsin DOT expects to issue a request for proposal (RFP) during the first quarter of 2017 to solicit proposals for a new online permitting system. Implementation is contingent on the current legislative session budget allocation.

Case Study: New York State DOT's Implementation of HOOCS

New York State DOT is preparing to launch a new OS/OW permitting system. Information for this case study was gathered through phone and email contacts with the director of New York State DOT's Central Permits Bureau.

Background

New York State DOT began working with ProMiles Software Development Corporation in January 2015 to develop its new Web- and GIS-based permitting application—Highway Oversize/Overweight Credentialing System, or HOOCS. HOOCS will supplement One Stop Credentialing and Registration (OSCAR), the state's existing permitting system, by replacing the existing back-end system that connects to OSCAR. OSCAR is deficient in several areas: It lacks flexibility and automated GIS-based routing, and does not offer all permit types. For most customers, OSCAR will remain the primary customer access point into HOOCS.

A soft launch of HOOCS is planned for March 2017; a full launch is scheduled for April 2017, when all permits will be issued through HOOCS. The agency plans to roll out additional functionality, including additional automated credential checks and grade crossing OS/OW safety functionality, within a year after the initial launch.

System Partners

New York State DOT is collaborating with other state, regional and local agencies involved in issuing OS/OW permits in the development and use of HOOCS. Current partnering efforts are focused on New York City DOT, New York State Thruway Authority, Port Authority of New York and New Jersey, Metropolitan Transportation Authority, New York State Bridge Authority and Albany County. The DOT is actively working with other municipalities around the state to expand integrated permitting. Over time, partners in the OS/OW permitting system may include:

- New York counties
- New York cities
- Other state authorities
- International border crossings
- Other facilities owners issuing OS/OW permits in the state
- Neighboring states

System Functionality

Initially, New York State DOT, New York State Thruway Authority and New York State Bridge Authority are partnering to issue permits in HOOCS. If a route involves many integrated partner jurisdictions, HOOCS will break down the route by ownership jurisdiction and forward permit application information to the relevant integrated partners' HOOCS module for review according to the business rules of each agency. If approved by the proper facility owners along the proposed route, HOOCS will return to the customer a single, coordinated response containing the individual permits of each jurisdiction. Where the route involves only a single jurisdiction or an annual permit, customers will also be able to obtain an individual permit from a participating partner agency.

As more of the planned integrations are implemented, a carrier will be able to file one application and pay once to obtain OS/OW permits from many agencies to move freight from the Canadian (Niagara Falls) border crossing to New York City, while crossing several OS/OW permit-issuing jurisdictions.

New York State DOT's only requirement for integrated partner agencies is that each agency maintain the geospatial roadway data necessary to support safe and efficient routing on the roads it owns. HOOCS will expedite the permitting process while allowing each permitting partner to apply its own business rules and fee structure. System users will be allowed to pay for multiple permits with one credit card payment or via an escrow account. HOOCS will disperse the payment based on an internal fee structure so each partner receives the appropriate portion of the overall payment.

The Vendor Experience

As the respondent describes it, New York State DOT's experience with ProMiles has been "tremendous." The vendor developed HOOCS based on its proprietary commercial off-the-shelf system and customized it to meet agency requirements. (See **Related Resources** on page 35 for documents describing system requirements included in the agency's RFP.) With the system's open architecture, the agency can add or modify modules even after the system is up and running.

Implementation Recommendations

New York State DOT offers these recommendations for agencies preparing to implement an online OS/OW permitting system similar to HOOCS:

- Focus on building a foundation of geospatial data, which is the linchpin of safe, efficient OS/OW routing and also provides a foundation for the use of future transportation technologies.
- Concentrate on system requirements, the most critical aspect of preparing a successful RFP for this type of automation project. Identifying existing and potential future system needs before posting an RFP will assist in selecting the appropriate vendor and speed up project implementation.
- Interrogate existing business processes to improve the function from both the customer and agency perspectives.
- Use technology to overcome institutional, legal and regulatory barriers that make it difficult for customers to obtain various permits and credentials, and conduct other business. Technology can integrate disparate agency processes and overcome these barriers; harmonization of laws, regulations and agency practices may then follow.
- Explore shared information technology services and the related government efficiency gains where possible. New York State DOT has taken the view that HOOCS will be a state asset and is offering its use to other permitting agencies in New York to become integrated permitting partners.

- Recognize that the capacity for software systems to integrate with other systems is more important than constructing a single enterprise solution.
- Build on existing strengths. For example, OSCAR, which was implemented in the early 2000s, was an early win in New York for technology-facilitated interagency coordination that made it easier for customers to do business with the state, operate safely and comply with regulations. HOCS extends the OSCAR concept by adding new permit types to OSCAR and expanding coordination to integrated permitting partners.

Related Resources

Highlighted below are websites, articles, reports and other resources in three categories:

- **State systems.** These resources are related to the online OS/OW permitting systems maintained by survey respondents. Also included are New Jersey DOT publications that describe the permitting process in the Mid-Atlantic Region, which includes three states participating in this survey (Maryland, New York and Virginia).
- **National guidance.** These citations are recent National Cooperative Highway Research Program (NCHRP) and U.S. Government Accountability Office publications.
- **Vendors.** Websites for the two vendors providing commercial products for respondents' systems are presented.

State Systems

Colorado

Colorado Oversize Overweight Permitting and Routing (COOPR), Colorado Department of Transportation, undated.

<https://coopr.codot.gov/>

COOPR “allows for 24/7 access, fleet management and self-issue capabilities on some permits, and a routing component to assist Annual Permit holders with determining safe routing for their loads.”

Even More Improvement for Oversize/Overweight Permitting, Dennis VanPatter, Communications Office, Colorado Department of Transportation, April 2015.

<https://www.codot.gov/business/process-improvement/process-improvement-news/more-improvements-for-permitting>

This article describes the implementation of COOPR, in development since 2012 and launched in November 2014. The agency’s manager of Permits noted that “[o]ver the past six months, COOPR has generated about \$3.4 million, which is about one and one-half times its \$2 million purchase price.”

Georgia

Georgia Permitting and Routing Optimization System (GAPROS), Georgia Department of Transportation, undated.

<https://gapros.dot.ga.gov/>

This is the login page for GAPROS.

Oversize Permits, Georgia Department of Transportation, 2015.

<http://www.dot.ga.gov/PS/Permits/OversizePermits>

This site provides links for information about ordering an online permit, a route map and routing log, and training materials.

Illinois

Illinois Transportation Automated Permits, Illinois Department of Transportation, undated.

<https://truckpermits.dot.illinois.gov/>

Users log on to ITAP from this site. A comprehensive user manual is available at

<https://truckpermits.dot.illinois.gov/Content/Docs/HowtoUsetheITAPSystem.pdf>.

“A Look at Illinois’ Department of Transportation Automated Over-Dimension and Oversize Permit System,”

GIS in Transportation, Federal Highway Administration, Spring 2014.

https://www.gis.fhwa.dot.gov/documents/Newsletter_Spring2014.pdf

The first article in this newsletter describes ITAP, implemented in 2013.

Iowa

Iowa Automated Permitting System (IAPS), Iowa Department of Transportation, 2016.

<https://iowa.gotpermits.com/iaps/login.asp>

This access point for Iowa DOT’s online permitting system provides links to training videos and reference materials, including online restriction information management that allows users to inquire about existing restrictions.

Kansas

Kansas Truck Routing and Intelligent Permitting System (K-TRIPS), Kansas Department of Transportation, undated.

<https://k-trips.com/Login.aspx>

Users of Kansas’ K-TRIPS log on at this site. K-TRIPS was upgraded in June 2015 to enable Transport Layer Security, which ensures the site meets security standards.

Kansas Truck Routing and Intelligent Permitting System, KS Company User Guide, Kansas Department of Transportation, undated.

<https://www.k-trips.com/KTRIPS%20Company%20User%20Guide%20and%20Training.pdf>

From Chapter 1:

PURPOSE & USERS

The K-TRIPS Online Customer Interface is used by Motor Carriers and Permit Services to create and maintain their customer accounts and to create permit applications for OS/OW and temporary registration travel within the State of Kansas. This interface provides access to safe and legal routes based on the vehicle and load dimensions and weight for such travel.

ONLINE PERMITTING & ROUTING

This web application gives industry users access to the company account, permit ordering, routing, mapping, and customer reporting capabilities in K-TRIPS.

Truck Routing and Permitting S, Procurement Contract Detail, Kansas Department of Administration, undated.
<http://da.ks.gov/purch/Contracts/Default.aspx/000000000000000000000035469>

This Web page provides links to the current contract and other documents associated with ongoing development and support of K-TRIPS by ProMiles Software Development Corporation.

Maryland

Maryland One, Maryland State Highway Administration, Maryland Department of Transportation, undated.
<https://marylandone.gotpermits.com/marylandone>

Users of Maryland One log on at this site. This online system, supported by Bentley Systems Inc., is a “one stop shop for all your Hauling Permits in Maryland.”

Hauling Permits: General Information, Maryland State Highway Administration, Maryland Department of Transportation, undated.

<http://www.sha.state.md.us/index.aspx?PageId=58>

This website provides a link to the agency’s online permitting system and includes reference materials about hauling in Maryland.

“Maryland State Highway Administration’s Routing and Permitting Solution to Save Carriers USD 24 Million Annually,” News, Bentley Systems Inc., October 31, 2016.

<https://www.bentley.com/en/about-us/news/2016/october/31/ai-10-maryland-state-highway-administrations-routing-permitting-solution-to-save-carriers>

This vendor article describes Maryland One and the Bentley modules that support it. *From the article:*

Bentley’s SUPERLOAD provides the foundation for MDSHA’s entire OS/OW permitting, routing, and analysis solution. MDSHA also uses LARS Bridge to create detailed structural models of the state and Maryland Transportation Authority bridges structures, which are then loaded into the SUPERLOAD application for real-time bridge analysis. MDSHA uses InspectTech to continually maintain the bridge inventory and inspection information, ensuring that the over and under and horizontal and vertical bridge clearances are accurately verified for each permit vehicle.

New Jersey

Oversize/Overweight Permitting Practices Review – Phase II, Christopher Titze, Shelley Feese and Brandon Rivenberg, New Jersey Department of Transportation, February 2013.

<http://www.state.nj.us/transportation/refdata/research/reports/NJ-2013-001.pdf>

From the abstract: This study explores a more detailed analysis of the permitting process in the Mid-Atlantic Region and delves into operational practice, and theory and history of the practice among states. The states practices examined in greater detail include Connecticut, Delaware, Maryland, New Jersey, New York, Pennsylvania and Virginia.

Related Resource:

Oversize/Overweight Permitting Practices Review, Christopher Titze and Shelley Feese, New Jersey Department of Transportation, October 2011.

<http://www.state.nj.us/transportation/refdata/research/reports/NJ-2011-002.pdf>

From the abstract: This study explores the experiences and best practices of oversize/overweight (OS/OW) permitting agencies in the United States and offers insight into potential opportunities available to improve OS/OW permitting in the State of New Jersey. The study provides a cursory review of OS/OW permitting practices for the lead permitting agencies in all 50 states and a detailed review of OS/OW activities within

Delaware, Maryland, New York, Pennsylvania and Virginia, and relates these experiences to New Jersey's existing practices.

New York

C030786 Re-Issued: Highway Oversize Overweight Credentialing System (HOOCS) Services for NYSDOT, Consulting Services Results, New York State Department of Transportation, April 2014.

<https://www.dot.ny.gov/doing-business/opportunities/consult-results> (use the "Find" function and search for "HOOCS" to find the RFP and related documents)

This Web page includes links to documents related to the RFP for HOOCS. Among these documents are the two cited below, which provide a description of system requirements and a conceptual description of the proposed system:

Attachment 1: Consultant's Technical Response, NYSDOT HOOCS RFP C030786, New York State Department of Transportation, April 2014.

https://www.dot.ny.gov/portal/pls/portal/MEXIS_APP.BC_CONSULTING_NONAE_ADMIN.VIEWFILE?p_file_id=11823

From the introduction: This document presents a revised set of instructions for consultants to tell NYSDOT how the HOOCS requirements are met or not met. Proposers are expected to populate this document with information to present the main technical portion of their proposed solution.

Attachment 14: Highway Oversize/Overweight Credentialing System (HOOCS) Overview, NYSDOT HOOCS RFP C030786, New York State Department of Transportation, April 2014.

https://www.dot.ny.gov/portal/pls/portal/MEXIS_APP.BC_CONSULTING_NONAE_ADMIN.VIEWFILE?p_file_id=11803

From the document: The purpose of the HOOCS Overview document is to provide a conceptual description of the envisioned system and the operational environment in which it is envisioned to be deployed. It is a vehicle for stakeholder discussion and consensus to ensure that the solution is feasible.

Note: The citations below describe the soon-to-be-updated operating environment for issuing OS/OW permits in New York. While OSCAR will be retained, after the launch of HOOCS the user's experience will likely be different from what is currently described in the Web pages cited below.

One Stop Credentialing and Registration (OSCAR), New York State Department of Taxation and Finance, undated.

<https://www.oscar.state.ny.us/OSCR/OSCRCarrierHome>

Motor carriers use this website to order OS/OW permits and conduct other carrier-related business. As the website indicates, "[t]he One Stop Credentialing and Registration (OSCAR) system provides motor carriers with a single website and point of contact for application of required New York State operating credentials over the internet. It streamlines a process that previously required a carrier to interact with as many as 4 different New York State agencies to obtain the operating credentials needed by an interstate carrier to be compliant with New York State requirements."

Ordering Special Hauling Permits Online, NY Permits, New York State Department of Transportation, undated.
<https://www.dot.ny.gov/nypermits/special-hauling-permits/permits-automation>

This website explains how to use OSCAR to apply for a special hauling permit.

Oversize/Overweight Vehicle Pre-Screening Tool, New York State Department of Transportation, undated.

<https://www.dot.ny.gov/osowscreen>

From the website: The pre-screening tool has been developed to help the transportation industry and the general traveling public with choices in both OS/OW and legal vehicle routing. This tool will help to identify appropriate routes of travel and travel restrictions. Travel restrictions depict physical constraints such as closed or weight restricted bridges as well as constraints of a more temporary nature, such as maintenance or construction projects.

North Dakota

E-Permits, North Dakota Highway Patrol, 2016.

<https://www.nd.gov/ndhp/motor-carrier/e-permits>

This website is the starting point for users to access EAR, the online system used in North Dakota to obtain OS/OW permits.

North Dakota Enhanced Automated Routing for E-Permits: ND State User Guide, North Dakota Highway Patrol, November 2014.

https://www.nd.gov/ndhp/sites/nd.gov.ndhp/files/docs/permits/North_Dakota_State_User_Guide_12.10.pdf

From the guide: This user guide describes the operational procedures for the ND EAR system and the screens encountered by users during those procedures. Motor Carriers, Permit Specialist[s], the Department of Transportation and Highway Patrol use the EAR system to route permits and to provide legal, safe routes for oversize/overweight vehicles and loads on North Dakota roadways.

“Automated Routing and Permit System,” News Release, North Dakota Highway Patrol, June 20, 2013.

<https://www.nd.gov/ndhp/media/automated-routing-and-permit-system-0>

From the news release: The North Dakota Highway Patrol [NDHP] launched a new automated routing and permit system on June 12. This \$2.5 million state-of-the-art online system automatically calculates overweight and oversized vehicle routes and permit fees. This system is a collaboration between the NDHP, North Dakota Department of Transportation and North Dakota Information Technology Department that took two years to complete.

North Dakota Highway Patrol Enhanced Automated Routing, Submission to NASCIO Awards Committee, State of North Dakota, 2014.

<http://www.nascio.org/portals/0/awards/nominations2014/2014/2014ND3-ND%20Highway%20Patrol%20Enhanced%20Automated%20Routing%20-Final.pdf>

This entry for an award issued by the National Association of State Chief Information Officers describes implementation of EAR and measurable results.

Texas

TxPROS Permitting System, Texas Department of Motor Vehicles, undated.

<https://txpros.txdmv.gov/>

This is the site for users to access TxPROS.

Texas Permitting and Routing Optimization System Online Customer Interface: User Guide, Texas Department of Motor Vehicles, October 2015.

http://www.txdmv.gov/publications-carriers/doc_download/1083-txpros-user-guide

This user guide includes screenshots and step-by-step instructions for using TxPROS.

State Assistance for County Roads: Testimony Before the Senate Select Committee on Transportation Funding, Whitney Brewster, Executive Director, Texas Department of Motor Vehicles, October 2013.

http://www.txdmv.gov/reports-and-data/doc_download/3333-senate-select-committee-on-transportation-funding-presentation-10-9-13

This presentation offers a detailed discussion of TxPROS and OS/OW permitting in Texas.

“Permitting Over Sized Loads In Texas,” Ray Hutchinson, Motor Carrier Division, Texas Department of Transportation, *Spring Meeting of the Western Association of State Highway and Transportation Officials Committee on Highway Transport*, March 2009.

<http://www.washto.org/docs/txpros.ppt>

This meeting presentation describes the agency’s OS/OW challenges and how TxPROS was expected to address them.

Virginia

Online Transactions, Virginia Department of Motor Vehicles, 2013.

https://www.dmv.virginia.gov/apps/vahps/vahps_home.aspx

This website describes and provides access to ARS, the online system used for approving and issuing hauling permits in Virginia.

Automated Routing Solution (ARS): Instruction Guide, Virginia Department of Motor Vehicles, undated.

https://www.dmv.virginia.gov/commercial/mcs/pdf/ars_tutorial.pdf

From the guide: The Automated Routing Solution (ARS) allows DMV to more quickly and efficiently approve hauling permits for oversize and overweight vehicles traveling throughout the Commonwealth. This will provide you with the ability to submit hauling permit applications electronically, self-issue certain types of hauling permits, and receive some hauling permits in one hour or less without DMV’s direct assistance.

The ARS route analysis process will check the continuity of your route, all horizontal and vertical clearances along the route, and all temporary restrictions (construction or otherwise) in effect during the extent of the permit. For overweight vehicles, ARS will perform an actual live load analysis of every structure your permit vehicle will cross over.

Wisconsin

WisDOT’s Oversize/Overweight (OSOW) Automated Issuance System, Wisconsin Department of Transportation, undated.

<http://wisconsin.dot.gov/Pages/dmv/com-drv-vehs/mtr-car-trkr/osow-autosys.aspx>

This website describes Wisconsin DOT’s online OS/OW permitting process. After completing registration using the agency’s Web Access Management System, users will receive an email from Wisconsin DOT with the link to a secure website and general instructions to begin the permit application process. Users may apply for and self-issue selected single-trip and multiple-trip permits online without staff intervention.

National Guidance

NCHRP Report 830: Multi-State, Multimodal, Oversize/Overweight Transportation, CPCS, Perkins Motor Transport, Inc. and Portscape, Inc., 2016.

<http://www.trb.org/Main/Blurbs/174838.aspx>

From the abstract: This report presents a comprehensive compilation and review of existing permitting requirements for the transportation of oversize/overweight (OSOW) freight throughout the United States. It identifies and presents information necessary to understand state-by-state differences in OSOW road transportation regulations and permitting practices, and the challenges these differences pose for carriers. It discusses factors affecting modal competitiveness in OSOW transportation as well as opportunities for improved modal access. The report also discusses ongoing and potential opportunities to improve information and procedural applications, covering the permitting process as well as the need for improved communication and coordination.

Transportation Safety: Federal Highway Administration Should Conduct Research to Determine Best Practices in Permitting Oversize Vehicles, Susan Fleming, U.S. Government Accountability Office, GAO-15-236, February 2015.

<http://www.gao.gov/assets/670/668711.pdf>

From the abstract: This report discusses (1) how DOT regulates and provides oversight of oversize vehicles and (2) how states regulate oversize vehicles. GAO collected information from 50 states and the District of Columbia about their permitting practices; reviewed relevant federal legislation and DOT regulations and documents; and interviewed DOT and state officials from a non-generalizable sample of 10 states, chosen based on a variety of considerations, including geographic diversity and types of permitting requirements. GAO recommends that DOT conduct a study on states' oversize- and overweight-permitting practices, including automated vehicle routing and escort driver certification, to identify areas of best practice and share the results with states. DOT agreed with GAO's recommendation and provided clarifying comments, which GAO incorporated.

Transportation Safety: Results of Collection of Information on State Permitting Practices for Oversize Vehicles (GAO-15-235SP, February 2015); An E-Supplement to GAO-15-236, U.S. Government Accountability Office, February 2015.

<http://www.gao.gov/special.pubs/gao-15-235sp/index.htm>

From the abstract: The U.S. Government Accountability Office (GAO) gathered information from officials in 50 states and the District of Columbia on their permitting practices for oversize and overweight vehicles and loads. ... This e-supplement contains additional information about states' vehicle size and weight requirements, permitting processes, and permit restrictions related to the transportation of oversize and overweight vehicles and loads. GAO gathered information from published permitting resources and state publications, which was then sent to state officials for verification.

Vendors

ProMiles Software Development Corporation, 2017.

<https://www.promiles.com/>

ProMiles Software Development Corporation has provided customized commercial systems for survey respondents in six states: Colorado, Georgia, Kansas, New York, North Dakota and Texas. This website describes the vendor's products and services.

SUPERLOAD: Automated Vehicle Permitting and Routing Software, Bentley Systems Inc., 2017.

<https://www.bentley.com/en/products/brands/superload>

This website describes Bentley's SUPERLOAD product, which is used by state agencies in Illinois, Iowa, Maryland, Virginia and Wisconsin for at least a portion of each agency's online OS/OW permitting.

Motor Carrier Credentialing Systems

Survey of Practice

Respondents from seven of the 11 states surveyed for this project described online motor carrier credentialing systems in these states:

- Iowa
- Kansas
- Maryland
- North Dakota
- Texas
- Virginia
- Wisconsin

Four states responding to the survey either do not support motor carrier credentialing systems or the respondents we contacted did not provide details of the online system:

- Respondents from Colorado and Illinois reported that a separate, viable online system was not used to issue and manage motor carrier credentialing.
- The Georgia DOT respondent noted that the DOT does not support a motor carrier credentialing system and was not able to provide information about such a system used in the state.
- A representative from New York State DOT provided detailed information about a new OS/OW permitting system but did not complete the portion of the survey related to the agency's motor carrier credentialing system.

Four states—Iowa, Maryland, Texas and Virginia—are preparing to replace existing systems that respondents described as outdated.

Survey results are presented below in these topic areas:

- System description
- System features
- System use
 - Use by law enforcement
 - Fully automated credentials
 - Operating authority credentials available online
- System costs
 - Strategies to encourage management support
- System assessment
 - System challenges
- Future plans

Citations for resources related to respondents' credentialing systems follow the presentation of survey results.

System Description

The following table describes the types of systems used by respondents, including the vendor, if applicable, system launch date and implementation period, the operating system and system hosting. Most systems have been in place for 10 or more years, and most were internally developed.

Respondents' Online Motor Carrier Credentialing Systems							
System Type	State	System(s)/Vendor	Launch Date	Time Required to Implement	Operating System	Hosting	Share Data with OS/OW System
Commercial product customized for agency use	Iowa	International Fuel Tax Agreement (IFTA) and International Registration Plan (IRP)/Celtic Systems	2008	1 year to less than 2 years	Microsoft Windows	Internal	Yes
	Kansas	CVIEW/Iteris Inc.	N/A	N/A	N/A	External*	Yes
Internally developed system	Maryland	Maryland International Registration Program (MIRP)	Approximately 2000	1 year to less than 2 years	Oracle Forms; Microsoft Windows	Internal	Yes
	North Dakota	Motor Carrier Online Services (CVISN)	2006	6 months to less than 1 year	Microsoft Windows	Internal	No
	Texas	Motor Carrier Credentialing System (MCCS)/Complaint Management System (CMS)	Approximately 2006	Less than 6 months	N/A	Internal	No
	Virginia	webCAT	2001 (Web application in 2012)	3 years or more	N/A	Internal	No
	Wisconsin	Wisconsin Carrier Registration System (WisCRS) (used by carriers); Carrier and Trucking System (CaTS) (used by insurance companies)	WisCRS: 2009 CaTS: 2003	2 years to less than 3 years	N/A	Internal	No

* Kansas State Patrol has its own system that is mirrored at the vendor site.

System Features

Respondents were asked to indicate which of 14 features are supported by their online systems. Six of the seven respondents completed this portion of the survey. None of the respondents’ systems track enforcement cases or hazardous materials incidents. The other features **least likely** to be supported by a respondent’s online system include:

- *Customized customer reporting.* Only Texas’ MCCA/CMS allows customers to generate custom reports.
- *Standard customer reporting.* Only systems in Iowa and North Dakota offer customers a standard set of reports.
- *Customized agency reporting.* Only systems in Iowa and Maryland offer this type of reporting.

The two tables below present survey responses.

System Features							
State	System(s)	Process New Credentials	Change Credentials	Allow Payment of Fees	Obtain Operating Authority	Renew Operating Authority	Issue Vehicle Decals
Iowa	IFTA/IRP	X	X		X	X	X
Maryland	MIRP	X	X	X	X	X	X
North Dakota	CVISN	X	X				
Texas	MCCA/CMS	X	X	X	X	X	
Virginia	webCAT	X	X	X			X
Wisconsin	WisCRS/CaTS	X	X	X	X	X	X
Number of Systems Supporting the Feature		6	6	4	4	4	4

System Features							
State	System(s)	Issue Operating Certificates	Print Credentials and Other Documents	Offer Standard Customer Reporting	Offer Customized Customer Reporting	Offer Standard Agency Reporting	Offer Customized Agency Reporting
Iowa	IFTA/IRP	X	X	X		X	X
Maryland	MIRP		X			X	X
North Dakota	CVISN		X	X		X	
Texas	MCCS/CMS	X	X		X		
Virginia	webCAT	X	X			X	
Wisconsin	WisCRS/CaTS	X	X				
Number of Systems Supporting the Feature		4	6	2	1	4	2

Two respondents highlighted additional features not addressed by the survey:

- Texas' MCCS/CMS can import scanned documents and allows for the faxing of documents.
- Virginia's webCAT processes title transactions and tax reporting.

System Use

Respondents were asked about use of the online motor carrier credentialing system, including:

- Use of the system by law enforcement personnel and the types of interaction between law enforcement and the credentialing agency.
- The types of credentials that are fully automated.
- The types of operating authority credentials that can be obtained through the online system.

Use by Law Enforcement

Only three responding states—Kansas, Maryland and Wisconsin—offer law enforcement personnel access to the motor carrier credentialing system. In Wisconsin, indirect access is available through the state's online law enforcement inquiry system and CVIEW.

More respondents offered information about the systems used to permit interaction between the credentialing agency and law enforcement personnel:

- Iowa DOT's IFTA/IRP system has a back-end connection to the state law enforcement agency's license plate lookup system.

- The motor carrier credentialing system in Kansas interfaces with the state’s OS/OW permitting system, K-TRIPS.
- Maryland DOT’s Motor Vehicle Administration updates CVIEW; law enforcement personnel have access to view this data.
- Law enforcement agencies in North Dakota obtain motor carrier credentialing information through the state’s participation in Nlets, an “interstate justice and public safety network in the nation for the exchange of law enforcement-, criminal justice-, and public safety-related information.” (See <http://www.nlets.org/> for more information.)
- Texas Department of Motor Vehicles maintains the Truck Stop website (<https://apps.txdmv.gov/apps/mccs/truckstop/>), which law enforcement and the general public can access to verify a carrier’s status, insurance information and vehicle information as well as the carrier company’s owners or officers. A telephone number is also available to law enforcement personnel to make inquiries.
- Virginia Department of Motor Vehicles investigates carriers on behalf of law enforcement, and also uses license plate readers at weigh stations when those readers are interfaced with the credentialing system.
- Law enforcement personnel engage with the credentialing agency in Wisconsin through CVIEW and a telephone hotline.

Fully Automated Credentials

Only three respondents—Iowa, Virginia and Wisconsin—offered information about the types of credentials that are fully automated and can be issued by the credentialing system without agency intervention. The table below summarizes survey responses.

Types of Fully Automated Credentials		
State	Credential Description	Comment
Iowa	<ul style="list-style-type: none"> • IFTA decals • IRP registration 	The online system generates an invoice and an email with a PDF that serves as a temporary document. Final processing is done by an in-house staff member who prints and mails the credentials.
Virginia	<ul style="list-style-type: none"> • IRP • Transferring plates • Reissuing cab card • All IRP transactions for self-credentialed motor carriers • IFTA tax returns 	N/A
Wisconsin	<ul style="list-style-type: none"> • IRP cab card • IFTA credential • IFTA stickers 	All credentials are printed and mailed by an in-house staff member.

Operating Authority Credentials Available Online

Only two respondents reported issuing operating authority credentials through their online systems:

- The Texas online system issues the Texas Motor Carrier Registration/TxDMV Number.
- WisDOT issues the “LC” credential for intrastate operating authority–property (operation within Wisconsin only) and the “PC” credential for intrastate operating authority–passenger.

System Costs

Respondents were asked about the costs for system implementation and ongoing maintenance, and the sources of funding to pay for those expenses. Three respondents—Maryland, North Dakota and Virginia—provided specific costs. Implementation costs ranged from a low of \$250,000 for Maryland’s MIRP to a high of \$2 million for North Dakota’s CVISN. The table below summarizes the survey responses.

System Costs					
State	System	Implementation		Maintenance	
		Cost	Source of Funding	Annual Cost	Source of Funding
Maryland	MIRP	\$250,000 (estimate)	DOT funds	Not provided	DOT funds
North Dakota	CVISN	\$2 million	State funds	\$200,000	State funds
Virginia	webCAT	\$680,000	Grants	Not provided	Not provided

While the Wisconsin DOT respondent was not able to provide specific costs for implementation and ongoing maintenance, he reported that the implementation of WisCRS and CaTS was funded primarily with state funds supplemented by federal grants. A mix of state funds and federal grants is also used for ongoing maintenance.

Strategies to Encourage Management Support

Only the Wisconsin DOT respondent addressed in detail the strategy or rationale used to encourage management support and funding for an online motor carrier credentialing system. These strategies included saving employee time, an overall interest in improving service to the motor carrier industry, phaseout of the agency’s previous system and availability of federal grant funding.

System Assessment

When asked to rate a series of system characteristics using the rating scale of 1 (not at all satisfied) to 5 (extremely satisfied), four of the six respondents answering this question gave a 4 or 5 rating for overall agency satisfaction with the system. (Ratings for some individual system characteristics were lower.) This is somewhat surprising, given that three of these respondents reported plans to upgrade or replace the existing system. The two respondents least satisfied with their systems—North Dakota and Iowa DOTs—gave overall system ratings of 2 and 3, respectively. (Iowa DOT is considering replacing its current system.) The Kansas respondent did not complete this portion of the survey. The table below provides respondents’ ratings of system characteristics.

System Assessment								
State	System(s)	Ease of Use	Flexibility	Reliability	Opportunity to Customize	Vendor Support	Customer Satisfaction with the System	Overall Agency Satisfaction with the System
Iowa	IFTA/IRP	3	2	2	2	3	3	3
Maryland	MIRP	3	3	4	3	4	4	4
North Dakota	CVISN	3	2	N/A	2	3	2	2
Texas	MCCS/CMS	5	5	5	5	4	4	5
Virginia	webCAT	3	3	4	3	3	4	4
Wisconsin	WisCRS/CaTS	4	4	4	4	N/A	4	4

In addition to rating a series of system characteristics, survey respondents were asked to describe specific benefits associated with their credentialing systems. Only Wisconsin DOT reported system benefits, noting that customer service has been enhanced by the system’s customer self-entry and processing.

System Challenges

When asked about system challenges, three agencies noted that their existing systems were outdated (Maryland and Virginia) or difficult to update (North Dakota). The system in use in North Dakota was developed in-house more than 10 years ago and has proved difficult to modify, providing limited opportunity for system enhancements such as online processing with no user intervention. The Wisconsin DOT respondent reported that it can be challenging to make the system changes needed to keep the system current.

Future Plans

Four of the seven respondents reported that their agencies are considering replacing online motor carrier credentialing systems:

- Iowa DOT’s replacement of IFTA/IRP is prompted by the lack of functionality in the current system and a desire to modernize it. The agency is in the very early stages of drafting system requirements and may solicit vendor support to provide technical assistance in preparing an RFP. Soliciting this vendor assistance depends on the availability of funding. The agency has applied for a federal grant to fund the replacement project; a response to that application is anticipated by the end of April 2017. If funding is obtained, the agency expects to issue an RFP later this year. If federal funds are not available for the project, the agency may prepare the RFP but not solicit for bids.
- The Maryland Motor Vehicle Administration is preparing to update its core operating systems. As part of that update, the agency has documented both the “as is” and “to be” processes and is currently reviewing them. The agency anticipates implementing a new MIRP system no later than 2020.
- Texas DOT is considering replacing its internally developed system with a new internally developed system; implementation of the new system is targeted for September 2017.
- Virginia’s Department of Motor Vehicles has issued an RFP to replace its current webCAT system.

Related Resources

State Systems

Iowa

International Fuel Tax Agreement (IFTA) and International Registration Plan (IRP) Online Processing, Iowa Department of Transportation, undated.

http://www.iowadot.gov/mvd/motorcarriers/ifta_irponline_apps.html

This website includes links to the online system and reference guides, and offers responses to frequently asked questions.

Texas

Motor Carrier Credentialing System—Complaint Management System, Version 20.0, Texas Department of Motor Vehicles, August 2015.

<https://apps.txdmv.gov/apps/mccs/motorcarrier/>

This is the website for users to access MCCS/CMS.

Motor Carrier Division: People, Products & Services, Texas Department of Motor Vehicles, April 2016.

http://www.txdmv.gov/txdmv-forms/doc_download/5319-txdmv-day-2016-mcd-overview

This presentation highlights the agency's credentialing and OS/OW programs.

Virginia

webCAT: DMV's Electronic Service for Titles, IRP and IFTA, Virginia Department of Motor Vehicles, 2016.

<https://www.dmv.virginia.gov/commercial/#mcs/webCAT.asp>

From the website: webCAT is a free electronic service offered by DMV for processing vehicle titles, International Registration Plan (IRP) and International Fuels Tax Agreement (IFTA) transactions. You can apply for and receive your credentials electronically, file quarterly tax returns and submit your payments direct from your office.

Wisconsin

Wisconsin Commercial Registration System WisCRS: IRP Training Manual for Extranet Users, Wisconsin Department of Transportation, May 2013.

<http://wisconsin.gov/Documents/dmv/shared/wiscrs-training-manual-irp-extranet.pdf>

This training manual describes how to order vehicle credentials, process and pay renewals, and make payments through WisCRS.

Online Insurance Filings by Underwriters, Wisconsin Department of Transportation, undated.

<http://wisconsin.gov/Pages/dmv/com-drv-vehs/mtr-car-trkr/online-ins.aspx>

This Web page describes how to access CaTS, the online application that allows insurance underwriters to file motor carrier insurance.

2016/2017 Motor Carrier Electronic Credential Pilot, Wisconsin Department of Transportation, undated.

<http://wisconsin.gov/Pages/dmv/com-drv-vehs/mtr-car-trkr/pilot.aspx>

From the website: The goal of this pilot program is to develop a system or process to promote the acceptance and use of electronic motor carrier credentials, instead of paper, roadside. Ultimately, this will save time for carriers, drivers and law enforcement as well as keep in-cab credentials up-to-date.

2016 Motor Carrier Electronic Credential Pilot (Extended Now Thru 9-30-17), Wisconsin Department of Transportation, July 2016.

<http://wisconsin.gov/Documents/dmv/shared/elect-cred-brochure.pdf>

This brochure offers more information about the electronic credentials pilot program.

Appendix A

Online Systems for Oversize and Overweight Freight Permitting and Motor Carrier Credentialing: Survey Questions

The following survey was provided to selected state agencies expected to have experience with online systems used to issue oversize/overweight (OS/OW) permits and motor carrier credentials. Respondents were asked to complete only the survey sections applicable to their experience.

Online Systems for Oversize/Overweight Permitting

System Description

1. What type of program or software does your agency use for online processing of OS/OW permits?
2. If your agency uses a commercial product (customized or off-the-shelf), what are the names of the product and vendor?
3. What is the system name most commonly used by system users?
4. Is your agency's permitting system hosted by a vendor?
5. What operating system is used for the permitting system?
6. When was the system implemented?
7. How long did it take to implement the system?

System Features

8. What features and functions are supported by the permitting system (even if you're not currently using them)? Select all that apply.
 - Issue permits for only the state highway system
 - Issue permits that include local roads
 - Issue regional permits
 - Issue single-trip permits
 - Issue blanket permits
 - Issue superload permits
 - Issue exempt permits
 - Transfer permits
 - Amend existing permits
 - Calculate permit fees
 - Allow payment of fees
 - Generate route information using real-time updates
 - Generate route information without real-time updates
 - Provide turn-by-turn directions
 - Identify temporary restrictions
 - Identify permanent restrictions
 - Allow customer inquiries about restrictions
 - Smartphone access
 - Tablet access
 - Allow users to print permits
 - Standard customer reporting
 - Customized customer reporting
 - Standard agency reporting
 - Customized agency reporting

9. Please describe other features and functions supported by your agency's permitting system that do not appear in the list above.
10. If available, please provide links below to documentation describing technical specifications or the scope of work for your agency's OS/OW permitting system. Send any files not available online to Chris Kline at chris.kline@ctcandassociates.com.

System Use

11. Are law enforcement personnel given access to the online permitting system?
12. What types of interaction take place between the permitting agency and law enforcement?
13. Does your agency participate in a city/county/regional permitting agreement to issue OS/OW permits? In other words, does your agency issue permits on behalf of, or coordinate with, local jurisdictions?
14. Please list below the types of permits that are fully automated and can be issued by the online permitting system without agency intervention.
15. What are the allowable dimensions/weights for permits that are fully automated?

System Costs

16. What was the cost to implement the system?
17. What are the annual maintenance costs?
18. What type of funding was used to implement the permitting system?
19. What strategies did your agency employ to obtain management approval to fund a new system or replace an existing system?
20. What type of funding is used for ongoing maintenance?

System Assessment

21. Please indicate your agency's level of satisfaction with each system characteristic listed below using the rating scale of 1 = not at all satisfied to 5 = extremely satisfied.
 - Ease of use
 - Flexibility
 - Reliability
 - Opportunity to customize
 - Vendor support
 - Customer satisfaction with the system
 - Overall agency satisfaction with the system
22. Listed below are possible benefits associated with an online permitting system. Please provide a brief description for each benefit that applies to your agency's system.
 - Cost savings
 - Time savings
 - Enhanced customer service

- Reduction in errors
- Improved carrier compliance
- Increased safety
- Other benefits

23. What challenges has your agency experienced in connection with its permitting system?

Future Plans

24. Is your agency considering replacing the system currently used for issuing OS/OW permits?

25. Is your agency considering replacing both the permitting and routing functions?

26. What vendors have been or will be considered?

27. Has your agency selected a new commercial system to purchase?

28. Has your agency set a target date to begin implementing the new system?

Wrap-Up

If you have collaborated with colleagues to complete this survey, please provide contact information for each person contributing to your survey responses.

Please use this space to provide any comments or additional information about your answers above.

Online Systems for Motor Carrier Credentialing

System Description

1. What type of program or software does your agency use to process applications for motor carrier credentials?
2. If your agency uses a commercial product (customized or off-the-shelf), what are the names of the product and vendor?
3. What is the system name most commonly used by system users?
4. Is your agency's credentialing system hosted by a vendor?
5. What operating system is used for the credentialing system?
6. When was the system implemented?
7. How long did it take to implement the system?

System Features

8. What features and functions are supported by the credentialing system (even if you're not currently using them)? Select all that apply.
 - Process new credentials
 - Change credentials
 - Allow payment of fees
 - Obtain operating authority
 - Print credentials and other documents
 - Track enforcement cases
 - Track hazardous materials incidents
 - Standard customer reporting

- Renew operating authority
- Issue vehicle decals
- Issue operating certificates
- Customized customer reporting
- Standard agency reporting
- Customized agency reporting

9. Please describe other features and functions supported by your agency's credentialing system that do not appear in the list above.
10. If available, please provide links below to documentation describing technical specifications or the scope of work for your agency's credentialing system. Send any files not available online to Chris Kline at chris.kline@ctcandassociates.com.

System Use

11. Are law enforcement personnel given access to the online credentialing system?
12. What types of interaction take place between the credentialing agency and law enforcement?
13. Please list below the types of credentials, if any, that are fully automated and can be issued by the online credentialing system without agency intervention.
14. Please list below the types of operating authority credentials that can be obtained using your agency's online system.

System Costs

15. What was the cost to implement the system?
16. What are the annual maintenance costs?
17. What type of funding was used to implement the credentialing system?
18. What strategies did your agency employ to obtain management approval to fund a new system or replace the existing system?
19. What type of funding is used for ongoing maintenance?

System Assessment

20. Please indicate your agency's level of satisfaction with each system characteristic listed below using the rating scale of 1 = not at all satisfied to 5 = extremely satisfied.
- Ease of use
 - Flexibility
 - Reliability
 - Opportunity to customize
 - Vendor support
 - Customer satisfaction with the system
 - Overall agency satisfaction with the system
21. Listed below are possible benefits associated with an online credentialing system. Please provide a brief description for each benefit that applies to your agency's system.
- Cost savings

- Time savings
- Enhanced customer service
- Reduction in errors
- Improved carrier compliance
- Increased safety
- Other benefits

22. What challenges has your agency experienced in connection with its credentialing system?

Future Plans

23. Is your agency considering replacing the system currently used for issuing motor carrier credentials?

24. What vendors have been or will be considered?

25. Has your agency selected a new commercial system to purchase?

26. Has your agency set a target date to begin implementing the new system?

Wrap-Up

If you have collaborated with colleagues to complete this survey, please provide contact information for each person contributing to your survey responses.

Please use this space to provide any comments or additional information about your answers above.

Appendix B

Online Systems for Oversize and Overweight Freight Permitting and Motor Carrier Credentialing: Contact Information

Below is contact information for the individuals responding to the survey or providing supplemental information for this report.

Colorado

Danny Wells
Colorado Department of Transportation
Manager, Permits Office
Danny.Wells@state.co.us, 303-757-9843

Georgia

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Georgia Department of Transportation
Operations Coordinator, Oversize Permits Unit
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Illinois

Geno Koehler
Illinois Department of Transportation
Chief, Permit Unit
Geno.Koehler@illinois.gov, 217-785-8967

Iowa

Alex Jansen
Iowa Department of Transportation
Office of Vehicle and Motor Carrier Services
Alexander.Jansen@iowadot.us, 515-237-3276

Kansas

Wally Ballou
Kansas Department of Transportation
Engineering Support Manager, Office of Information
Technology Services
Wally.Ballou@ks.gov, 785-296-4250

John Culbertson
Kansas Department of Transportation
Bridge Evaluation Engineer
John.Culbertson@ks.gov, 785-296-4434

John Maddox
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John.Maddox@ks.gov, 785-296-3228

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Maryland State Highway Administration
Motor Carrier Division
NBoehmer@mdot.state.md.us

Tina Sanders
Maryland State Highway Administration
Technical Support Manager, Motor Carrier Division
TSanders@sha.state.md.us, 410-582-5724

New York

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Office of Modal Safety and Security
Director, Central Permits Bureau
Michael.Mathioudakis@dot.ny.gov,
518-457-9800

North Dakota

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Manager, OS/OW Permits Section
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Vanessa Williams
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Appendix C

Online Systems for Oversize and Overweight Freight Permitting and Motor Carrier Credentialing: Supplemental Findings

Introduction

MnDOT's Office of Freight and Commercial Vehicle Operations (OFCVO) is preparing to develop a scope of work to design and implement new online systems that will replace two outdated systems:

- RouteBuilder, an oversize/overweight (OS/OW) freight permitting system with a routing component.
- Motor Carrier Information System (MCIS), which processes and tracks motor carrier credentials, operating authority and associated transactions. MCIS also tracks enforcement cases and hazardous materials incidents.

The OFCVO is interested in learning about the types of systems other state agencies use to manage these processes, including each system's functional and reporting capabilities, costs, benefits and drawbacks. This information will inform MnDOT's review of alternatives to the current systems.

A March 2017 Transportation Research Synthesis (TRS) presented results of an online survey distributed to selected state departments of transportation (DOTs) and other state agencies expected to have experience with online systems used for OS/OW permitting and motor carrier credentialing. Findings were presented in four sections:

- Current MnDOT Practice.
- Overview of Survey of Practice.
- Oversize/Overweight Permitting Systems.
 - Survey of Practice.
 - Related Resources.
- Motor Carrier Credentialing Systems.
 - Survey of Practice.
 - Related Resources.

The Technical Advisory Panel is seeking additional information to supplement the March 2017 TRS in these topic areas:

- Payment processing in OS/OW permitting systems.
- Follow-up questions about OS/OW permitting systems. These questions seek clarification of survey responses from respondents in Colorado, Maryland and New York.
- Systems used to issue operating authority credentials to for-hire operators. These operators include special transportation service providers (for elderly/disabled), limousine operators (luxury), motor

carriers of passengers (including charter buses), motor carriers of property, household goods movers, and building and house movers.

The following presents information gathered in these three new topic areas.

Summary of Supplemental Findings

Payment Processing in Online Oversize/Overweight Freight Permitting Programs

Respondents from 11 states participated in the initial survey for this TRS. The table below summarizes the OS/OW permitting systems described by survey respondents.

Respondents' Online OS/OW Permitting Systems				
Vendor	State	System	Launch Date	Hosting
Composite (internally developed and supplemented by Bentley Systems Inc. modules)	Illinois	Illinois Transportation Automated Permits (ITAP)	February 2013	Internally hosted except for the Bridge Analysis module hosted by Bentley Systems Inc.
	Virginia	Automated Routing Solution (ARS)	March 2010	Internally hosted; internal system supplemented by a few Bentley Systems Inc. modules.
Bentley Systems Inc.	Iowa	Iowa Automated Permitting System (IAPS)	2015	Hosted by vendor in its cloud domain.
	Maryland	Maryland One	May 2016	Hosted by vendor via annual subscription.
	Wisconsin	Superload	2002	Not hosted by vendor.
ProMiles Software Development Corporation	Colorado	Colorado Oversize Overweight Permitting and Routing (COOPR)	November 2014	Hosted in secure hosting facility (not associated with vendor).
	Georgia	Georgia Permitting and Routing Optimization System (GAPROS)	July 2014	Maintained and operated by vendor for the state of Georgia for a percentage of total permit revenues.
	Kansas	Kansas Truck Routing and Intelligent Permitting System (K-TRIPS)	Soft launch early December 2013; full launch late January 2014	Hosted by vendor for an annual fee; the 24/7 Web-based system is hosted off-site because the agency does not support a 24/7 environment.
	New York	Highway Oversize/Overweight Credentialing System (HOOCS)	Soft launch March 2017; full launch April 2017	Internally hosted.

Respondents' Online OS/OW Permitting Systems				
Vendor	State	System	Launch Date	Hosting
ProMiles Software Development Corporation	North Dakota	Enhanced Automated Routing (EAR)	June 2013	Routing hosted by vendor; other elements internally hosted.
	Texas	Texas Permitting and Routing Optimization System (TxPROS)	August 2011	Hosted by vendor.

To supplement the information gathered in the initial survey, the 11 participating agencies were asked to respond to the following questions related to the payment processing component of their agencies' online OS/OW freight permitting systems:

1. Does your OS/OW permitting system allow customers to pay for their permits online?
2. What payment service do you use? Select all that apply.
 - PayPal.
 - Apple Pay.
 - Other (please specify).
3. Where does the payment processing portion of your system reside?
 - Housed on a state server.
 - Housed by an autonomous payment service.
 - Other (please specify).
4. Is the payment processing portion of your OS/OW permitting system fully compliant with the Payment Card Industry Data Security Standard (PCI DSS)?
5. Have you identified any challenges with your use or your customers' use of the payment processing portion of your OS/OW permitting system?

All of the 11 agencies contacted responded. A summary of survey responses follows.

[Appendix D](#) lists the contact information for survey respondents and other individuals providing information for these supplemental findings.

Payment Services

All respondents reported that their OS/OW permitting systems allow customers to pay for their permits online. PayPal and LexisNexis are used by five respondents, with other respondents using a range of commercial providers. The table below summarizes survey responses.

Respondents' Payment Services	
State	Payment Service
New York, Virginia	Elavon
Illinois	Forte Payment Systems <i>Note: The state of Illinois plans to change its authorized provider of credit card services to JetPay. The implementation date is not known.</i>
Maryland	LexisNexis (VitalChek online payment service)
Kansas	LexisNexis and escrow
Colorado, Iowa¹, North Dakota	PayPal
Georgia	ProMiles Software Development Corporation <i>Note: ProMiles, the developer of GAPROS, maintains and operates GAPROS for the state of Georgia. The respondent reported that ProMiles is also the credit card processor.</i>
Texas²	Texas.gov (using an unspecified state contractor) and escrow
Wisconsin	U.S. Bank

- 1 Visa, MasterCard, Discover and American Express credit cards are accepted. Iowa DOT does not use PayPal funds.
- 2 OS/OW permits processed through TxPROS are handled through Texas.gov, as required by state law. Texas.gov will add a fee of 25 cents plus 2.25 percent to the total of the transaction.

Related Resources

Below are links to websites describing the vendor solutions used by survey respondents to provide payment processing services to customers purchasing OS/OW freight permits.

Elavon, undated.

<https://www.elavon.com/index.html>

This is the website for the vendor providing online payment processing for the New York and Virginia OS/OW permitting systems.

Forte, Forte Payment Systems, 2017.

<https://www.forte.net/direct-government/>

Illinois DOT is using Forte payment processing but plans to transition to JetPay.

JetPay, JetPay Corporation, 2017.

<https://www.jetpay.com/>

This is the website for the payment provider Illinois will transition to in the “near future.”

Kansas Truck Routing and Intelligent Permitting System, KS Company User Guide, Kansas Department of Transportation, undated.

<https://www.k-trips.com/KTRIPS%20Company%20User%20Guide%20and%20Training.pdf>

See page 51 of the guide (page 59 of the PDF) for screen shots and step-by-step instructions for the use of LexisNexis to process payments in K-TRIPS, the online OS/OW permitting system in Kansas.

PayPal, PayPal, 2017.

<https://www.paypal.com/us/home>

This is the website for the vendor providing payment processing services for the OS/OW permitting systems used in Colorado, Iowa and North Dakota.

VitalChek Network, LexisNexis Risk Solutions, 2017.

<https://vitalcheknetwork.com/>

Maryland One, the online OS/OW permitting system in Maryland, uses LexisNexis VitalChek to process payments.

Hosting the Payment Processing System

Respondents most often reported the use of a vendor server or an autonomous payment service when asked where the payment processing portion of their systems resides. The table below summarizes survey responses.

Location of the Payment Processing Portion of the OS/OW Online System	
State	Payment Processing System Location
Illinois, North Dakota	Housed on a state server
Maryland, New York, Wisconsin	Housed by an autonomous payment service
Colorado, Georgia, Kansas¹	Housed on the vendor’s server or by a secure hosting facility
Iowa	The payment engine is hosted on a cloud server along with the IAPS OS/OW permitting system. Information is passed securely to the PayPal server, and PayPal returns an authorization number. No credit card information is stored in the IAPS database.
Virginia	Interaction of vendor and state servers <i>Note:</i> When the payment screen appears, the customer is directed to Elavon payment page, then back to the state server.

1 Escrow accounts are handled internally through Kansas Department of Revenue.

Payment Processing System Compliance

The PCI Security Standards Council prescribes the Payment Card Industry Data Security Standard (PCI DSS), which “applies to all entities that store, process and/or transmit cardholder data. It covers technical and operational system components included in or connected to cardholder data.” Merchants accepting or processing payment cards must comply with the PCI DSS requirements, which include:

1. Install and maintain a firewall configuration to protect cardholder data.
2. Do not use vendor-supplied defaults for system passwords and other security parameters.
3. Protect stored cardholder data.
4. Encrypt transmission of cardholder data across open, public networks.
5. Use and regularly update anti-virus software or programs.
6. Develop and maintain secure systems and applications.
7. Restrict access to cardholder data by business need to know.
8. Assign a unique ID to each person with computer access.
9. Restrict physical access to cardholder data.
10. Track and monitor all access to network resources and cardholder data.
11. Regularly test security systems and processes.
12. Maintain a policy that addresses information security for all personnel.

(See the **PCI DSS Quick Reference Guide: Understanding the Payment Card Industry Data Security Standard**, Version 2.0, PCI Security Standards Council, LLC, 2010, for more information. This publication is available at <https://www.pcisecuritystandards.org/documents/PCI%20SSC%20Quick%20Reference%20Guide.pdf>.)

All respondents but one reported that their payment processing systems are PCI DSS-compliant. (The North Dakota DOT respondent did not know if the agency’s system is compliant.) In Iowa, PCI DSS certifications are conducted annually.

Payment Processing System Challenges

Almost two-thirds of the respondents reported no challenges with agency or customer use of the payment processing portion of the OS/OW permitting system:

- Colorado (PayPal).
- Georgia (GAPROS).
- Kansas and Maryland (LexisNexis).
- New York (Elavon).
- Texas (Texas.gov).
- Wisconsin (U.S. Bank).

Four respondents reported challenges with their payment processing systems:

- **Illinois (Forte; transitioning to JetPay).** At least one type of transaction does not permit the customer to initiate an online credit card payment: the assessment of fees for a no-response nonrefundable superload application. An update to the agency's accounting system will give customers the opportunity to initiate this type of payment.
- **Iowa (PayPal).** For the most part, the payment processing system "works very well"; the only issue is associated with making changes to the payment method. Once a credit card is authorized, the system cannot make changes, and a new application must be started.
- **North Dakota (PayPal).** The agency accepts payment by credit card or through ACH accounts. (Electronic payments made through the Automated Clearing House (ACH) network are an alternative to the use of paper checks and credit card payments. The ACH network transfers funds from one bank account to another.) When customers making payment with an ACH account switch account numbers prior to the OS/OW permitting system accepting and processing that change, the agency's accounting division must resend a request for payment using the new ACH account number.
- **Virginia (Elavon).** Customers would like to pay for multiple OS/OW permits at one time, but this option is not available in the current system.

Supplementing Previous Survey Responses Related to OS/OW Permitting Systems

The project panel sought additional information from three respondents participating in the initial survey. Below are responses from these respondents that provide new details of their OS/OW permitting systems.

Colorado. In the agency's response to the initial survey, the respondent noted that "[o]ur data did not have the degree of accuracy necessary to support an automated routing component. This system made our agency better in this regard." If Colorado DOT's new system prompted the agency to upgrade its data to support automated routing, what changes were required?

Response: Colorado DOT is currently comprised of five regions. Much like many other states, the agency had data that was dispersed in multiple databases in the headquarters office and across the five regions. When developing its OS/OW permitting system, the agency's efforts to better manage its data were two-fold: collect accurate and timely data (vertical clearance data required the most updating), and locate that data centrally in a single headquarters database.

Maryland. Are the permit proceeds collected with Maryland One distributed to the local agencies for permitting on local agency roads?

Response: Yes, through Maryland One, the state of Maryland processes permits and collects funds associated with OS/OW permitting in Baltimore City. These funds are dispersed to Baltimore each month. Funds are also collected for and dispersed to Maryland State Police, and to Maryland Transportation Authority for police escorts and engineering.

New York. The New York State DOT respondent provided responses to a range of follow-up questions:

Does New York State DOT issue the permits for the local government agencies, or do you collaborate with the local government agencies and each jurisdiction issues its own permits?

Response: New York State DOT does not issue any permits on behalf of other jurisdictions. HOOCS, the agency's OS/OW permitting system, will issue OS/OW permits for any New York state jurisdictions, municipalities, counties, agencies or authorities electing to become integrated OS/OW permitting partners with New York State DOT.

How do you plan to include counties, cities and state authorities in the permitting process over time?

Response: New York State DOT offers participation in HOOCS to other jurisdictions for no cost (provided that the implementation of the jurisdiction's OS/OW permitting business rules in HOOCS is relatively easy), and with no maintenance costs, for the duration of the original contract between New York State DOT and ProMiles Software Development Corporation (end of 2020). After 2020, all integrated partners will be charged maintenance and Web hosting fees that are proportionate to the number of permits issued by the partner jurisdiction.

What other transportation technologies are you planning to build a foundation of geospatial data to support?

Response: The agency is still in the planning stages but expects that the 511 system and similar systems will use New York State DOT's geographic information system (GIS).

Has New York State DOT developed data sharing practices between state agencies?

Response: Yes, the DOT partners with the Department of Motor Vehicles and the New York State Department of Taxation and Finance to issue OS/OW permits and operating authority credentials (operating authority credentials are issued outside of HOOCS).

You noted that "integrating with other systems is more important than constructing a single enterprise solution." Has New York State DOT integrated with any databases associated with law enforcement, road weather-related conditions, a linear referencing system or public safety?

Response: Yes, the agency has integrated with most of the databases referenced above and continues its work on this type of integration. More information about the agency's system integration will be available in the coming months.

Systems Used to Issue Operating Authority Credentials

The initial survey conducted for this project sought information about respondents' online systems used to issue motor carrier credentials. MnDOT is interested in the online systems used to issue operating authority credentials to for-hire operators such as special transportation service providers, limousine operators, motor carriers of passengers (including charter buses) and motor carriers of property.

In response to the initial survey, most respondents provided information about online systems associated with two programs—International Fuel Tax Agreement and International Registration Plan—which do not issue the type of credential of interest in this project. The lack of information specific to online systems used to issue operating authority credentials prompted a second attempt to survey the 11 respondents, with these questions:

Issuing Operating Authority Credentials

1. What types of operating authority are credentialed in your state?
2. What is the basis for your state's issuance of operating authority credentials?
 - State statute.
 - State rules.
 - Both state statute and state rules.
 - Other (please specify).
3. If your state's credentials are issued on the basis of state statute or state rules, please provide citations for the statute or rules.
4. What type(s) of credentials do for-hire operators and their companies receive? Select all that apply.
 - Paper certificate.
 - Vehicle inspection decal.
 - Registration decal.
 - Other (please specify).
5. How many credentials per authority type are issued in a year?
6. Is your credentialing system automated?

Issuing Operating Authority Credentials: System Description

1. What type of program or software does your agency use to issue operating authority credentials?
 - Internally developed program.
 - Commercial off-the-shelf product.
 - Commercial product customized for agency use.
2. If your agency uses a commercial product (customized or off-the-shelf), what are the names of the product and vendor?
3. What is the system name most commonly used by system users?
4. When was the system implemented?
5. What was the cost to develop and implement the system?
6. What is the annual cost to maintain the system?
7. Who maintains the system?
 - In-house staff.
 - Vendor.
 - In-house staff with vendor assistance.
 - Other (please specify).
8. Is your system cloud-based?

9. Please indicate below the systems with which your operating authority credentialing system interfaces. Select all that apply.

- International Fuel Tax Agreement (IFTA).
- International Registration Plan (IRP).
- Driver vehicle services.
- Oversize/overweight permitting.
- Safety and Fitness Electronic Records (SAFER).
- Other (please specify).

Issuing Operating Authority Credentials: System Use

1. Is your credentialing system accessible to customers?
2. Please list all credentials that are fully automated.
3. Please list all credentials that are partially automated.
4. Please list all credentials that are issued using a completely manual process.
5. If available, please provide links below to documentation relating to your agency's operating authority credentialing system. Send any files not available online to Chris Kline at chris.kline@ctcandassociates.com.

Completing the Survey

If you have collaborated with colleagues to complete this survey, please provide contact information for each person contributing to your survey responses.

Please use this space to provide any comments or additional information about your answers above.

Respondents from four states—New York, North Dakota, Virginia and Wisconsin—provided information about the issuance of operating authority credentials. Three of these states—New York, Virginia and Wisconsin—support automated systems; none of these systems are available to customers.

The Kansas and Iowa respondents indicated that their states do not employ online systems to issue operating authority credentials. The remaining respondents—from Colorado, Georgia, Illinois, Maryland and Texas—were not able to respond to questions about systems that issue operating authority credentials and did not provide contacts in other agencies that could address these questions. Limited information about some of these agencies' operating authority credentialing practices appears after this summary of survey results.

[Appendix D](#) lists the contact information for survey respondents and other individuals providing information for these supplemental findings.

Issuing Operating Authority Credentials

The motor carrier units of North Dakota and Wisconsin DOTs are responsible for issuing the operating authority credentials of interest to MnDOT. In Virginia, the Motor Carrier Services division of the Department of Motor

Vehicles (DMV) issues these credentials. The Motor Carrier Compliance Bureau in New York State DOT's Office of Modal Safety and Security is responsible for issuing operating authority credentials in New York State.

New York State DOT issues operating authority credentials in these categories:

- Passenger (common).
- Passenger (contract).
- Household goods.
- Property (except household goods).

In North Dakota, operating authority credentials are issued to:

- Motor carriers of passengers (including charter buses).
- Motor carriers of property.
- Household goods movers.
- House movers.

The Virginia DMV issues the following certificates and licenses to for-hire operators:

- Broker of passenger transportation license.
- Broker of property transportation license (eliminated effective Jan. 1, 2018).
- Sightseeing carrier certificate of fitness.
- Contract passenger carrier certificate of fitness.
- Nonemergency medical transportation carrier certificate of fitness.
- Household goods carrier certificate of fitness.
- Common carrier regular route certificate of public convenience and necessity.
- Common carrier irregular route certificate of public convenience and necessity.
- Transportation network company certificate of fitness.
- Bulk property carrier permit.
- Employee hauler permit.
- Taxicab permit.
- Nonprofit/tax-exempt passenger carrier permit.

Wisconsin DOT issues operating authority credentials in three categories:

- Local cartage/carrier (LC): Authority to operate intrastate carrying packages.
- Passenger carrier (PC): Authority to transport passengers intrastate.
- Rental company (RC): Authority to rent vehicles.

Authority for Credential Issuance

All four states' issuance of operating authority credentials is guided by state statute. State rules also guide issuance of operating authority credentials in New York and North Dakota. (The North Dakota respondent did not provide citations for the relevant statutes and rules.)

Citations for the state statutes and rules referenced by respondents appear below.

New York

Article 7, Carriers of Passengers by Motor Vehicles, New York State Transportation Law, 2015.

<http://law.justia.com/codes/new-york/2015/tra/article-7/>

See Sections 152 and 153 in this state law related to passenger carriers.

Article 8, Carriers of Property by Motor Vehicle, New York State Transportation Law, 2015.

<http://law.justia.com/codes/new-york/2015/tra/article-8/>

See Sections 172 and 173 in this state law related to property carriers.

Article 9, Carriers of Household Goods by Motor Vehicle, New York State Transportation Law, 2015.

<http://law.justia.com/codes/new-york/2015/tra/article-9/>

See Sections 191, 192 and 193 in this state law related to household goods carriers.

Chapter VI, Transportation Regulations, Title 17, Department of Transportation, New York Codes, Rules and Regulations, 2017.

<https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=Ice2d5ab0b1c711dd9fb3cdc96a8a111e&originationContext=documenttoc&transitionType=Default&contextData=sc.Default>

See Subchapters D and E for state rules that address motor carriers of passengers and property.

Virginia

Virginia Code Ann. §§ 46.2-2000 through 46.2-2099.53, Chapter 20, Regulation of Passenger Carriers, 2016.

<http://law.justia.com/codes/virginia/2016/title-46.2/chapter-20/>

This is the first of two chapters of the state code guiding the issuance of operating authority credentials in Virginia.

Virginia Code Ann. §§ 46.2-2100 through 46.2-2176, Chapter 21, Regulation of Property Carriers, 2016.

<http://law.justia.com/codes/virginia/2016/title-46.2/chapter-21/>

This is the second of two chapters of the state code guiding the issuance of operating authority credentials in Virginia.

Wisconsin

Wisconsin Code Ann. § 194.04, Certificates; licenses; permits, 2017.

<https://docs.legis.wisconsin.gov/statutes/statutes/194/04>

This is the statute addressing the issuance of operating authority certificates, licenses and permits in Wisconsin.

Type and Number of Credentials Issued

All four agencies issue paper certificates. (In Wisconsin, rental companies are not issued paper certificates.) Other types of credentials issued include a registration decal (North Dakota) and for-hire and/or nonemergency medical transportation license plates (Virginia).

Below is a summary of the number of credentials issued per year by three respondent agencies. (The North Dakota DOT respondent did not provide the number of credentials issued.)

New York State DOT

- Passenger (common): 50.
- Passenger (contract): 90.
- Household goods: 60.
- Property: 90.
- Vehicle IDs: 12,500 (for each intrastate vehicle of certificate holders).

Virginia DMV

- Broker of passenger transportation license: 4.
- Broker of property transportation license: 3.
- Sightseeing carrier certificate of fitness: 6.
- Contract passenger carrier certificate of fitness: 122.
- Nonemergency medical transportation carrier certificate of fitness: 81.
- Household goods carrier certificate of fitness: 16.
- Common carrier regular route certificate of public convenience and necessity: 1.
- Common carrier irregular route certificate of public convenience and necessity: 31.
- Transportation network company certificate of fitness: 0.
- Bulk property carrier permit: 607.
- Property carrier permit: 162.
- Employee hauler permit: 8.
- Taxicab permit: 587.
- Nonprofit/tax-exempt passenger carrier permit: 0.

Wisconsin DOT

- LC and PC authorities: 671 in 2015.
- LC and PC authorities: 598 in 2016.

The Wisconsin DOT respondent indicated that the higher number of authorities issued in 2015 was associated with a legislative change that required more individuals to obtain PC authority.

Credentialing System Description

The table below summarizes the three credentialing systems described by respondents.

Operating Authority Credentialing System Description					
State	System Type	System Name	When Implemented	System Maintenance	Cloud-Based?
New York	Commercial program customized for agency use	Carrier Certification and Compliance System (CARCERT)	1993	By in-house staff	No
Virginia	Internally developed program	Not provided	N/A	By in-house staff	No
Wisconsin	Internally developed program	Carrier and Trucking System (CaTS) ¹	2003	By in-house staff	Yes

- 1 In addition to its internal use to issue intrastate operating authorities, Wisconsin DOT's CaTS is used by insurance companies to file Form E, a form used to confirm that commercial auto insurance meets state guidelines.

None of the respondents could provide costs for system development or maintenance. The Wisconsin DOT respondent noted that a 2013 CaTS improvement project cost approximately \$170,000; the respondent estimates that CaTS' original development cost would have been at least double the cost of the 2013 upgrade. CaTS requires relatively little ongoing maintenance.

Only CaTS interfaces with other systems. SAFER data is accessed via an interface with Commercial Vehicle Information Exchange Window (CVIEW). The CVIEW interface also allows for intake of authority and insurance data. CaTS does not access any IRP/IFTA data systematically; agency staff checks that data manually when processing applications.

Automating Credential Issuance

Virginia is the only state to report some degree of automation in credential issuance. Motor Carrier Services staff members enter information from paper applications into the DMV's internal database to track and produce automated credentials for operating authority. Applications, supporting documents and files are kept manually. All credentials are manually issued in New York and Wisconsin.

Other States' Operating Authority Credentialing Practices

Five of the states contacted for this follow-up inquiry did not provide information about operating authority credentialing: Colorado, Georgia, Illinois, Maryland and Texas. Of these, only a Colorado survey respondent provided limited information about state operating authority credentialing practices.

Below are brief summaries of the operating authority credentialing practices in three of these states derived from publicly available information. An online system used by a fourth state—Texas—is described in the March 2017 report for this project; this system may issue the types of credentials of interest to MnDOT.

Colorado

In Colorado, the Motor Carrier Safety Section of the Colorado State Patrol issues intrastate DOT numbers. The state's Public Utilities Commission issues permits for household goods and hazardous materials, and also regulates buses, taxis and limousines.

The Public Utilities Commission maintains an online system to issue stamps to common carriers. Users must have an active permit in the agency's database to use the online system, available at [http://www.dora.state.co.us/pls/real/US\\$ Web.Logon?p_service=STAMPS](http://www.dora.state.co.us/pls/real/US$ Web.Logon?p_service=STAMPS), to purchase stamps or change an address. Payments can be made by credit card or electronic check. To obtain a permit, it appears that users must download a PDF application from the agency's website (see <https://www.colorado.gov/pacific/dora/common-carriers>) and submit the completed application as directed.

Georgia

The Georgia Department of Public Safety provides a checklist for motor carriers to identify the application needed for a specific type of activity (for example, transporting passengers or household goods) and the agency through which the application is processed (see <http://www.gamccd.net/LPCWhatDoINeed.aspx>).

Maryland

The Maryland Public Service Commission provides a brochure titled "Operating Authority: Passenger Carrier (except Taxis)" that offers answers to frequently asked questions. The brochure indicates that print applications must be submitted to the Transportation Division of the Public Service Commission (see <http://webapp.psc.state.md.us/Intranet/info/NewCarrierBrochureWeb.pdf>).

Texas

The Texas DMV respondent did not address questions related to operating authority. However, responses to the initial survey for this project described Texas DMV's Motor Carrier Credentialing System (MCCS)/Complaint Management System (CMS), and these systems may be relevant to MnDOT's interest in operating authority credentials. In response to the initial survey, the Texas DMV respondent noted that MCCS issues operating authority credentials (the Texas Motor Carrier Registration/TxDMV Number).

Below are citations that provide more information about the Texas DMV credentialing system.

Motor Carrier Credentialing System—Complaint Management System, Version 20.0, Texas Department of Motor Vehicles, August 2015.

<https://apps.txdmv.gov/apps/mccs/motorcarrier/>

This is the website for users to access MCCS/CMS.

Motor Carrier Division: People, Products & Services, Texas Department of Motor Vehicles, April 2016.

http://www.txdmv.gov/txdmv-forms/doc_download/5319-txdmv-day-2016-mcd-overview

This presentation highlights the agency's credentialing and OS/OW programs.

Appendix D

Online Systems for Oversize and Overweight Freight Permitting and Motor Carrier Credentialing: Supplemental Findings

Contact Information

Below is contact information for the individuals responding to the follow-up survey or providing supplemental information for this report.

Colorado

Jeffrey Byers
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Danny Wells
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Georgia

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Illinois

Peggy Ford
Illinois Department of Transportation
Acting Organizational and Financial Manager, Bureau
of Operations
Peggy.Ford@illinois.gov, 217-782-4530

Geno Koehler
Illinois Department of Transportation
Chief, Permit Unit
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Iowa

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Kansas

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John Culbertson
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Bridge Evaluation Engineer
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John Maddox
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Maryland

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Texas

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Wisconsin

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