NEW YORK STATE ASSOCIATION OF MPOs

TRANSPORTATION SYSTEM MANAGEMENT & OPERATIONS (TSMO) WORKING GROUP
September 16, 2015
MEETING NOTES

1. **Participating**

CDTC – Chris O'Neil
GBNRTC – Hal Morse
GTC – Joe Bovenzi
HOCTS - Richard Reichert
NYMTC – Jan Khan
PDCTC – Mark Debald
NYSDOT – Jim Davis, Michele Bager

FHWA - Timothy Crothers

NOCoE – Dennis Motiani, Executive Director
RSG – Steve Gayle, Corey Mack

2. **Presentation – National Operations Center of Excellence (NOCoE) [D. Motiani]**

Website: http://www.transportationops.org/
Planning for Operations Discussion Forum: http://forum.transportationops.org/forum/9-planning-for-operations/

D. Motiani introduced himself and background to the NOCoE. Dennis was the Assistant Commissioner for Operations at NJDOT. He and the NOCoE organizations have recognized the need for greater coordination between transportation planning and operations staff. The planning community needs operations data when developing plans, and operations staff need more planning forethought than ITS recommendations at the end of the project.

The Center is a partnership of AASHTO, ITE, and ITSA with support from FHWA. In addition, 24 states have contributed to the center to support their research and sharing efforts.

The NOCoE website was started originally from SHRP2 with a focus on reliability, but has since grown to be a clearinghouse of information for highway operations resources. The website hosts RTSMO information, allows for peer-to-peer knowledge sharing, distributes a monthly newsletter with updates, posts research and SHRP data, presents a variety of webinars, and provides many other resources.

The Planning for Operations discussion forum is the focus of today's presentation. The forum can be accessed from the link above, or by clicking the "Discussion" heading on the home page, and then clicking the "Planning for Operations" forum title.

Registered visitors to the Forums can create conversations, ask and answer questions, participate in the conversation, follow the conversations and receive notifications on updates to the conversation.
Action Item: All members of the TSMO Working Groups are encouraged to register on the NOCoE website, sign up for the newsletters, review the webinar offerings, and participate in the discussion forum.

3. Roundtable

a. MPO Updates

GTC (J. Bovenzi):
The MPO is beginning to work on a new Transportation System Management and Operations Strategic Plan. The kick-off meeting is scheduled for October, and the GTC will provide the group with updates, lessons learned, and best practices uncovered along the process. The Strategic Plan is intended to address the impact of connected vehicles, themes of recurring versus nonrecurring congestion, travel time indices, and make use of INRIX data.

NYSDOT and NY State Police are presenting a day-long transportation incident management course at St John Fisher College in Rochester on Saturday October 17. There will be education and discussion forums on hazmat response, safety in work zones, crash reconstruction. The seminar has been developed for an audience of first responders.

GBNRTC (Hal Morse):
H. Morse noted three upcoming workshops in and around the Buffalo area:

Integrating Planning for Operations into Metropolitan Transportation Plans and Programs: A Workshop, September 21 and 22 in Buffalo (flyer attached).

Modeling Workshop

Ramp Metering Workshop in Rochester

NYMTC (J. Kahn):
J. Kahn noted that NYMTC is updating their LRTP, and as a result the organization is looking to update the Transportation Systems and Corridor Management Plans. A Scope of Work has been prepared, and the work is expected to get started in earnest in December.

b. NYSDOT Update (J. Davis)

J. Davis noted that NYSDOT was awarded a grant to prepare two large Integrated Corridor Management Plans: I-90 in Buffalo and I-495 through NY Metro, from Queens to New Jersey. The kick off meeting was held recently in NYC, with one PowerPoint introduction slide, followed by a variety of tables, with each table staffed by peer experts. The tables were focused on specific topics, such as freeway management, arterial management, incident management, transit priority, BRT opportunities, and other concepts. The conversation was rich and will help define the concept of operations management moving forward.

NPMRDS / HERE Data Set

In conjunction with a development effort with University at Albany AVAIL (Albany Visualization and Informatics Lab), the web-based reliability tool is live. The tool allows users to query specific corridors and evaluate performance measures such as planning indices, travel time, volume data, and others, based on the NPMRDS / HERE data set made available by FHWA. Note that the NYAMPO Modeling Working Group is acting in an official capacity as technical advisors to the project. More information is available here: http://nysmpos.org/wordpress/wp-content/uploads/2015/07/16_Introducing-Web-Based-Reliability-Tools_3A.pdf

Other data sets may be available for integration into the tool. Several issues can be refined, such as arterial speed measurement with respect to delay at traffic signals.

Action Item: NPMRDS / HERE Web Based Reliability Tool on December Agenda.

c. FHWA Update (T. Crothers)

Tim noted everything on his agenda had been discussed.

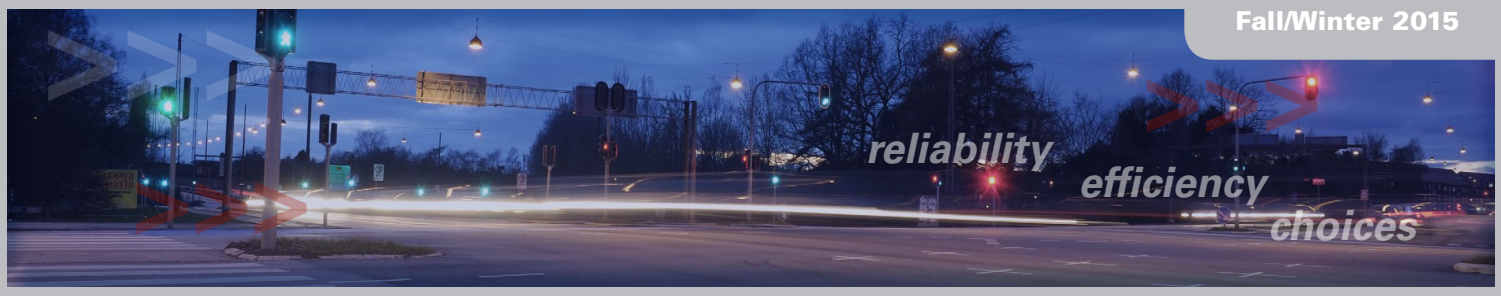
4. Other Items

Possible presentations at next meeting:

- Rick McDonough - Highway Oversize/Overweight Credentialing System (HOOCS). Rick has developed a coordinated permitting system for use by county and state officials. Rick has offered to give an overview of the program to the Working Group.
- Joah Sapphire – Connected Vehicle Deployments and MPOs. Joah can lead a discussion on the impacts of connected vehicles to the MPO responsibilities.

5. **Next meeting:**

December 16, 2015
1:00 p.m.



WORKSHOP DATE & TIME:

September 21, 2015
1:00 PM to 4:30 PM

September 22, 2015
8:00 AM to 4:30 PM

LOCATION:

237 Main Street
Bank Level Conference Room
Buffalo, NY 14203

COST: Free

What is Planning for Operations?

A joint effort between planners and operators to integrate management and operations (M&O) strategies into the planning process for the purpose of improving regional transportation system efficiency, reliability, and options.

For more information on the workshop contact:

Hal Morse, GBNRTC
716-856-2026x311
hmorse@gbnrtc.org

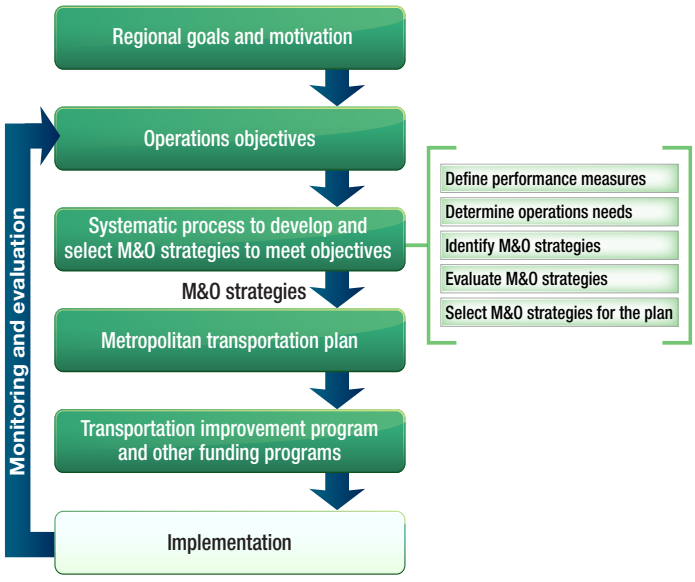
Integrating Planning for Operations
into Metropolitan Transportation Plans and Programs
A Workshop

This workshop equips planners and operators to integrate operations into the metropolitan transportation planning process using an objectives-driven, performance-based approach, consistent with MAP-21, the Moving Ahead for Progress in the 21st Century Act. The approach focuses on reaching desired system performance outcomes rather than just responding to problems.

Illustrated in the diagram below, the objectives-driven, performance-based approach includes:

- Development and use of operations objectives - specific, measurable statements of performance to include in the metropolitan transportation plan
- Performance measures and data to analyze the effectiveness of M&O strategies and track progress toward meeting operations objectives
- Selection and funding of M&O strategies
- Interagency collaboration

The workshop highlights models for integrating operations into a metropolitan transportation plan and provides participants with an overview of possible operations funding options and notable practices of programming for operations. Through a combination of presentation, discussion, and activities, participants explore methods for developing targeted operations objectives and making more informed selections of management and operations strategies. Participants also identify steps for improving planning for operations capabilities at their organizations.



Who Should Attend?

Directors, transportation planners, and senior operators from metropolitan planning organizations, State DOTs, transit agencies, local governments, and other participants in the transportation planning process. The workshop is designed for regions that are interested in advancing planning for operations in their metropolitan transportation plans and programs using a performance-based approach.

U.S. Department of Transportation
Federal Highway Administration

What are Management and Operations Strategies?

Programs, projects, or services designed to get the safest and most efficient use out of existing and planned infrastructure. Examples include:

- Traffic incident management
- Traveler information services
- Traffic signal coordination
- Transit priority/integration
- Freight management
- Work zone management
- Special event management
- Road weather management
- Active transportation and demand management

U.S. Department of Transportation Planning for Operations Resources at:

http://plan4operations.dot.gov/

Workshop Modules:

Benefit-Cost Analysis of Operational Strategies
Introduction to a systematic process for calculating and comparing benefits and costs of operations projects to support decisionmaking.

Integrating Travel Demand Management into the Transportation Planning Process
Overview on fully integrating travel demand management throughout the planning process and how it can address major policy objectives.

Draft Workshop Agenda for Buffalo, New York

***Day One* / Afternoon:**

Welcome and Introductions
Introduction to Planning for Operations
An Objectives-Driven, Performance-Based Approach
Operations in the Metropolitan Transportation Plan

***Day Two*/ Morning:**

Selecting and Refining Operations Objectives and Performance Measures
Activity
Making an Informed Selection of M&O Strategies to Achieve Operations Objectives
Monitoring and Evaluating
Programming for Operations

***Day Two* / Afternoon:**

Module: Benefit-Cost Analysis of Operational Strategies
Module: Integrating Travel Demand Management into the Transportation Planning Process
FHWA Metropolitan Planning for Operations Capability Maturity Model: Creating an Action Plan for Advancing Planning for Operations

Please RSVP by Monday, September 7 2015 to:

Jocelyn Bauer, Leidos
jocelyn.k.bauer@leidos.com
Phone: 703.318.4594

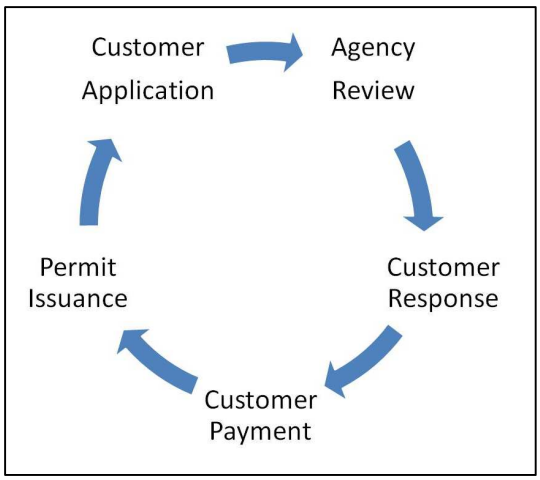
INTEGRATED OVERSIZE/OVERWEIGHT HEAVY VEHICLE PERMITTING WITH HOOCS

Problem: Multiple Jurisdictions, Multiple Permits

A key challenge in oversize/overweight (OS/OW) heavy vehicle permitting is to balance the public's interest in safety and asset management with the industry's interest in efficient operations. OS/OW permitting regulations, vehicle size and weight laws, and/or administrative practices vary within New York, and these differences can be a barrier to safe, legal, and efficient movement of OS/OW loads. Efforts to "harmonize" size and weight rules and regulations have had mixed success. A patchwork of permit types and requirements is created, and communication with carriers and other jurisdictions is difficult.

Solution: Use Technology to Increase Coordination

Increasingly, however, technology can make OS/OW permitting more efficient with online "one-stop-shopping" OS/OW permit clearinghouses. These clearinghouses provide many of the benefits associated with permit harmonization yet do not require legislation or regulatory changes. Enabled by modern web-based software, electronic communications, and mapping applications, integrated permitting initiatives reduce permit transaction costs for carriers and permit program administration costs for the public sector. Building from a history of successful, customer-driven commercial vehicle credentialing initiatives, the New York State Department of Transportation (NYSDOT) is among the agencies working to advance these initiatives.



Permitting Cycle

An overarching goal is to reduce the number of transactions in the permitting cycle (i.e. application, review, response, payment, and issuance) for permit customers. Reducing these transactions requires an additional layer of coordination on permitting entities, but technologies like GIS mapping, web-based software applications, pervasive electronic communication, and electronic payment make fast, efficient coordination among permitting jurisdictions possible. One-stop-shopping platforms, such as Amazon.com's Marketplace, have proven the concept, and government has embraced technology's ability to improve customer service and streamline operations. These developments have put the benefits of one-stop-shopping for OS/OW permits, or "integrated permitting," within reach.

Integrated Permitting

Permit integration is fundamentally customer-driven. The objective of integration at the application stage is to ask customers only once for the information needed to evaluate a permit application for approval. In a way largely transparent to the carrier, this single application would be supported by a designated proxy system. Each participating jurisdiction would provide to this system all the data fields needed to issue their OS/OW permits, including common fields like route information, vehicle configuration, axle weights, fee structure, etc. as well as any fields unique to the jurisdiction. This information would then be used to create a single online application form.

Each jurisdiction would then point their customers to the proxy system that then collects all data using the single application. The proxy system subsequently can coordinate or manage the review process by feeding data to each permitting entity for each to conduct the required application review, receiving each jurisdiction's decision, and managing the payment and permit issuance process. Throughout, the customer would use the proxy system as its main point of contact. The objectives of integration in subsequent stages of the permitting cycle are similar—decisions (i.e. approve or deny) should be communicated only once and fees paid only once—regardless of how many permitting entities are involved in a single application.

Permit integration *does not* require any changes to the underlying business rules, reviewing criteria, fee structure, or other "back office" permit administration practices internal to each permitting jurisdiction. There would be no loss of autonomy or control over permit administration, and each permitting jurisdiction would remain able to issue permits from their own offices; the proxy system would simply provide an additional, more efficient method for carriers to obtain multiple permits where required. Integration is also very flexible, and modern automated permitting systems make possible a variety of coordination mechanisms and can be based upon user roles, system-to-system communication, emails, or other communication methods.

NYSDOT Highway Oversize/Overweight Credentialing System (HOOCS)

In January 2015, NYSDOT kicked off the Highway Oversize/Overweight Credentialing System (HOOCS) project. The intent of HOOCS is to build a modern, web-based permitting application with customer-based account management, automated GIS-based routing, and streamlined structural review functionality. Once complete, customers using HOOCS will be able to self-issue a significant proportion of permits that do not require manual review—nearly instantaneously, in many cases.

HOOCS is also being configured to serve as NYSDOT's platform for integrated permitting, and at system launch, an integration with the New York State Thruway Authority will be available so that customers can obtain both NYSDOT and NYSTA permits with one application available on

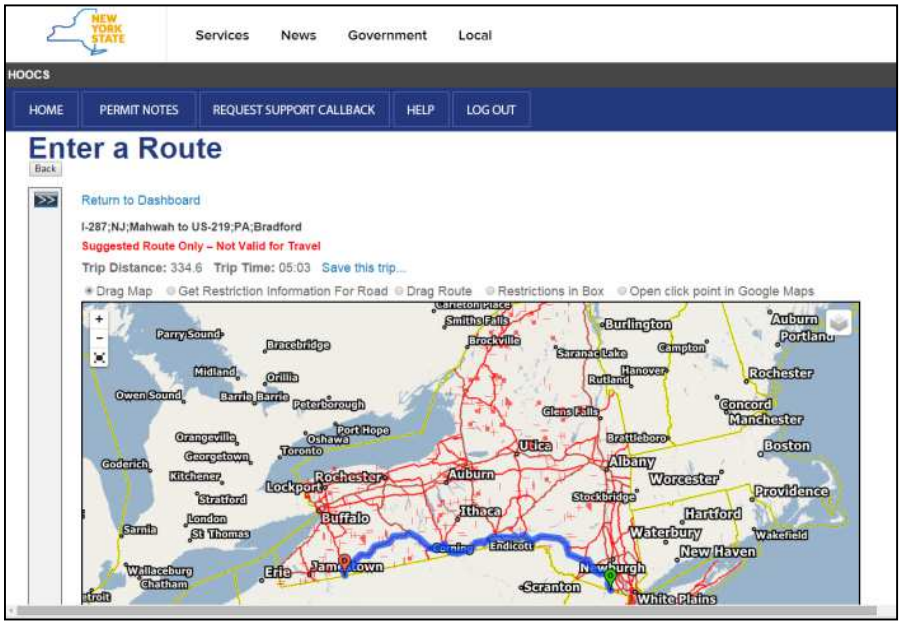
the web. As an integration platform, HOOCS will be highly flexible and adaptable, allowing HOOCS to integrate with agencies having varying types of information technology needs.

Pathways to Integration in HOOCS

At a high level, achieving permit integration in HOOCS can be accomplished through one of several coordination methods. These methods, all of which start with sharing data to support permit review, fall on a continuum of back-office and system integration and are detailed below. In all forms of integration, HOOCS can function as the proxy system and does so based upon business rules specified by each permitting jurisdiction and agreed upon with NYSDOT.

Option #1: Single Application, Single Response, Single Payment with Application Sharing

In this option, HOOCS performs all account management, receives all applications, manages all restrictions, performs the routing, performs any structural review and/or analysis, collects and/or reconciles all payment, and issues permit credentials. Each permitting jurisdiction is assigned a user role within the HOOCS system. HOOCS acts as a proxy and becomes a shared automated permitting application for all permit business involving the cooperating jurisdictions based upon agree-to rules and procedures. Each jurisdiction would maintain separate manual review capacity where required. Each jurisdiction would also set its own specific business rules for permit application review. The HOOCS system is customized to reflect the permit practices of each jurisdiction that adopts HOOCS as their permit issuance system.



HOOCS Customer Route Selection Screenshot

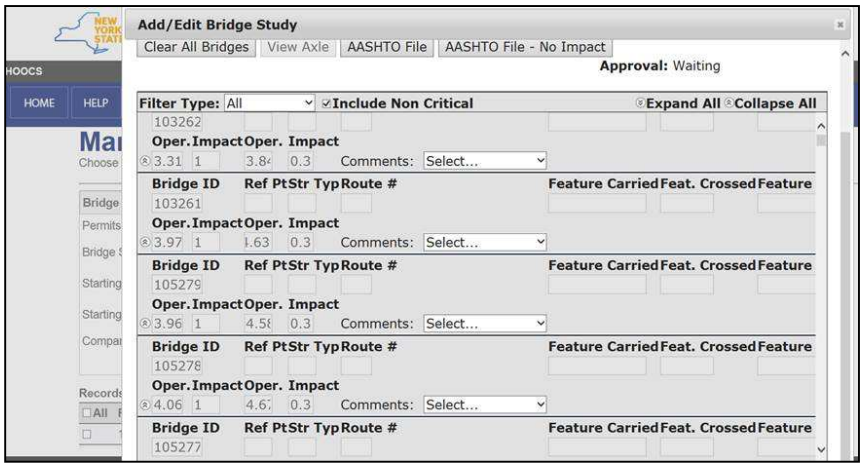
To enable this option, each jurisdiction creates an administrative account in the HOOCS system and becomes a HOOCS administrative user. With this role, permitting staff are able to sign in, view the permit queue, address permits requiring manual review, maintain routing data, see financial data, obtain reports, and manage other aspects of the permit process. Their changes and activities are limited to their permit types and their road segments.

Option #2: Single Application, Single Response, Single Payment

In this option, the customer response and receiving of payment steps are merged and performed by HOOCS so that the customer sees only a single response and submits only one payment for a route involving one or more permits. Transparent to the customer, HOOCS reconciles payment between the permitting jurisdictions involved. Though the application, response, and payment are merged, each jurisdiction reviews permit applications separately; the proxy system acts as a data gathering, communication, and payment platform.

Option #3: Single Application, Coordinated Response

In this option, HOOCS acts as the proxy system and is configured to capture data required by all permitting jurisdictions with which it is integrated. Each jurisdiction directs the customer to use HOOCS to apply for its permit and HOOCS then presents the customer with a single, web-based permit application. Customers can be directed to HOOCS by hyperlinks or can use checkboxes or something similar; HOOCS will also be able to automate this by analyzing the jurisdictions along a carrier's proposed route.



HOOCS Bridge Analysis Screenshot

After receiving an application, HOOCS sends each involved permitting jurisdiction a copy of the application (e.g. by being issued a user role in the proxy system or via email from the proxy system). Involved jurisdictions would then independently conduct all necessary reviews, and each would render decisions individually—i.e. without significant change to existing protocols. Involved jurisdictions can optionally notify NYSDOT through HOOCS of their decision (i.e. approve/disapprove) upon completion of their review. Finally, each would send to the customer a separate response, collect payment, and issue the permit.

Option #4: Automated Notification

HOOCS will have the ability to automatically notify all road owners along a proposed route whenever a permitted vehicle may be traveling on their system and might require a permit. Upon approving a permit, HOOCS sends an email to a contact specified by each jurisdiction involved in that permitted route.

Summary of Integrated Permitting Benefits in HOOCS

The table below summarizes the benefits associated with each integrated permitting option HOOCS makes available to permitting agencies.

Benefit	Integration Option #1	Integration Option #2	Integration Option #3	Integration Option #4
Enhanced coordination among permitting jurisdictions	●	●	●	●
Carriers enter data only once regardless of number of permits needed.	●	●	●	
Reduction of situations where carriers have a valid permit for only one portion of a route.	●	●	●	
Streamlined communication to carriers of status of their permit application.	●	●		
Payment processing is centralized, reducing costs to agencies.	●	●		
Carries gain the ability to self-issue permits for multi-jurisdiction routes.	●			
Efficiencies associated with modern, automated routing and integrated permit review systems made available to partner agencies at little or no cost.	●			
Creation of a single, authoritative source of OS/OW-related operational information, such as clearances, temporary restrictions, and turn restrictions/maneuvers.	●			

Highway Oversize/Overweight Credentialing System (HOOCs)

Transformation of the State's Permitting Process

Briefing Document

The Office of Modal Safety and Security (OMSS), Central Permits Bureau has begun the Highway Oversize/Overweight Credentialing System (HOOCS) project to implement a web-based oversize/overweight (OS/OW) routing and permitting application. The vendor team, selected after a competitive process, is being led by ProMiles Software Development Corporation. The project kicked off in late January 2015, and system development is currently in progress. The tentative schedule has a "soft" launch of the HOOCS system summer 2016 with full system launch scheduled for fall 2016.

The intent of HOOCS is to modernize issuance of OS/OW permits, including special hauling and divisible load permits, and streamline the process by automating tasks as much as possible. To this end, HOOCS will enable customers to electronically generate approved routes for trip permits using NYS-owned GIS data; streamline the structural review process; improve restriction management; and include customer-based account management. The system will enable permit applications that meet established permitting criteria to be auto-issued instantaneously, greatly reducing program administrative costs. The goals include improved permit delivery as well as to achieve a high proportion of self-issued permits.

The HOOCS application will reside on New York State's IT infrastructure and provide online, web-based interfaces for internal and external users. This design will support modern e-business transactions, including online application, electronic payment, support for mobile devices, and e-permitting. The system architecture will allow HOOCS to be scalable to address increased demand, and will be a mission-critical, high-availability application.

HOOCS will also serve as NYSDOT's platform to accomplish integrated permitting objectives. HOOCS will support customer service-driven integration of the permitting operations of other jurisdictions, including cities, towns, and counties. For many routes, OS/OW carriers must obtain permits from these local governments—an often time-consuming process with safety, efficiency, and compliance costs. Some of these jurisdictions may maintain separate applications to support their permitting operations.

At system launch, for example, HOOCS will provide "one-stop-shopping" for OS/OW customers requiring both a NYSDOT and a NYS Thruway Authority permit and be able to coordinate issuing permits with the Thruway via systems integration between NYSDOT and NYSTA. This integration does not include modification of regulations or back-office permit review standards. OMSS is pursuing similar arrangements with other states, bridge agencies, and New York State municipal governments. Integration options can range from providing agencies unique user accounts to system-to-system connections via web services or auto-generated emails.

More broadly, these efforts in the OS/OW permitting domain are dovetail with related New York State efforts to achieve savings, improve municipal efficiency, and increase safety. NYSDOT and other State agencies are increasingly partnering with municipalities to improve data and address issues that have historically been local responsibilities. For instance, to address federal requirements, NYSDOT is migrating to a common basemap the data underlying certain highway performance and safety programs. This mapping includes all public roads—not just State-owned roads. In turn, NYSDOT has

leveraged State-owned street network GIS data to create this basemap. Municipal governments are increasingly responsible for maintaining these data in partnership with State agencies and leveraged with common applications and computing resources.

As a complex, multi-faceted, enterprise-level application needed to support a billion-dollar freight transportation industry, HOOCS will necessitate investments of resources from multiple NYSDOT units as well as multiple state agencies. But the payoff associated with these investments will be significant—for the Department, the State, and the OS/OW freight transportation industry.

The HOOCS project will make internal OS/OW permitting processes more efficient and result in measurable cost savings in the Regions and for the Department. By its very design, HOOCS will also allow NYSDOT to address many of the findings of the recent OSC permitting program audit; improved internal controls, permit recordkeeping, programmatic oversight, and expanded payment options will all be built into the system. Further, the Permit Office supports a freight transportation industry that contributes significantly to the NYS economy, and HOOCS will improve customer service, increase industry compliance, and streamline industry permit transactions.