

How to Improve Performance on Corridors of National Significance

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16. Abstract The patterns of movement for intercity passenger and freight traffic are influenced not only by population centers and political boundaries but also by corridors. The goal of this project is to study how states can work together to use performance management elements to improve corridor performance in the MAP-21 goal areas of safety, infrastructure condition, freight movement and economic vitality, and congestion reduction and system reliability. Corridor organizations in different parts of the country may be investigating similar issues and may benefit from cross population of data. A summary of noteworthy practices from among selected coalitions across the country is provided. A key goal of this project involves the incorporation of current information on performance management along with corridor-level planning, management, and operations. The development of a "maturity model" is intended to help agencies gauge how corridor-level planning and monitoring activities within their jurisdiction compare with current national standards as well as the future standards envisioned under MAP-21 for effective interstate corridor performance management. This maturity model is described and tested on two case study coalitions. Finally, an implementation plan contains practical recommendations for agencies on improving and enhancing corridor management activities within their jurisdictions while taking into account each corridor's unique characteristics and priorities.			
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1.0 Introduction

The patterns of movement for intercity passenger and freight traffic are influenced not only by population centers and political boundaries but also by corridors. The goal of the Federal Highway Administration's (FHWA) "*Research How to Improve Performance on Corridors of National Significance*" project is to study how states can work together to use performance management elements to improve corridor performance in the MAP-21 goal areas of safety, infrastructure condition, freight movement and economic vitality, and congestion reduction and system reliability.

Corridor organizations fulfill an important gap in Federal and state planning processes by identifying the needs of individual corridors and making these needs known to potential decision-makers. The assets that make up these corridors are addressed through state planning efforts, yet corridor organizations provide a useful additional perspective on the needs of corridors in their entirety. These organizations often arise through cooperative efforts to respond to specific identified deficiencies that are not being adequately addressed through existing planning processes. With their organic structure, corridor organizations can draw upon the expertise of state, local, educational, and nonprofit organizations to develop a range of potential and plausible solutions for transportation problems. Corridor organizations can coordinate planning within a state, between states or even with Canada and Mexico. They can be oriented around a particular mode, or around a particular focus area. Some may be more focused on day to day operations, while others are more focused on long-term planning, and still others develop the institutional frameworks to deal with both.

The FHWA has been actively involved in supporting corridor organizations and coalitions since the passage of ISTEA in 1991. Recently, the FHWA authorized a new round of funding for the Multistate Corridor Operations and Management Program (MCOM) which is intended to promote regional cooperation, planning, and shared project implementation for programs and projects to improve multimodal transportation system management and operations.

Today there are over 25 recognized corridor organizations around the United States with varying levels and sophistication and maturity. Because these organizations evolved independently of each other, they have different institutional structures, different approaches to funding, and different definitions of success. For example, some organizations may explicitly state that their mission is to address a specific time-sensitive issue. Once the issue is resolved, the organization will disband. Other organizations may be active in cyclical patterns, such as those dealing with winter operations or periodic funding cycles. Thus, the level of activity a corridor organization generates or the length of time it has been in existence does not necessarily correspond with the organization's effectiveness.

The heterogeneous nature of corridor organizations can sometimes obscure their activities to observers at the national level. While a handful of corridor organizations have achieved national prominence, most are regionally oriented. A lack of familiarity with the role and function of different corridor organizations can mean that research and data that has been collected by these organizations are not included within relevant national planning efforts. Corridor organizations in different parts of the country may be investigating the similar issues and may benefit from cross population of data. Section 2.0 of this report provides a summary of noteworthy practices from among selected coalitions across the country.

A key goal of this project involves the incorporation of current information on performance management along with corridor-level planning, management, and operations. The development of a “maturity model” is intended to help agencies gauge how corridor-level planning and monitoring activities within their jurisdiction compare with current national standards as well as the future standards envisioned under MAP-21 for effective interstate corridor performance management. This maturity model is described and tested on two case study coalitions in Section 3.0. Finally, Section 4.0 provides an implementation plan with practical recommendations for agencies on improving and enhancing corridor management activities within their jurisdictions while taking into account each corridor’s unique characteristics and priorities.

2.0 Noteworthy Practices in Corridor Performance Management

2.1 INTRODUCTION AND SELECTION OF CORRIDORS

Due to the diversity of organizations and their goals, the term “noteworthy practices” refers to those practices that make corridor organizations unique and reflect the ways in which corridor organizations have integrated their activities with those of stakeholders.

The documentation of noteworthy practices by existing corridor coalitions is intended to support the implementation plan outlined in Section 4.0. The corridors included within the following review of noteworthy practices were screened in accordance with the following criteria:

- **Geographic Diversity** - The selected corridors represent different parts of the country - with different passenger and freight flow dynamics and other differentiating characteristics. Examples of different corridor types include a heavily urbanized Interstate highway corridor linking major metropolitan areas; a rural NHS corridor connecting major agricultural regions to markets; and an international trade corridor serving as a conduit for NAFTA goods.
- **Data Availability** - While there are national data available for all corridors (e.g., HPMS and NBIAS), some corridor organizations have better data available because of the magnitude of passenger and freight flows on the corridors. For example, some corridors with higher freight flows have more representative Freight Analysis Framework (FAF) data to describe trends and conditions, and some have speed and reliability data available through FHWA’s Freight Performance Measures Initiative (FPMWeb).
- **Institutions** - Corridor advocacy and coordination groups and state Departments of Transportation (DOT) have traditionally collected additional performance metrics and data that can be helpful for corridor monitoring and management. For example, the I-95 Corridor Coalition collects and maps real-time speed data, which could serve as a template for monitoring long-term performance. Another example is the Georgia DOT which has served as custodian over data collection and planning efforts for the High-Priority Corridors within its jurisdictions. Some coalitions are focused on the need for new infrastructure to spur economic development focused, while others are more concerned with the management of existing transportation assets. Some coalitions establish formal structures while others operate on a more

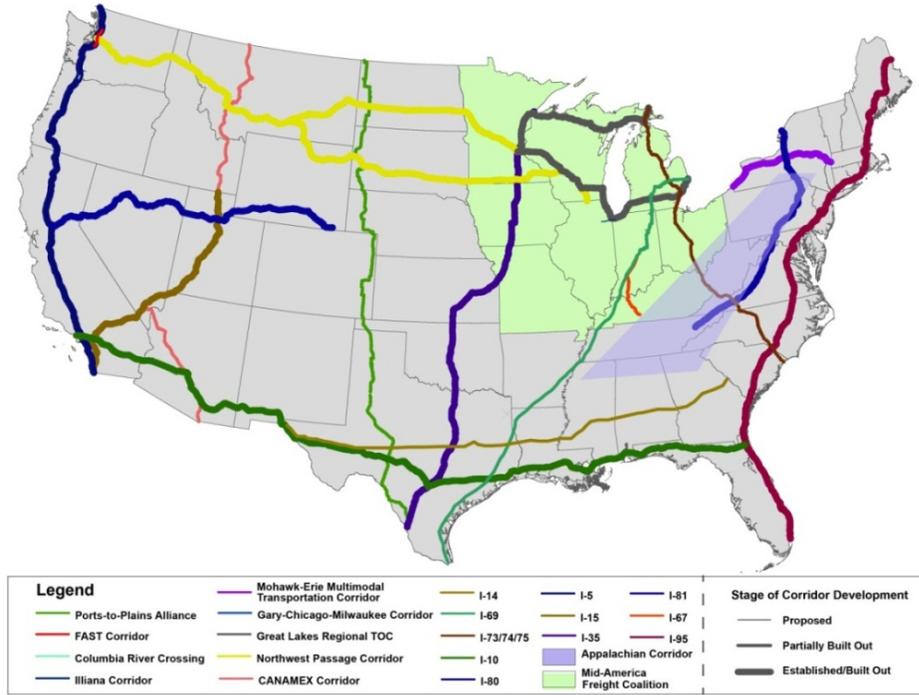
informal basis. Some coalitions focus on a single linear stretch, while others operate at more of a regional level and affect numerous corridors.

- **Goal Areas** - Some corridors may provide examples of great processes in place specifically focused on improving freight performance, whereas other agencies may be focusing on managing safety in a corridor in a collaborative manner. Therefore, it is important to try to capture as many of the goal areas as possible.
- **Multimodalism** - The corridors may include a variety of modes. This element may be captured as an element of the maturity model rather than as a screening criterion.

The corridors examined are shown in Figure 2.1. These corridors are organized into a matrix for easy reference in Table 2.1. Under the column labeled “Goal Area(s),” the corridors are categorized in accordance with their principal focus areas to which significant resources have been dedicated. Only some of the key noteworthy practices were reviewed for each corridor: these are identified in the columns entitled “Noteworthy Practices,” and are further described in Section 2.2.

Beyond the formal institutions reviewed in the report, there are many “informal” corridors that benefit from multiagency cooperation to enhance planning and operations. The private sector also tracks corridor performance. Many large shippers, third-party logistics firms (3PLs), and carriers define these corridors as “lanes” and maintain network or policy models that are sensitive to variables such as speed and truck size and weight. Most performance metrics are financial or support a return on investment (ROI) calculation. These types of analyses, performance monitoring, and models are used not only to aid in operations but also for longer term (5- to 10-year) planning.

Figure 2.1 Corridors with Identified Noteworthy Practices



Source: Cambridge Systematics, Inc.

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Table 2.1 Corridor Diversity for Noteworthy Practices

Corridor Name	Corridor Location/Description	States Included	Corridor Typology – Urban	Corridor Typology – Rural	Corridor Typology – International Trade	Goal Area(s) – Freight/Economic Vitality	Goal Area(s) – Safety	Goal Area(s) – Mobility/Reliability	Goal Area(s) – Operations	Goal Area(s) – Preservation	Other Focus Areas – Environment/Livability	Other Focus Areas – Connectivity	Other Focus Areas – Multimodal
Ports-to-Plains Trade Corridor	Laredo, Texas to Alberta, Canada	TX, NM, OK, CO, KS, NE, WY, SD, ND, MO	N/A	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Yes
I-5 (Columbia River Crossing)	Portland, Oregon to Vancouver, Washington (approximately 15 miles)	WA, OR	Yes	N/A	N/A	Yes	Yes	Yes	N/A	N/A	Yes	N/A	Yes
Mohawk-Erie Multimodal Transportation Corridor	From Maine state line to Pennsylvania along Erie Canal (400 miles)	NY	Yes	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Yes
I-15 Corridor	Southern California to Northern Utah (1,470 miles)	CA, NV, AZ, UT	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes
I-95 Corridor	South Florida to Maine/New Brunswick Border (1,840 mi)	FL, GA, SC, NC, VA, DC, MD, DE, PA, NJ, NY, CT, RI, MA, NH, ME	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes
I-67	Indianapolis to Bowling Green, Kentucky	IN, KY	N/A	Yes	N/A	Yes	Yes	Yes	N/A	Yes	Yes	N/A	Yes
Illiana Corridor	From I-55 in Illinois to I-65 in Indiana	IL, IN	Yes	N/A	N/A	Yes	N/A	Yes	N/A	N/A	N/A	N/A	Yes
I-81 Corridor	From New York to Tennessee as a key freight route alternative to I-95	NY, PA, WV, MD, VA, TN		Yes	N/A	Yes	Yes	Yes	N/A	Yes	Yes	N/A	Yes
NASCO Corridor	Mexico to Canada along I-35	Mex, TX, OK, KS, MO, IA, MN, Can	N/A	N/A	Yes	Yes	N/A	Yes	N/A	N/A	N/A	N/A	Yes
I-69	Planned from Brownsville, Texas to Michigan as a second NAFTA corridor	TX, LA, AR, TN, KY	N/A	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A
Gulf Coast Strategic Highway System/ “Forts to Ports”/I-14	Connects Fort Bliss (El Paso, Texas), Fort Hood (Killeen, Texas), Fort Stewart, Georgia to ports and military facilities in between.	TX, LA, MS, (AL, GA unofficially)	N/A	N/A	Yes	Yes	N/A	Yes	N/A	N/A	Yes	N/A	Yes
Appalachian Development Highway System	Network connecting Appalachia to IHS	AL, GA, KY, MD, MI, NY, NC, OH, PA, SC, TN, VA, WV	N/A	Yes	N/A	Yes	N/A	N/A	N/A	N/A	N/A	Yes	Yes
Lake Michigan Interstate Gateway Alliance (former GCM Corridor)	Interstate highways covering 51 counties in southern Wisconsin, northern Illinois, northern Indiana, and southwestern Michigan	IN, IL, MI, WI	Yes	Yes	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes
CANAMEX	Nogales, Arizona to Montana/Alberta Border (I-19, I-10, U.S. 93, I-15)	AZ, NV, UT, MT	N/A	Yes	Yes	Yes	N/A	Yes	N/A	N/A	N/A	N/A	Yes
I-5 (West Coast Corridor Coalition)	North-south connectivity between the Pacific States	AK, CA, OR, WA	N/A	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Yes
I-80	Sacramento, California to Cheyenne, Wyoming (1,086 miles)	CA, NV, UT, WY	N/A	Yes	N/A	Yes	N/A	Yes	N/A	Yes	N/A	N/A	N/A

Table 2.2 Instances of Noteworthy Practices by Corridor

Corridor Name	Corridor Location/Description	States Included	Performance Management Processes – Goals and Objectives	Performance Management Processes – Performance Measures	Performance Management Processes – Target Setting	Performance Management Processes – Resource Allocation	Performance Management Processes – Performance Monitoring and Reporting	Performance Management Processes – Management and Operations	Performance Management Processes – Integration into Planning and Programming	Technology/Tools – Data Collection/Availability	Technology/Tools – Data Sharing/Standardization	Technology/Tools – Analysis Tools/Capabilities	Technology/Tools – Availability of Data to Corridor Users	Institutional/Governance – Mobilization of Partners	Institutional/Governance – Oversight/Leadership/Strategic Direction	Institutional/Governance – Organizational Structure	Institutional/Governance – Organization Funding	Institutional/Governance – Collaboration Among Modal Partners	Institutional/Governance – Collaboration with Planning Partners
Ports-to-Plains Trade Corridor	Laredo, Texas to Alberta, Canada	TX, NM, OK, CO, KS, NE, WY, SD, ND, MO	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	N/A	N/A	N/A	N/A
I-5 (Columbia River Crossing)	Portland, Oregon to Vancouver, Washington (approximately 15 miles)	WA, OR	Yes	Yes	N/A	N/A	N/A	Yes	Yes	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Yes	N/A	Yes
Mohawk-Erie Multimodal Transportation Corridor	From Maine state line to Pennsylvania along Erie Canal (400 miles)	NY	Yes	Yes	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	N/A	Yes	N/A	N/A	Yes	Yes	Yes
I-15 Corridor	Southern California to Northern Utah (1,470 miles)	CA, NV, AZ, UT	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	N/A	Yes	N/A	N/A	N/A	N/A	Yes	Yes
I-95 Corridor	South Florida to Maine/New Brunswick Border (1,840 mi)	FL, GA, SC, NC, VA, DC, MD, DE, PA, NJ, NY, CT, RI, MA, NH, ME	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes
I-67	Indianapolis to Bowling Green, Kentucky	IN, KY	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A
Illiana Corridor	From I-55 in Illinois to I-65 in Indiana	IL, IN	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A
I-81 Corridor	From New York to Tennessee as a key freight route alternative to I-95	NY, PA, WV, MD, VA, TN	Yes	Yes	Yes	N/A	Yes	Yes	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NASCO Corridor	Mexico to Canada along I-35	Mex, TX, OK, KS, MO, IA, MN, Can	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	N/A	Yes	N/A	Yes	Yes	Yes
I-69	Planned from Brownsville, Texas to Michigan as a second NAFTA corridor	TX, LA, AR, TN, KY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Corridor Name	Corridor Location/Description	States Included	Performance Management Processes – Goals and Objectives	Performance Management Processes – Performance Measures	Performance Management Processes – Target Setting	Performance Management Processes – Resource Allocation	Performance Management Processes – Performance Monitoring and Reporting	Performance Management Processes – Management and Operations	Performance Management Processes – Integration into Planning and Programming	Technology/Tools – Data Collection/Availability	Technology/Tools – Data Sharing/Standardization	Technology/Tools – Analysis Tools/Capabilities	Technology/Tools – Availability of Data to Corridor Users	Institutional/Governance – Mobilization of Partners	Institutional/Governance – Oversight/Leadership/Strategic Direction	Institutional/Governance – Organizational Structure	Institutional/Governance – Organization Funding	Institutional/Governance – Collaboration Among Modal Partners	Institutional/Governance – Collaboration with Planning Partners
Gulf Coast Strategic Highway System/“Forts to Ports”/I-14)	Connects Fort Bliss (El Paso, Texas), Fort Hood (Killeen, Texas), Fort Stewart, Georgia to ports and military facilities in between.	TX, LA, MS, (AL, GA unofficially)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A
Appalachian Development Highway System	Network connecting Appalachia to IHS	AL, GA, KY, MD, MI, NY, NC, OH, PA, SC, TN, VA, WV	Yes	Yes	Yes	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	N/A	Yes	N/A	Yes	N/A	Yes
Lake Michigan Interstate Gateway Alliance (former GCM Corridor)	Interstate highways covering 51 counties in southern Wisconsin, northern Illinois, northern Indiana, and southwestern Michigan	IN, IL, MI, WI	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	N/A	Yes	N/A	Yes	Yes	N/A	Yes	Yes
CANAMEX	Nogales, Arizona to Montana/Alberta Border (I-19, I-10, U.S. 93, I-15)	AZ, NV, UT, MT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I-5 (West Coast Corridor Coalition)	North-south connectivity between the Pacific States	AK, CA, OR, WA	Yes	N/A	N/A	N/A	N/A	Yes	N/A	Yes	N/A	N/A	N/A	Yes	Yes	Yes	Yes	N/A	Yes
I-80	Sacramento, California to Cheyenne, Wyoming (1,086 miles)	CA, NV, UT, WY	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	N/A	Yes	Yes	N/A	Yes	N/A	Yes
North/West Passage Corridor	I-90 and I-94 between Wisconsin and Washington State	WA, ID, MT, WY, ND, SD, MN, WI	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	Yes	N/A	N/A	Yes	Yes	N/A	Yes	N/A	N/A
Great Lakes Region	Major routes connecting Minneapolis to Toronto	IL, IN, MI, MN, WI, Ontario	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	Yes	N/A	N/A	N/A	N/A	N/A	Yes

Corridor Name	Corridor Location/Description	States Included	Performance Management Processes – Goals and Objectives	Performance Management Processes – Performance Measures	Performance Management Processes – Target Setting	Performance Management Processes – Resource Allocation	Performance Management Processes – Performance Monitoring and Reporting	Performance Management Processes – Management and Operations	Performance Management Processes – Integration into Planning and Programming	Technology/Tools – Data Collection/Availability	Technology/Tools – Data Sharing/Standardization	Technology/Tools – Analysis Tools/Capabilities	Technology/Tools – Availability of Data to Corridor Users	Institutional/Governance – Mobilization of Partners	Institutional/Governance – Oversight/Leadership/Strategic Direction	Institutional/Governance – Organizational Structure	Institutional/Governance – Organization Funding	Institutional/Governance – Collaboration Among Modal Partners	Institutional/Governance – Collaboration with Planning Partners
Mid-America Freight Coalition	Serving industries and farms in the Mississippi Valley	IA, IL, IN, MI, MO, MN, KY, KS, WI, OH	Yes	Yes	N/A	N/A	N/A	Yes	N/A	N/A	Yes	N/A	N/A	N/A	Yes	Yes	Yes	N/A	Yes
I-10 Freight Corridor	I-10 from California to Florida (2,500 miles)	CA, AZ, NM, TX, LA, MS, AL, FL	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	Yes
I-73/I-74/I-75 Corridor	North-south corridor from Michigan to Myrtle Beach	MI, OH, WV, VA, NC, SC	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A
FAST Corridor	Everett-Seattle-Tacoma Corridor	WA	Yes	N/A	N/A	Yes	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes
Tri-State Performance Measures Partnership	Maine, New Hampshire, and Vermont	ME, NH, VT	Yes	Yes	Yes	N/A	Yes	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maine East-West Corridor	East-west between Canadian borders at Calais and Coburn Gore	ME	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A

2.2 SUMMARY OF NOTEWORTHY PRACTICES

Performance Management Processes

Key Points

- Goals and objectives provide the foundation for a performance management framework, and are core among the coalitions evaluated in this study.
- Progress towards goals is commonly monitored through the establishment of performance measures.
- Some coalitions use performance management to help make decisions and allocate resources within the corridor, thereby integrating the coalition activities into each member's planning and programming processes.

Summary

Goals and objectives provide the foundation for a performance management framework, and are core among the coalitions evaluated in this study. Establishing this through an initial strategic planning process is usually one of the first steps in the development of such coalitions. Goals such as safety, mobility, and efficient operations are common. At present relatively few coalitions directly use data collected through performance measures to direct funding decisions or other project prioritization activities. Organizations use a number of methods to track their internal efficacy and to ensure that they continue to provide a useful purpose for their membership. This includes periodically reviewing and revising goals and strategies to remain consistent with the priorities of members.

The I-81 Corridor Coalition has goal areas (safety) as well as specific, aggressive objectives on how to use performance management, including rollout of data and tools, user access, and target-setting. The I-80 Winter Operations Coalition developed two key objectives: Provide travelers with the information they need to make informed route and travel decisions, and coordinate maintenance and operations to promote consistency across state lines.

Freight and economic competitiveness also are common goals, and are articulated as central themes by Mohawk-Erie and ARC. The Mid-America Freight Coalition is freight and industry focused, and regional – rather than corridor-specific – in nature. The Gulf Coast Strategic Highway Coalition also is freight-oriented, but also adds military-related goals. Washington's FAST corridor is freight focused, but its goals span multiple modes: Improve the functionality, capacity, and connectivity of the mainline rail system; Eliminate chokepoints where railroad and arterial networks intersect; Provide safe railcrossings and reliable emergency access for local communities; and Establish reliable truck links between ports, railroad intermodal yards, and regional distribution centers.

I-35/NASCO has three key goals unique for a corridor organization in that they can be regarded as niche areas rather than a more global objective of improving mobility: transportation innovation and security, energy efficiency along the corridor, and logistics workforce development. NASCO has purposely decided to specialize in areas that were not being addressed by state DOTs or Federal agencies.

In the case of NASCO, these goals and objectives have evolved over time. The organization was established in order to advocate for additional infrastructure investment along I-35; however, it has grown into an organization that is focused more on operational coordination among different jurisdictions as opposed to a focus on specific projects. It also has grown from a highway centric organization to one that emphasizes multimodalism.

Progress towards these goals is then monitored through the establishment of performance measures. The use of performance measures along these corridors is often limited by the data that are available along their entirety (other measures may be reported on a state-by-state basis as part of those states' ongoing performance management initiatives). The I-95 Corridor Coalition focuses on mobility-oriented measures related to speeds, travel time, and delay. ARC has identified four outcome measures that it tracks on an annual basis, linked to each of its goals:

- Number of jobs created or retained;
- Number of students/trainees with improvements;
- Number of households served with new or improved water and/or sewer infrastructure, and number of jobs created or retained; and
- Net increase in the number of miles of the ADHS open to traffic.

ARC's performance measures are part of a larger performance management approach designed to accomplish two primary objectives. The first was to maintain compliance with the Government Performance and Results Act of 1993 (GPRA) in measuring the outcomes of ARC projects. The second is to create a process that allowed for both feedback from grantees and analysis of funded projects in an effort to improve programming. ARC produces an annual performance and accountability report, publically available on the ARC web site. The report identifies the fiscal year results achieved and charts historic and projected progress toward its 12-year strategic plan performance targets. This strategic plan establishes 6-year targets as well, based on assumptions of annual funding continuing at 2010 levels.

Like ARC, **some coalitions take performance management to the next level by using it to help make decisions and allocate resources within the corridor, thereby integrating the coalition activities into each member's planning and programming processes.** The North/West Passage Corridor has developed an Intelligent Transportation System (ITS) Integrated Strategic Plan and has

successfully implemented five work plans containing 24 projects. Currently the group is completing its sixth work plan consisting of 7 projects.

For the purposes of applying an evaluation framework to rank potential projects within the corridor, the Mohawk-Erie PAC members assigned weights to the goals and objectives based on their relative importance. Performance measures were linked to these goals, and an evaluation tool developed to help prioritize projects that have not received full funding. Projects already in the pipeline that already are committed and fully funded will not be evaluated. The process looks at projects in terms of how they serve the priorities and business clusters identified in the corridor.

Technology/Tools

Key Points

- Many Coalitions strengthen their technology and tools for better corridor management through compiling and sharing static data, reports, and best practices.
- Some coalitions collect and use real-time data and manage daily operations.
- Some coalitions develop or purchase models and tools to analyze data, understand deficiencies, and prioritize projects within corridors.
- Coalitions disseminate data and information to various corridor users, including emergency service providers, businesses, truckers, and commuters.

Summary

One of the most basic ways in which many Coalitions strengthen their technology and tools for better corridor management is through compiling and sharing static data, reports, and best practices. The I-15 Corridor Coalition collects data and reports provided by members and deposits them in a centralized location (via a consultant) on a wide range of topics. The I-80 Winter Corridor Coalition states have found value in publishing the results of projects or overviews of programs that are new or existing in each state that would benefit the other states in the Coalition. The Coalition's 2010 Strategic Plan provides a description of each tool/technology used independently by members and inventories availability/use within member states. Ports-to-Plains states prepare, compile, and store research reports, and also hold annual conferences for sharing of best practices. I-35/NASCO sponsors an educational consortium that allows researchers from different institutions along the corridor to share progress on research projects and new ideas. The I-5 WCCC sponsors conferences, studies, peer exchanges, and a web site.

For **real-time data and operations management**, the Multistate I-15 Dynamic Mobility Project (I-15 DMP) seeks to obtain, exchange, and disseminate real-time data on all segments of I-15 and all modes. It also hopes to create a seamless ITS

backbone from San Diego, California, to the Utah/Idaho border. The I-95 Corridor Coalition uses INRIX data for tracking corridor performance.

The I-95 Corridor Coalition also has developed its own **models and tools to analyze data and understand deficiencies**. The Integrated Corridor Analysis Tool (ICAT) model estimates truck and passenger vehicle volumes between different points on the corridor. Freight is analyzed through bottleneck analysis in which the locations of bottlenecks are identified along with their severity in terms of total delay. The North/West Passage coalition developed a custom benefit/cost tool with emphasis on transparency, ease-of-use and the rural applications most commonly used among the states.

Such tools also can be used for **project prioritization within corridors**. The Mohawk-Erie Corridor is developing an evaluation tool to help prioritize a list of projects that were previously identified in state, regional, local and other plans, as well as stakeholder input. The framework for evaluation uses both quantitative and qualitative data and focuses on the economic-related goals for the corridor.

It also is important to disseminate data and information to various corridor users. This can include static, historical information for emergency providers, businesses making location decisions, and others, as well as real-time information for truckers and commuters. The I-95 Corridor Coalition will grant access to its INRIX database for properly credentialed parties. The Coalition also offers an on-line training course in performance measures through the Consortium for ITS Training and Education (CITE). The I-15 DMP will provide the freight industry with cost/time saving information and improve public pretrip and en route traveler information for the corridor. Several coalitions, such as I-81, North/West Passage, and LMIGA, have proposed or currently operate web sites to provide this information.

Institutional/Governance: Mobilization of Partners

Key Points

- Many coalitions begin with basic agreements between states and other agencies around a specific project or set of needs, articulated in an initial understanding of goals and objectives.
- Coalitions are sometimes originated at the grassroots level, while others subsequently attract state level support and eventually bring in other stakeholders.
- Maintaining momentum is often challenging, particularly as administrations change.

Summary

Many coalitions begin with basic agreements between states and other agencies around a specific project or set of needs, articulated in an initial understanding of goals and objectives. In 1999, the multistate CANAMEX Corridor Coalition was established under a Memorandum of Understanding (MOU) signed by the five state governors through which the corridor passes to engage in planning and development projects of mutual benefit for the region. An MOU between the governors of Indiana and Illinois is helping to move the Illiana Expressway through the environmental process and towards implementation.

The Columbia River Crossing provides an example of a coalition that developed out of an initial study, which identified a single project that drove governors of two states to develop an organization that has expanded its role over time. The project now known as CRC was catalyzed by the Portland/Vancouver I-5 Trade Corridor Study conducted in 1999 and 2000 by ODOT and WSDOT. This initial effort culminated in a Freight Feasibility and Needs Assessment Final Report, which recommended that the region initiate a public process to develop a plan for improvements to the I-5 corridor. As a result, in 2001 the governors of Oregon and Washington appointed a 26 member I-5 Transportation and Trade Partnership Task Force, which was charged with developing recommendations and determining the necessary levels of investment for improvements to the corridor. Their Final Strategic Plan proposed a set of investments in the corridor for highway, transit, and rail improvements, and recommended the completion of an Environmental Impact Statement (EIS) for the project.

In 2005, the project was officially organized under the Columbia River Crossing umbrella. The governors of Oregon and Washington appointed a new 39 member Task Force, as well as a 10 member Project Sponsors Council, to oversee planning activities in the corridor. In 2008, a Draft EIS for the project was published. As part of the EIS process, the Task Force and six local partner agencies recommended a replacement bridge, with light rail, as the LPA. The LPA was consequently adopted into the regional transportation plans of Metro and RTC.

Coalitions are sometimes originated at the grassroots level, while others subsequently attract state level support and eventually bring in other stakeholders. The I-80 Winter Operations Coalition is driven largely by state DOT interests, while including perspectives from other areas such as highway patrol, maintenance, and other stakeholders. FAST is a partnership of 26 cities, counties, ports, Federal, state, and regional transportation agencies, railroads, and trucking interests. ARC started in 1965 by act of Congress, and is a partnership of Federal, state, and local government. Membership is open to local governments, chambers of commerce, economic development organizations, education agencies, international states and provinces, and private businesses. The Ports-to-Plains Trade Corridor Coalition is organized as a U.S. 501(c)(6) nonprofit organization, as is the Gulf Coast Strategic Highway System.

Maintaining momentum for a coalition is often challenging, particularly as administrations change. After each change in administration in CANAMEX member states, the onus was on the DOTs to meet with their governors to underscore the value of the initiative and pursue a renewal of the MOU. Many coalitions have also relied on Federal funding to maintain their operations; as funding decreases, many coalitions have put their activities on hold.

Institutional/Governance: Oversight/Leadership/Strategic Direction and Organizational Structure

Key Points

- Coalitions are often governed by a board and committees composed of membership and stakeholders.
- Some coalitions are managed, organized, or housed in other organizations. These organizations sometimes provide dedicated or part-time staff for the coalition.

Summary

Coalitions are often governed by a board and committees composed of membership and stakeholders. The I-95 Corridor Coalition is headed by an Executive Director along with an Executive Board and steering committee. The Coalition includes four program tracks committees and five regional committees. A Steering Committee provides oversight to the I-81 Coalition. The Coalition has been building its organizational infrastructure modeled on other older corridor planning organizations. The Ports-to-Plains Trade Corridor Coalition is led by a 15-member board from within its membership. The 30-member WCCC Board is composed of 4 representatives from each of the 4-member states. Additionally, WCCC has a 3-member executive committee and 5 committees on topics ranging from goods movement to environment/ITS. Both private and public sectors are involved in the organization, as well as nonprofit representatives.

Due to its Congressional designation, ARC is led by the governors of the 13 Appalachian states and a President-appointed Federal co-chair. Local participation is provided through multicounty local development districts.

Several coalitions are managed, organized, or housed in other organizations. These organizations sometimes provide dedicated or part-time staff for the coalition. MAFC is actively managed by the University of Wisconsin's National Center for Freight and Infrastructure Research and Education (CFIRE). FAST is housed within the PSRC, the MPO for the Seattle area.

Since these two coalitions are housed in a university and MPO, respectively, those two organizations also serve as staff for the coalitions. CANAMEX staff support was provided by the Arizona DOT along with active participation by the other DOTs. Other coalitions, depending on their objectives and level of

activity, hire separate staff. Ports-to-Plains is supported by a small, full-time staff based in Lubbock, Texas. The I-95 Corridor Coalition has two full-time staff and a consultant support team. University of Maryland faculty, staff and graduate students have collaborated with the Coalition as well.

Institutional/Governance: Collaboration with Modal and Planning Partners

Key Points

- Coalitions are most effective when they collaborate with various public, private, and stakeholder entities
- Coalitions sometimes collaborate and use cross representation when they have geographic or thematic areas of overlap.

Summary

Coalitions are most effective when they collaborate with various public, private, and stakeholder entities. AASHTO, MARAD, marine highways, and Northeast Diesel Collaborative have been important partners with the I-95 Corridor Coalition. I-81 partners with a number of educational organizations and 15 nonprofits. Mohawk-Erie has coordination with five PACs, including corridor-wide representation from multimodal groups such as Amtrak General Offices, Bus Association of New York, CSX/CSX Transportation, New York Aviation Management, New York Public Transit Association, New York State Canal Corporation, New York State Motor Truck Association, FHWA, Norfolk Southern, Parks and Trails New York, and others. I-80 Winter Operations Coalition stakeholders are asked to participate in specific committees or focus groups as part of activities based on the priority focus areas for the Coalition. This may include participation in Coalition activities, projects, and/or research outside of formal meetings and conferences and could also include participation and presence at Coalition meetings. Additional stakeholders include state highway patrol, county public safety, local transportation management centers (TMC), district-level operations within each state DOT, public information offices (PIO), regional transportation agencies, local law enforcement, DOT or state information technology and systems, and private-sector partners (such as university transportation research centers, tow truck companies, freight companies, tourism industry, special event planners/organizations, National Weather Service, and equipment/technology vendors).

Coalitions sometimes collaborate and use cross representation when they have geographic or thematic areas of overlap. The I-81 Corridor Coalition has a permanent liaison established with the I-95 Corridor Coalition. MAFC coordinates with the LMIGA and the North/West Passage. The I-10 Freight Corridor staff have met with the I-95 Corridor, CANAMEX, Northwest Passage, and High Plains coalitions regarding the development of an ITS architecture. Finally, as indicated in the technology and tools section above, many corridors

participate in or organize repositories of information and conferences to share best practices among members and between coalitions.

Institutional/Governance: Organization Funding

Key Points

- Some of the most active coalitions have relied on regular Federal funding or specialized Federal grants or programs.
- Many coalitions have worked together to create sustained lobbying efforts.

Summary

Some of the most active coalitions have relied on regular Federal funding or specialized Federal grants or programs. The I-15 Mobility Alliance and GLRTOC were selected as two of six Corridor Coalitions nationwide to receive \$1,250,000 funding under the Multistate Corridor Operations and Management (MCOM) Program. The WCCC won TIGER funding for innovative environmentally focused projects, such as alternative fuel infrastructure. The states in the North/West Passage Program formally established a Transportation Pooled Fund (TPF) in 2003 through FHWA. NWP has held seven solicitations for funding. Typically each state contributes \$25,000 per solicitation to fund each work plan.

Originally funding for the I-95 Corridor came from FHWA and went to the University of Maryland. The Coalition is currently running on remainders from annual funding, and is trying to get states to fund it directly as opposed to relying on annual funds. The I-5 WCCC also has relied on Federal funding and grants; with recent reduction in this funding, it is turning to member dues to help provide matching funding for grants.

Many coalitions have worked together to create sustained lobbying efforts. Examples of active lobbying efforts include the activities of the I-69 corridor states to advocate for the corridor's construction. The Ports-to-Plains coalition has an active Congressional Caucus that has been successful in mobilizing policy resources throughout the Southwest, Midwest, and Rockies and has secured over \$1 billion to date to develop, build, and improve existing highway segments of the Ports-to-Plains corridor.

2.3 INDIVIDUAL CORRIDORS

I-95 Corridor Coalition

The I-95 Corridor Coalition is one of the oldest and best known corridor coalitions in the country. The I-95 Corridor Coalition is an alliance of transportation agencies, toll authorities, and related organizations, including public safety, from the State of Maine to the State of Florida, with affiliate members in Canada. It is administered through the University of Maryland and covers the entire length of the I-95 corridor. The majority of research performed by the coalition has been tied to the most congested portions of I-95 in the Northeastern United States. The coalition covers a wide range of issues related to passenger and freight traffic.

The Coalition began in the early 1990s as an informal group of transportation professionals working to manage highway incidents that impacted travel across jurisdictional boundaries. In 1993, the Coalition was formally established with the goal of enhancing transportation mobility, safety, and efficiency in the region. The Coalition's perspective has evolved from a concentration on highways to one that encompasses all modes of travel and focuses on the efficient transfer of people and goods between modes. The Coalition emphasizes information management in order to facilitate operations across jurisdictions and modes.

The following is a list of noteworthy practices from the I-95 Corridor Coalition:

- **Goals and Objectives** – The Coalition's mission is to improve multimodal transportation services in the region through information sharing and coordinated management and operations. The coalition's mission is unique in that it has sponsored detailed research on multiple subsections of the corridor – Southeast, Mid-Atlantic, and Northeast.
- **Performance Measures and Technology/Tools** – The Coalition's vehicle probe project uses real-time speed, travel time, expected speed, and free-flow speed. INRIX displays historical corridor speeds within each segment along with instantaneous speed: The I-95 Corridor Coalition will grant access to its INRIX database for properly credentialed parties. The Coalition also offers an on-line training course in performance measures through CITE.
- **Performance Monitoring and Tracking** – The coalition uses a special service provided by INRIX for tracking the performance of the system. It has developed a model known as ICAT for estimating truck and passenger

CORRIDOR SUMMARY

Typology: Urban and Rural

Stage of Corridor Development: Built Out

Coalition: State DOTs along the corridor (including Vermont), various transit and transportation authorities

Modes: Highway, Rail

Goal Areas: Safety, Mobility/Reliability, Freight/Economic Vitality, Performance Management

Data Availability: High

vehicle volume between different points on the corridor. Freight is analyzed through bottleneck analysis in which the locations of bottlenecks are identified along with their severity in terms of total delay.

- **Institutional/Governance** - The I-95 Corridor Coalition has had a long evolution from informal body to the most well-developed Coalition in the country. Specific elements include:
 - Executive Director, Coalition Staff, Executive Board, Steering Committee and Program Tracks Committee
 - AASHTO, MARAD, and marine highways were very important partners. Northeast Diesel Collaborative was another partner. Frequently shares data. Has provide training to I-81 on Quick Clearance.
 - The Coalition works very closely with the University of Maryland which serves as the contract vehicle for the Coalition’s funding; it was earlier hosted by individual states. University of Maryland faculty, staff, and graduate students have collaborated with the Coalition.
 - The Coalition is currently running on remainders from annual funding. The Coalition is currently trying to get states to fund it directly as opposed to relying on annual funds.

I-81 Corridor Coalition

The I-81 Corridor Coalition, which started as a joint effort between multiple states along the corridor in 2007, is a growing coalition around I-81 which stretches from the border with Canada in New York State to Eastern Tennessee near Knoxville. The coalition is a partnership comprised of local, regional, and state organizations that are all interested in sound transportation planning. The Coalition includes local governments, metropolitan planning organizations, and state transportation departments, as well as private-sector and nonprofit organizations. These partners are from each of the six states that the corridor runs through.

The organization in its current form was only formalized in 2011. It is housed within the Virginia Tech Transportation Institute.

The vision of the I-81 Corridor Coalition is that the transportation network supporting both freight and passenger movement will be safe, efficient, environmentally sensitive, seamless, and intermodal. The network will support economic development and encourage coordinated land use policy.

CORRIDOR SUMMARY

Typology: Domestic Freight

Stage of Corridor Development:
Built Out

Coalition: State DOTs along the corridor

Modes: Highway, Rail

Goal Areas: Safety, Efficiency,
Environmental Sensitivity, Seamless
Intermodal Transportation

Data Availability: Medium

The I-81 coalition has researched the previous efforts by organizations, including the Mid-America Freight Coalition, NASCO, I-95 Corridor Coalition, North/West Passage, Chicago Milwaukee TIS, and East Tennessee Development District.

The following are the goals and objectives within the corridor:

- Safety.
- Freight movement.
- Environment.
- Technology and Infrastructure.
- Economic Development.
- Finance.

The following is a summary of key noteworthy practices identified from the I-81 Corridor Coalition:

- **Target Setting** – The Coalition seeks to establish real-time sharing of incident management information to mitigate traffic delays and avoid secondary incidents. The Coalition seeks to establish a protocol if there is an incident along the Corridor that is expected to last over two hours.
- **Oversight/Leadership/Strategic Direction** – The Steering Committee provides oversight. The Coalition has been building its organizational infrastructure modeled on other older corridor planning organizations. The Coalition currently has a strong rail emphasis due to the geographic convergence with the Crescent Corridor.
- **Collaboration with Planning Partners** – The I-81 Corridor Coalition has a permanent liaison established with the I-95 Corridor Coalition. It also partners with a number of educational organizations and 15 nonprofits. The Coalition seeks to map out the TIPS to see where plans currently do not align. Shippensburg University has pledged to provide a graduate student to support the organization’s activities.

I-35 (NASCO)

The NASCO Super Corridor Coalition was formed around I-35 along with its continuations in Mexico and Canada. The NASCO organization was established in order to advocate for additional infrastructure investment along I-35; however, it has grown into an organization that is focused more on operational coordination among different jurisdictions as opposed to a focus on specific projects. In the last

CORRIDOR SUMMARY

Typology: International Trade
Maturity: Established/Built Out
Coalition: Private and Public Dues Paying Members
Modes: Highway, Rail, Ports/Waterways
Goal Areas: Freight/Economic Vitality
Data Availability: High

two years, the organization has refrained from specifying a specific geographic area of coverage. It also has grown from a highway centric organization to one that emphasizes multimodalism. The addition of ports on the Mexican Pacific gave the organization a maritime dimension as well.

The following is a summary of the key noteworthy practices from the NASCO Coalition:

- **Goals and Objectives** – NASCO’s emphasis is currently on three areas of focus:

1. Transportation innovation and security;
2. Energy efficiency along the corridor; and
3. Logistics workforce development.

These areas are unique for a corridor organization in that they can be regarded as niche areas rather than a more global objective of improving mobility. NASCO has purposely decided to specialize in areas that were not being addressed by state DOTs or Federal agencies.

- **Data Collection/Availability** – NASCO compiles a resource of corridor planning documents and other research efforts tied to the corridor. Corridor planning documents are kept under the following categories:

- United States;
- Canada;
- Mexico;
- Inland Ports;
- Energy;
- Transportation;
- Economy;
- Environment;
- Cargo Security;
- Workforce Development; and
- Logistics and Supply Chain.

- **Collaboration with Planning Partners** – NASCO facilitates collaboration through the organization of conferences in the U.S., Mexico, and Canada. It sponsors an educational consortium that allows researchers from different institutions along the corridor to share progress on research projects and new ideas.

North/West Passage Program

The North/West Passage (NWP) program is a Transportation Pooled Fund (TPF) study aimed at improving operations on Interstates 90 and 94 between Wisconsin and Washington. Extreme winter weather conditions pose significant operational and travel-related challenges. Idaho, Minnesota, Montana, North Dakota, South Dakota, Washington, Wisconsin, and Wyoming are predominantly rural and face similar transportation issues related to traffic management, traveler information, and commercial vehicle operations.

CORRIDOR SUMMARY

Typology: Rural

Stage of Corridor Development:
Built Out

Coalition: States along I-90 and I-94 organized through an FHWA Transportation Pooled Fund

Modes: Highway, Rail, Waterway

Goal Areas: Freight/Economic Vitality, Reliability, Safety

Data Availability: High

The beginning of the program dates to 2001. The vision of the North/West Passage program is to focus on developing effective methods for sharing, coordinating, and integrating traveler information and operational activities across state and provincial borders. The vision provides a framework to guide the states' future projects in the corridor. The North West Passage operates as a pooled-fund study with a common interest in I-90/94 that serves the economic development and mobility interests of the states along the corridor. In recent years, the organization has started looking more at operational issues.

In 2007, the program developed a strategic plan for the corridor pooled fund. This defined the objective and goals of the program, and has served as the guiding document to date. The program develops a yearly work plan, and members contribute money to a common pool that funds the projects that receive the most votes from coalition members.

The following are the key noteworthy practices identified from the North/West Passage program:

- **Integration into Planning and Programming** – The North/West Passage Corridor has developed an ITS Integrated Strategic Plan and has successfully implemented 5 work plans containing 24 projects, including development of a corridor-wide traveler information web site, <http://www.i90i94travelinfo.com>. Currently the group is completing its sixth work plan consisting of 7 projects. The program also coordinates with the I-80 Winter Operations Committee. The organizations have one joint member. Bill Legg, the chair of the NWP, participated in a three-day coordination workshop with the I-80 Winter Operations Coalition. The two organizations have developed an understanding of the different approaches that they are taking which helps them to avoid duplication.

- **Analysis Tools/Capabilities** – The group developed a custom benefit/cost tool with emphasis on transparency, ease-of-use, and the rural applications most commonly used among the North/West Passage states. Phase 2 focused on continuing to add metadata to the tool (e.g., RWIS tied to anti-icing in Idaho reduced crashes by 83 percent) and continuing to enhance the tool. The program also has explored a cost-benefit approach for ITS deployments as well as an approach for crowd-sourcing travel information.
- **Funding** – The states formally established as a Transportation Pooled Fund (TPF) in 2003 through FHWA. NWP has held seven solicitations for funding. Typically each state contributes \$25,000 per solicitation to fund each Work Plan. The program has averaged funding six to seven projects per year.

Mid-America Freight Coalition

The Mid-America Freight Coalition (MAFC) is a regional organization that cooperates in the planning, operation, preservation, and improvement of transportation infrastructure in the Midwest. In particular its focus is to protect and support the economic wellbeing of the industries, farms and people of the region by keeping the products of those industries, farms and people flowing to markets reliably, safely, and efficiently. This region includes 10 states (Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Ohio, and Wisconsin) that share key interstate corridors, inland waterways, and the Great Lakes.

These 10 states signed a MOU in October 2006, demonstrating their willingness to meet freight demand through regional cooperative efforts. The MAFC is built upon the work of the Upper Midwest Freight Corridor Study (UMFCS). The MAFC was formerly known as the Mississippi Valley Freight Coalition: the name of the coalition changed on October 25, 2010. It is made up of an executive committee that receives input from a customer committee along with a technical committee made up of working groups.

Several key noteworthy practices include:

- **Oversight/Leadership/Strategic Direction and Organizational Structure** – The organization is actively managed by the University of Wisconsin’s National Center for Freight and Infrastructure Research and Education (CFIRE). Six staff from the University of Wisconsin serve at MAFC.
- **Collaboration with Planning Partners** – MAFC coordinates with the LMIGA and the North/West Passage.

CORRIDOR SUMMARY

Typology: Primarily Rural
Stage of Corridor Development: Built Out
Coalition: Eight State DOT’s
Modes: Highway, Rail, Waterway
Goal Areas: Freight, Economic Vitality, Reliability, Safety
Data Availability: High

I-10 Freight Corridor

The I-10 Freight Corridor Coalition and its web site are currently inactive. Having been established in 2001 along all of the states served by I-10 from California to Florida and active at least through 2007, its goals were to:

1. Assess the importance of freight moving in the corridor to the economy of the corridor states and the rest of the nation;
2. Identify current and future traffic operations and safety problems along the corridor that impede freight flows; and
3. Identify and evaluate strategies to facilitate the efficient movement of freight in the corridor.

The coalition began as a pooled fund in 2000 with an initial funding of \$2.1 million. Its last major study effort was sponsored in 2004. The following are noteworthy practices/lessons from this corridor coalition

- **Performance Measures** - The corridor was evaluated using an A to F level of service (LOS). LOS was determined for the entire length of the corridor.
- **Target Setting** - Sought to increase funding levels to anticipated needs to maintain acceptable LOS on the corridor.
- **Collaboration with Planning Partners** - Coalition staff met with the I-95 Corridor, CANAMEX, Northwest Passage, and High Plains coalitions regarding the development of an ITS architecture.

Ports-to-Plains Trade Corridor Coalition

The Ports-to-Plains Trade Corridor Coalition (a.k.a., Ports-to-Plains Alliance) is a grassroots, nonprofit advocacy group representing a nine-state economic development corridor between Laredo, Texas and Alberta, Canada. As shown in Figure 2.2, the full length of the 2,300-mile corridor traverses Texas, New Mexico, Oklahoma, Colorado, Nebraska, Wyoming, South Dakota, North Dakota, and Montana and is comprised of three nationally designated High-Priority Corridors: the Ports-to-Plains Corridor, the Heartland Expressway, and the Theodore Roosevelt Expressway (collectively

CORRIDOR SUMMARY

Typology: Urban and Rural
International Trade

Stage of Corridor Development:
Built Out

Coalition: Eight State DOT's

Modes: Highway

Goal Areas: Freight

Data Availability: Low

CORRIDOR SUMMARY

Typology: International Trade, Rural

Stage of Corridor Development:
Partially Built Out

Coalition: Advocacy/Grassroots

Modes: Highway, Rail

Goal Areas: Freight/Economic Vitality

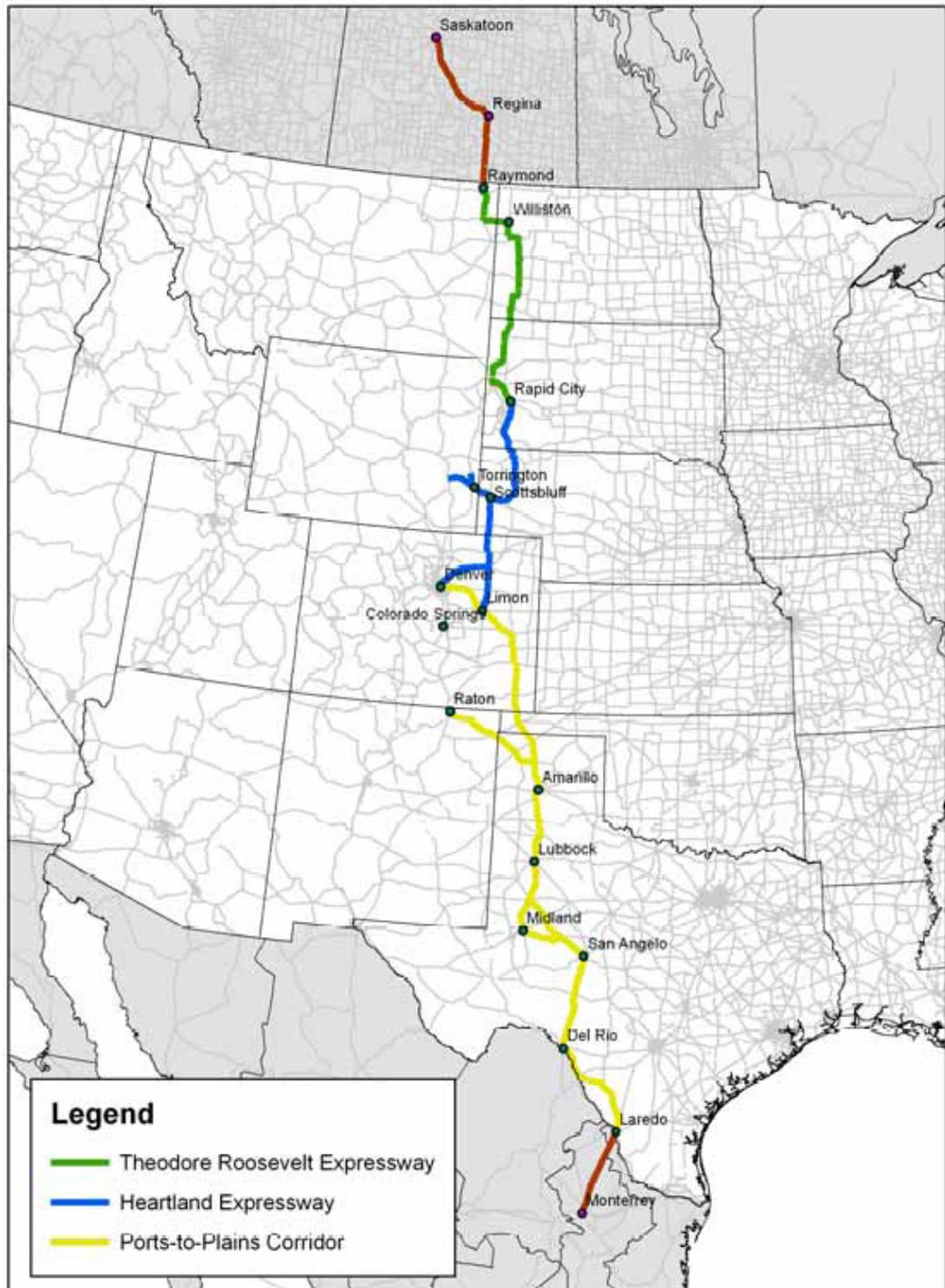
Data Availability: Moderate

known as the Great Plains International Trade Corridor). With the exception of its linkage to Denver, Colorado, the corridor is primarily rural, serving cities and towns with modest populations under 300,000.

The mission of the Ports-to-Plains Coalition is “to advocate for a robust transportation infrastructure to promote economic security and prosperity throughout North America’s energy and agricultural heartland.”¹ Headquartered in Lubbock, Texas, members of the Ports-to-Plains Coalition include hundreds of elected and government officials, economic development officials, business leaders, and citizens from communities throughout the corridor. The coalition emboldens the corridor’s largely rural communities – who might not otherwise have a large voice – to work together to promote progressive, sustainable, long-range infrastructure planning and economic development throughout the corridor and secure Federal funding for highway improvement projects.

¹ Ports-to-Plains Alliance, <http://www.portstoplains.com/>.

Figure 2.2 Great Plains International Trade Corridor Route



Source: Cambridge Systematics, Inc., September 2008.

The Ports-to-Plains Trade Corridor Coalition began as a local government initiative to secure funding for Interstate 27, the primary north-south highway connecting the Texas Panhandle to the major east-west routes in Texas and to Denver, Colorado to the north. Congress formalized these efforts in 1998 when designating the Ports-to-Plains Trade Corridor as a High-Priority Corridor. Today, the Coalition's efforts have expanded beyond the original Ports-to-Plains corridor limits to work with partner corridors, Canadian provinces, Mexican states and others.

The following is a summary of the key noteworthy practices from the Ports-to-Plains Alliance:

- **Data Sharing/Standardization** – For the past 15 years, the Coalition has hosted an annual Ports-to-Plains Conference as an opportunity to share information among partner corridors, brief members on potential funding opportunities, and discuss local plans and priorities.
- **Mobilization of Partners** – The Ports-to-Plains Trade Corridor Coalition is organized as a U.S. 501(c)(6) nonprofit organization. Membership is open to local governments, chambers of commerce, economic development organizations, education agencies, international states and provinces, and private businesses. Each partner corridor in the group maintains its High-Priority Corridor designation and regional identity for their work at the local level, but pools resources to pursue national and cross-border priorities.
- **Oversight/Leadership/Strategic Direction** – The Coalition is led by a 15-member board from within its membership and is supported by a small, full-time staff based in Lubbock, Texas. In addition to enjoying strong political support at both the state and local levels, the Ports-to-Plains coalition has an active Congressional Caucus that has been successful in mobilizing policy resources throughout the Southwest, Midwest, and Rockies and has secured over \$1 billion to date to develop, build, and improve existing highway segments of the Ports-to-Plains corridor.²

² Ports-to-Plains Alliance, <http://www.portstoplains.com/>.

Mohawk-Erie Multimodal Transportation Corridor

The Mohawk-Erie Multimodal Transportation Corridor is a 400-mile trade corridor connecting major centers of commerce within and beyond New York State. The corridor directly serves the Albany, Utica, Syracuse, Rochester, and Buffalo metropolitan areas, generally following Interstate 90 and the Erie Canal. While the official study area for the current multimodal assessment is wholly within New

York State between the Massachusetts and Pennsylvania state lines, the corridor continues east to Boston and southwest to Cleveland and connects to other corridors for access north to Canada and south to New York City.

The ongoing corridor study is jointly managed by the New York State DOT (NYSDOT) and the New York State Thruway Authority (NYSTA), in cooperation with the Canal Corporation. In addition, the various other agencies and jurisdictions responsible for planning, owning, and operating the multimodal elements within the corridor are key partners in the study, including major ports, CSX, Amtrak, local governments, and MPOs. The purpose of the study is to develop a vision and action plan to guide future investments and decision-making within the corridor to accommodate existing and projected transportation demands and facilitate emerging business opportunities.³

While only at the study stage, this corridor lays out a framework that could be adapted or applied in other corridors or regions and contains planning level examples of several noteworthy practices:

- **Goals and Objectives** – Through a series of facilitated discussions with Project Advisory Committee (PAC) members, the study team developed a set of goals and objectives for the corridor (Table 2.3). Corridor goals include economic competitiveness, quality of life, and environmental stewardship. For the purposes of applying an evaluation framework to rank potential projects within the corridor (see description below), the PAC members assigned weights to the goals and objectives based on their relative importance.⁴

CORRIDOR SUMMARY

Typology: Urban

Stage of Corridor Development:
Established/Built Out

Coalition: State DOTs/Other Public Sector

Modes: Highway, Rail, Ports/Waterways

Goal Areas: Freight/Economic Vitality

Data Availability: Moderate

³ Mohawk-Erie Multimodal Transportation Corridor Study, <https://www.dot.ny.gov/mohawk-erie-study>.

⁴ Mohawk-Erie Multimodal Transportation Corridor Study, “Tool Framework,” December 2011.

Table 2.3 Mohawk-Erie Multimodal Transportation Corridor Study Goals, Objectives, and Performance Measures

Goal	Objectives	Performance Measures (“Factors”)
Economic Competitiveness	Enhance Freight Movement	Freight Accessibility Freight Mobility Freight Safety Freight Connectivity Freight Agility
Economic Competitiveness	Enhance Passenger Movement	Journey to Work Accessibility Journey to Work Mobility Journey to Work Safety Journey to Work Connectivity Journey to Work Agility Long-Distance Business Travel Accessibility Long-Distance Business Travel Connectivity Long-Distance Business Travel Agility
Economic Competitiveness	Enhance Tourism Access	Local Tourism Travel Accessibility Local Tourism Travel Connectivity Local Tourism Travel Agility Long-Distance Tourism Travel Accessibility Long-Distance Tourism Travel Connectivity Long-Distance Tourism Travel Agility
Economic Competitiveness	Infrastructure Preservation	Maintain State of Good Repair
Quality of Life	Enhance Access to Regional Recreation	Regional Recreation Accessibility
Quality of Life	Enhance Access to Regional Health Care	Regional Health Care Accessibility
Quality of Life	Enhance Access to Higher Education	Regional Higher Education Accessibility
Quality of Life	Increase Multimodal Opportunities	Multimodal Corridor Enhancement
Quality of Life	Municipal Center/Developed Areas Access	Transportation/Land Use Compatibility
Environmental Stewardship	Avoid Environmentally Sensitive Areas	Impact on Environmentally Sensitive Areas
Environmental Stewardship	Encourage Energy Efficiency	Non-SOV/Non-Diesel Use
Environmental Stewardship	Support Efficient Land Use	Origins-Destinations Closer Together

Source: Based on Mohawk-Erie Multimodal Transportation Corridor Study, “Tool Framework.”

- **Performance Measures** – Referred to as “factors” in the draft evaluation tool framework, the study team developed a set of performance measures supporting each goal and objective. In cases where more than one factor was identified to support a given objective, the PAC members assigned weights to reflect the factors’ importance in shaping the objective. The purpose of the weighted goals, objectives, and factors defined in the evaluation tool is to one day prioritize projects in the corridor.⁵
- **Analysis Tools/Capabilities** – Currently under development, one of the products of the study will be an evaluation tool to help prioritize a list of projects that were previously identified in the State Transportation Improvement Plan (STIP), MPO plans, NYSTA and Canal Corporation Capital Improvement Plans, modal plans for aviation and rail, and stakeholder input. The tool will be used to measure the performance of potential transportation projects against the corridor goals of economic competitiveness, quality of life, and environmental stewardship. Tied to the corridor’s goals and objectives, the draft tool ranks these projects according to how well they support the transportation needs of the economic drivers identified in the Mohawk-Erie Corridor. The framework for evaluation uses both quantitative and qualitative data and considers the importance of the project location to economic drivers, the importance of the identified goals and objectives, the ability of the project to meet the goals/objectives, and the current conditions at the project location.⁶
- **Integration into Planning and Programming** – The evaluation tool is intended to help prioritize projects that have not received full funding. Projects already in the pipeline that already are committed and fully funded will not be evaluated. That said, the tool is an aid to decision-making, not the source of final decisions. While the study is using the projects from the MPO’s TIPs, NYSDOT approved project database, long-range modal plans, and Thruway Authority and Canal Corporation capital plans to populate the project list for evaluation, the tool findings will not preclude MPO projects from proceeding. Instead, the tool looks at projects in terms of how they serve the priorities and business clusters identified in the project which can be a somewhat different perspective than is the focus for the individual TIPs. As such, the tool adds another dimension to the body of information that informs decision-making at the state level.⁷

⁵ Mohawk-Erie Multimodal Transportation Corridor Study, “Tool Framework,” December 2011.

⁶ Ibid.

⁷ Mohawk-Erie Multimodal Transportation Corridor Study, “Composite Project Advisory Committee Meetings – Round Three Meetings,” February 2012.

- **Collaboration Among Modal Partners** – The study involves coordination with five PACs, including corridor-wide representation from multimodal groups such as Amtrak General Offices, Bus Association of New York, CSX/CSX Transportation, New York Aviation Management, New York Public Transit Association, New York State Canal Corporation, New York State Motor Truck Association, FHWA, Norfolk Southern, Parks and Trails New York, and others.⁸
- **Collaboration with Planning Partners** – The study involves coordination with five PACs comprised of broad representation from numerous planning partners (NYSDOT, MPOs, etc.), private stakeholders, and other major initiatives in the corridor, including the high-speed rail study and the MPO freight study.

I-69

Interstate 69 is a 1,400-mile, nationally designated High-Priority Corridor connecting Canada to Mexico through Michigan, Indiana, Kentucky, Tennessee, Mississippi, Arkansas, Louisiana, and Texas. It was designated as one of six “Corridors of the Future” in 2007. Some sections of I-69 are open to traffic today, including a 67-mile segment in southwest Indiana that recently opened in November 2012. Other sections currently are under construction, while others are in various stages of the planning process or yet to be started.

CORRIDOR SUMMARY
Typology: International Trade
Stage of Corridor Development: Partially Built Out
Coalition: Varies by state
Modes: Highway
Goal Areas: Freight/Economic Vitality, Mobility
Data Availability: Low

At present, corridor advocacy appears to be split across states rather than coordinated within a cohesive multistate corridor coalition. Examples of active state-level coordination are noted in Indiana and Texas:

- **I-69 Evansville to Indianapolis Project** – Several sections of I-69 in Indiana are in various stages of design, construction, and environmental study. The Indiana DOT (INDOT) hosts a project information web site that provides current information on corridor progress.⁹

⁸ Mohawk-Erie Multimodal Transportation Corridor Study, “Project Advisory Committee (PAC) Representation,” July 2011.

⁹ Indiana Department of Transportation, I-69 Evansville to Indianapolis Project, <http://www.i69indyevn.org/>.

- **Alliance for I-69 Texas** – Formed in 1994, the Alliance for I-69 Texas is a coalition made up of cities, counties, port authorities, and community leaders building grassroots support for upgrading the I-69 route in Texas. The Alliance is led by a board of directors made up of local elected officials and community representatives throughout the Texas portion of the corridor. The membership also partners with the TxDOT Districts, counties and cities, ports, regional mobility authorities, and MPOs located within the corridor’s study area. The Alliance is registered as a 501(c)(6) nonprofit organization.¹⁰

Although some individual states are coordinating efforts to advance and advocate highway improvement projects in their state, there does not seem to be an active multistate I-69 corridor coalition from which to draw noteworthy practices.

Gulf Coast Strategic Highway System

The Gulf Coast Strategic Highway System, also known as “Forts to Ports,” is defined as a multistate corridor connecting Fort Bliss (El Paso, Texas), Fort Hood (Killeen, Texas), and Fort Polk (Louisiana) to the ports of Corpus Christi and Beaumont, Texas. Upgrades to existing infrastructure as well as proposed reliever routes are being pursued to support the transport of military equipment between Gulf Coast seaports and U.S. Army and National Guard facilities in Texas, Louisiana, and Mississippi. Also included in the corridor concept is the development of Interstate 14 from El Paso, Texas to Augusta, Georgia to provide an alternative east-west route for long-haul freight traffic and relieve congestion in the corridor’s largest urban areas.

CORRIDOR SUMMARY

Typology: Military, International Trade

Stage of Corridor Development:
Partially Built Out

Coalition: Advocacy/Grassroots

Modes: Highway, Ports

Goal Areas: Freight/Economic Vitality,
Mobility/Reliability (Redundancy)

Data Availability: Low

¹⁰ Alliance for I-69 Texas, <http://www.i69texasalliance.com/>.

Initially started in 2001 by representatives of communities along the proposed corridors in Texas and Louisiana, the Gulf Coast Strategic Highway Coalition was formed to promote improvements in deployment routes for Gulf Coast army installations. Today, the coalition works in close partnership with the state DOTs in Texas, Louisiana, and Mississippi.¹¹

The following is a summary of the key noteworthy practices from the Gulf Coast Strategic Highway Coalition:

- **Data Sharing/Coordination** - The coalition meets once a year for an annual meeting in conjunction with the Texas Transportation Forum to update coalition members on progress in each state.
- **Mobilization of Partners** - The Gulf Coast Strategic Highway Coalition is registered as a U.S. 501(c)(6) nonprofit organization. Coalition members include cities, counties, economic development organizations, chambers of commerce, and regional councils of government. Though unified by the coalition's overall objective, the Texas, Louisiana, and Mississippi DOTs are independently pursuing various highway improvement projects and feasibility studies within their individual states.

Appalachian Development Highway System

Construction of the Appalachian Development Highway System (ADHS) was authorized by Congress in the Appalachian Development Act of 1965. Once complete, a modern 3,090-mile system will connect the previously isolated Appalachia region to the interstate system and generate economic development opportunities for the underserved region. As of the end of FY 2011, 85.6 percent (2,612 miles) of the system was open to traffic (Figure 2.3).

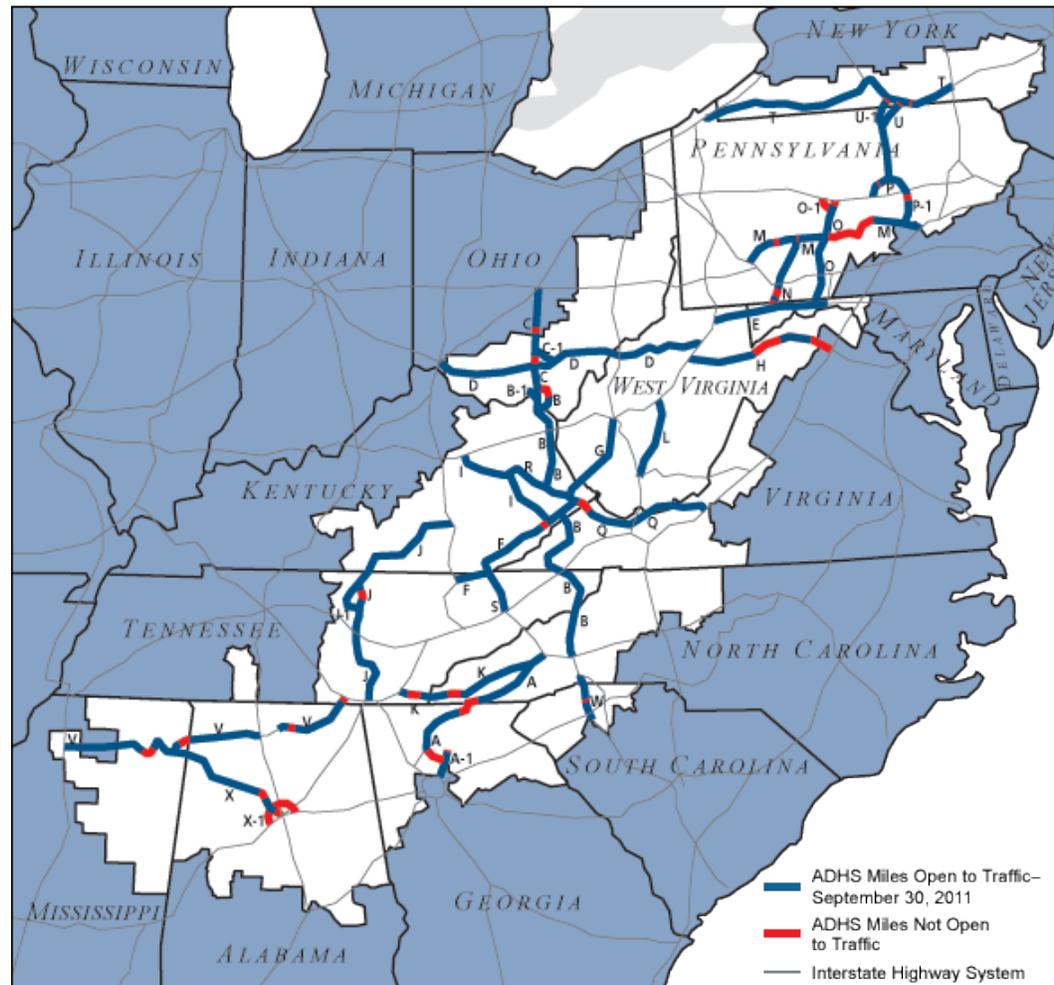
CORRIDOR SUMMARY
Typology: Rural
Stage of Corridor Development: Partially Built Out
Coalition: Other (State and Federal leaders)
Modes: Highway, Rail, Waterways
Goal Areas: Economic Vitality, Connectivity
Data Availability: High

The Appalachian Regional Commission (ARC), created by the same act of Congress in 1965, is the regional economic development agency responsible for building the ADHS. ARC represents a partnership of Federal, state, and local government, led by the governors of the 13 Appalachian states and a President-appointed Federal co-chair. Local participation is provided through multicounty local development districts.¹²

¹¹ Gulf Coast Strategic Highway Coalition, <http://www.gulfcoaststrategichighway.org>.

¹² Appalachian Regional Commission, <http://www.arc.gov/about/index.asp>.

Figure 2.3 Appalachian Development Highway System



Source: Appalachian Regional Commission.

The following is a summary of the key noteworthy practices from the ARC, in general, and the ADHS, in particular:

- **Goals and Objectives** – In addition to identifying the organization’s vision and mission, the ARC Strategic Plan 2011-2016 organizes its funding policies and administration around four goals. Strategic objectives and selected strategies to achieve each goal embody core ARC policies. One of the agency’s four goals relates specifically to the highway system: “Build the ADHS to reduce Appalachia’s isolation.”¹³

¹³Appalachian Regional Commission, *Moving Appalachia Forward – Appalachian Regional Commission Strategic Plan 2011-2016*, November 2010.

- **Performance Measures** – ARC designed a performance measurement system to accomplish two primary objectives. The first was to maintain compliance with the Government Performance and Results Act of 1993 (GPRA) in measuring the outcomes of ARC projects.¹⁴ The second was to create a process that allowed for both feedback from grantees and analysis of funded projects in an effort to improve programming. Each tied to one of the agency’s four overarching goals, ARC has identified four outcome measures that it tracks on an annual basis:
 - Number of jobs created or retained;
 - Number of students/trainees with improvements;
 - Number of households served with new or improved water and/or sewer infrastructure, and number of jobs created or retained; and
 - Net increase in the number of miles of the ADHS open to traffic.
- **Target Setting** – The ARC Strategic Plan 2011-2016 establishes both 6-year and 12-year performance targets (caveated with the assumption that ARC’s annual funding will remain at the 2010 levels).¹⁵ Similarly, ARC identifies annual performance targets for its four goal areas in an annual performance and accountability report. For example, the FY 2011 highway target was to open 25 additional miles (net increase) of the ADHS to traffic.¹⁶
- **Performance Monitoring and Reporting** – ARC tracks the programs it supports and reports its findings regarding performance on a yearly basis. ARC produces an annual performance and accountability report, publically available on the ARC web site.¹⁷ The report identifies the fiscal year results achieved and charts historic and projected progress toward its 12-year strategic plan performance targets (Figure 2.4).
- **Data Collection/Availability** – ARC uses performance data as a management tool to inform their decision-making process. In addition, staff use a management information system, ARC.net, to track critical project performance information. Staff reviews performance measurement data

¹⁴The GPRA is one of a series of laws designed to improve government project management. The GPRA requires agencies to complete performance management tasks such as goal setting, measuring results, and progress reporting. To comply with the GPRA, agencies must produce five-year strategic plans, annual performance plans and performance reports, and conduct gap analyses of projects.

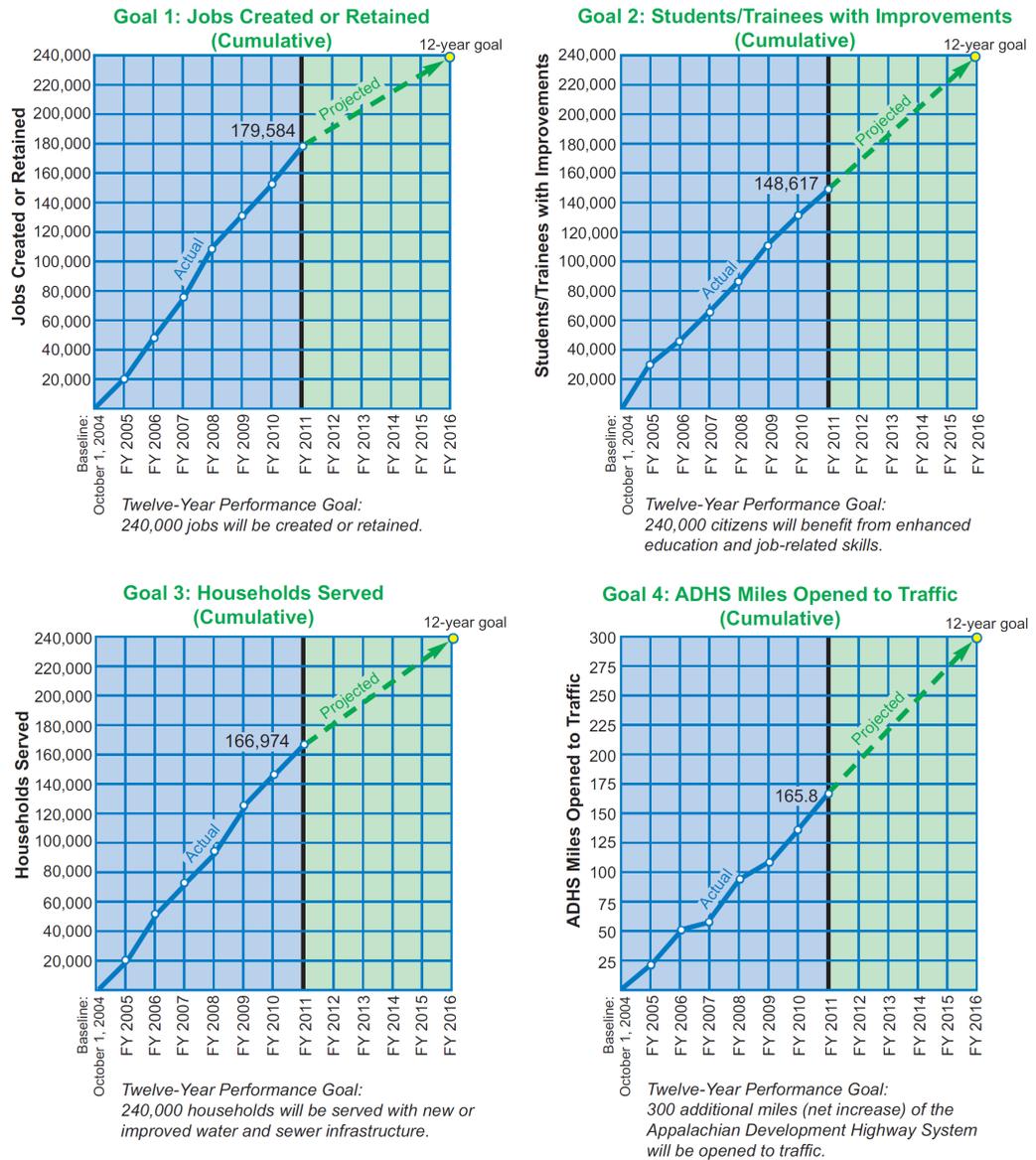
¹⁵Ibid.

¹⁶Appalachian Regional Commission, *Performance and Accountability Report for Fiscal Year 2011*, November 2011.

¹⁷Ibid.

generated by projects throughout the fiscal year to analyze trends and validate data.¹⁸

Figure 2.4 Progress Toward ARC Strategic Plan Performance Goals
Fiscal Years 2005-2016



Source: Appalachian Regional Commission.

¹⁸Ibid.

- **Data Sharing/Standardization** – ARC routinely shares information with partners through “best practices” conferences and on-site validation visits with grantees. ARC’s Policy Development Committee also has used research, evaluations, validation visits, and staff monitoring to develop and revise guidelines for program activities.¹⁹
- **Oversight/Leadership/Strategic Direction** – As described previously, the ARC has 14 members: the governors of the 13 Appalachian states and a Federal co-chair appointed by the president and confirmed by the Senate. The governors and the Federal co-chair share responsibility for determining all policies and making spending decisions. The Federal co-chair has one vote, and the 13 governors share one vote on all Commission decisions. This consensus-driven decision-making process ensures close collaboration between the Federal and state partners in carrying out the agency’s mission.
- **Organization Funding** – Prior to MAP-21, annual funding for the completion of the ADHS had been apportioned to the Appalachian states annually based on each state’s proportional share of the cost to complete the system. However, MAP-21 changed the way the ADHS is funded. Now, ADHS funding is apportioned to each state as part of the larger Surface Transportation Program (STP), with each state authorized to use the funding at its own direction. Indicating that “the timely completion of the ADHS is a transportation priority in the national interest,” MAP-21 also increased the Federal share of funding for ADHS corridors and access roads from 80 percent to 100 percent.²⁰
- **Collaboration with Planning Partners** – The 2011-2016 Strategic Plan recognizes that overseeing the planning and construction of the ADHS requires a strong partnership between ARC, the U.S. DOT, and Appalachian state DOTs. Strategies for achieving the Commission’s highway development goal include encouraging local and multijurisdictional forums to strengthen communication, awareness, and mutual understanding; supporting collaboration and coordination between transportation and economic development interests; and promoting improved coordination of technical information, funding disbursements, and construction scheduling across state lines. Local participation is provided through multicounty local development districts, with boards made up of elected officials, businesspeople, and other local leaders.²¹

¹⁹Ibid.

²⁰Appalachian Regional Commission, *Appalachian Development Highway System Cost-to-Complete Report*, October 2012.

²¹Appalachian Regional Commission, *Moving Appalachia Forward – Appalachian Regional Commission Strategic Plan 2011-2016*, November 2010.

CANAMEX

The 1,500-mile CANAMEX corridor is a nationally designated High-Priority Corridor linking Canada and Mexico. The corridor traverses five states by way of existing highway segments with the goal of upgrading all segments to at least four lanes along its entire length. One of the most high-profile CANAMEX projects was the completion of the Hoover Dam bypass along U.S. 93 at the Nevada-Arizona border. The bypass was a critical link to keep heavy vehicles off the dam while allowing truckers to avoid a lengthy detour. The bypass opened to traffic in 2010.

CORRIDOR SUMMARY
Typology: Rural, International Trade
Stage of Corridor Development: Partially Built Out
Coalition: State DOTs/Other Public Sector
Modes: Highway, Rail
Goal Areas: Freight/Economic Vitality, Mobility
Data Availability: Low

In 1999, the multistate CANAMEX Corridor Coalition was established under a Memorandum of Understanding (MOU) signed by the five state governors through which the corridor passes to engage in planning and development projects of mutual benefit for the region. Staff support was provided by the Arizona DOT along with active participation by the other DOTs. The coalition published the CANAMEX Corridor Plan in 2001 that identified a series of bold initiatives to improve the safety, security, and efficiency of the corridor.

Over the years, the coalition has faced the challenge of maintaining momentum as administrations change. After each change in administration, the onus was on the DOTs to meet with their governors to underscore the value of the CANAMEX initiative and pursue a renewal of the MOU. As of November 2012, the CANAMEX Corridor Coalition web site is no longer active, suggesting that the multistate coordination is currently dormant.

I-80 Winter Operations Coalition

Interstate 80 is a major east-west corridor that stretches the entire width of the country connecting the east and west coasts. In the winter months, severe winter weather through the mountainous terrain in the western portion of the corridor often results in poor travel reliability, increased delay, or road closures, seriously affecting commerce and goods movement. As a result, the western states of California, Nevada, Utah, and Wyoming initiated the I-80 Winter Operations Coalition to coordinate efforts on how best to link operational processes and data to maximize winter

CORRIDOR SUMMARY
Typology: Rural
Stage of Corridor Development: Established/Built Out
Coalition: State DOTs/Other Public Sector
Modes: Highway
Goal Areas: Freight/Economic Vitality, Preservation, Mobility/Reliability
Data Availability: High

mobility in their I-80 corridor. The Coalition works together to improve the quality of information provided to travelers and to improve the quality of real-time information shared among agencies for decision-making.

The following is a summary of the key noteworthy practices from the I-80 Winter Operations Coalition:

- **Goals and Objectives** – Input from Coalition members and other stakeholders is a critical part of defining the Coalition’s goals, objectives, and issues to be addressed. Coalition states convened an initial workshop in January 2010 to discuss the primary issues, problems, needs, and concerns for moving in a coordinated and integrated direction. From this discussion, the Coalition developed a Strategic Plan later that year that defined two distinct focus (i.e., goal) areas:
 - Provide travelers with the information they need to make informed route and travel decisions; and
 - Coordinate maintenance and operations to promote consistency across state lines.²²
- **Data Sharing/Standardization** – There are many processes, programs, communications, and projects that are performed on a state-by-state basis as funding becomes available or is completed internally that could benefit each state. Coalition states have found value in publishing the results of projects or overviews of programs that are new or existing in each state that would benefit the other states in the Coalition. Leveraging the successes and lessons learned from other states helps to streamline the implementation and operations of the programs that are desired from one state to another.²³
- **Analysis Tools/Capabilities** – The Coalition’s 2010 Strategic Plan includes an inventory of the tools and technologies that Coalition states currently use or have envisioned for future implementation that could support the Coalition’s objectives. The Plan serves as a Coalition resource by providing a description of each tool/technology and inventories availability/use within member states.
- **Mobilization of Partners** – The Coalition is driven largely by transportation department interests (NDOT Headquarters, District 2, and 3; Caltrans District in Kingvale, UDOT Headquarters, and WYDOT Headquarters), while including perspectives from other areas such as highway patrol, maintenance, and other stakeholders. Coalition members and corridor stakeholders typically convene twice a year (once in the spring by webinar and once in-person at a fall conference) to discuss updates and accomplished activities.

²²I-80 Winter Operations Coalition, <http://www.i80coalition.com/>, accessed December 11, 2012.

²³I-80 Winter Operations Coalition Strategic Plan, June 2010.

- **Coordination with Planning Partners** - Stakeholders are asked to participate in specific committees or focus groups as part of activities based on the priority focus areas for the Coalition. This may include participation in Coalition activities, projects, and/or research outside of formal meetings and conferences and could also include participation and presence at Coalition meetings. Additional stakeholders include, but are not limited to, state highway patrol, county public safety, local transportation management centers (TMCs), district-level operations within each state DOT, public information offices (PIOs), regional transportation agencies, local law enforcement, DOT or state information technology and systems managers, and private-sector partners (such as university transportation research centers, tow truck companies, freight companies, the tourism industry, special event planners and organizations, the National Weather Service, and equipment and technology vendors).

I-5 Columbia River Crossing

The I-5 Columbia River Crossing (CRC) project is a joint undertaking between the states of Oregon and Washington. CRC aims to address issues with Interstate 5 where it crosses the Columbia River between the cities of Portland, Oregon and Vancouver, Washington.

The Columbia River Crossing project is owned by the Oregon Department of Transportation (ODOT) and the Washington State Department of Transportation (WSDOT). Additionally, the two MPOs in the project area - Portland Metro and the Southwest Washington Regional Transportation Council (RTC) - are project partners, as are the cities of Portland and Vancouver and the local public transit agencies. FHWA also is a project partner.

The project now known as CRC was catalyzed by the Portland/Vancouver I-5 Trade Corridor Study conducted in 1999 and 2000 by ODOT and WSDOT. This initial effort culminated in a Freight Feasibility and Needs Assessment Final Report, which recommended that the region initiate a public process to develop a plan for improvements to the I-5 corridor. As a result, in 2001 the governors of Oregon and Washington appointed a 26 member I-5 Transportation and Trade Partnership Task Force, which was charged with developing recommendations and determining the necessary levels of investment for improvements to the corridor. Their Final Strategic Plan proposed a set of investments in the corridor for highway, transit, and rail improvements, and recommended the completion of an Environmental Impact Statement (EIS) for the project.

CORRIDOR SUMMARY

Typology: Urban

Stage of Corridor Development:
Proposed

Coalition: State DOTs/Other Public Sector

Modes: Highway, Transit, Bicycle, Pedestrian

Goal Areas: Freight/Economic Vitality

Data Availability: High

In 2005, the project was officially organized under the Columbia River Crossing umbrella. The governors of Oregon and Washington appointed a new 39 member Task Force, as well as a 10 member Project Sponsors Council, to oversee planning activities in the corridor. In 2008, a Draft EIS for the project was published. As part of the EIS process, the Task Force and six local partner agencies recommended a replacement bridge, with light rail, as the locally preferred alternative (LPA). The LPA was consequently adopted into the regional transportation plans of Metro and RTC. At present, the Bridge Review Panel has chosen a deck truss bridge as the replacement structure for the I-5 bridge, and additional bridge, transit, light rail, pedestrian, and bicycle facility designs are currently being refined by ODOT and WSDOT.

The following is a summary of the key noteworthy practices from the CRC project:

- **Goals and Objectives** – Current project goals include improving travel safety and traffic operations on the Interstate 5 crossing’s bridges and associated interchanges; upgrading connectivity, reliability, travel times and operations of public transportation modal alternatives in the Bridge Influence Area (BIA); enhancing highway freight mobility and addressing interstate travel and commerce needs in the BIA; and addressing the Interstate 5 river crossing’s structural integrity.
- **Performance Measures** – For the most recent Project Sponsors Council report, the Performance Measures work group focused on travel times, safety, greenhouse gas emissions, and overall benefit/cost.
- **Management and Operations** – The Postconstruction Travel Demand Management group was charged with assessing the potential to expand TDM strategies to improve the non-single occupancy vehicle (non-SOV) mode share in the post construction period in the most recent Project Sponsors Council report. The work group found that TDM strategies could be developed to shift an additional 11 percent of peak-period person trips crossing the bridge in 2030 to non-SOV modes. The work group identified several additional TDM strategies that were not included in their study that have potential to further reduce drive-alone behavior. These strategies requiring further study include increased light rail ridership, high-occupancy vehicle (HOV) lanes or ramps or other managed lanes, a \$3 peak-period toll, and compact development financial incentives.
- **Oversight/Leadership/Strategic Direction** – The governors of Oregon and Washington appointed a 10 member Project Sponsors Council, which includes representatives from the boards and councils of corridor partner agencies. The council was charged with overseeing the EIS process, project design, project timeline, sustainable construction methods, consistency with greenhouse gas emission reduction goals, and the financial plan. A 39 member project Task Force also was consulted as the project was developed. Final approval of project outcomes was granted by the governors of Oregon

and Washington, the Task Force and Project Sponsors Council, the Federal Transit Administration, and FHWA.

I-15 Mobility Alliance

The I-15 corridor stretches 843 miles from San Diego, California to the Utah/Idaho border, as defined by the I-15 Mobility Alliance. The alliance was created to support efforts to identify and obligate the necessary financial resources to implement worthwhile improvements (projects and services) in the I-15 Corridor, and ultimately adapt and renew them at the end of each successive life-cycle, so that the corridor is sustainable and relevant for current and future generations.

CORRIDOR SUMMARY

Typology: Urban, Rural, International Trade

Stage of Corridor Development: Built Out

Coalition: All of the Above

Modes: Highway, Rail, Water

Goal Areas: Freight/Economic Vitality, Safety, Mobility/Reliability,

Data Availability: High

The I-15 Mobility Alliance consists of a diverse array of stakeholders from the states of California, Nevada, Arizona, and Utah. The alliance desires to expand to include Idaho and Montana, thus including all 1,470 miles of I-15. The entire I-15 corridor was designated by U.S. DOT in 2007 as one of six “Corridors of the Future” owing to its regional significance in the transportation of goods and people.

In March 2012, the Mobility Alliance published its “I-15 Corridor System Master Plan.” This plan covered the ways in which the alliance plans to work together to improve the movement of people and goods through the corridor. It also outlined the mission and organizational structure of the alliance. The master plan gave clear direction for the alliance’s future corridor activities.

Key noteworthy practices from the I-15 Mobility Alliance include:

- **Data Collection/Availability** – The Multistate I-15 Dynamic Mobility Project (I-15 DMP) being pursued by the mobility alliance seeks to obtain, exchange, and disseminate real-time data on all segments of I-15 and all modes. It also hopes to create a seamless ITS backbone from San Diego, CA, to the Utah/Idaho border. Project benefits include filling rural data gaps, providing the freight industry with cost/time saving information, improving public pretrip and en route traveler information for the corridor, and fostering interstate cooperation on ITS planning, ITS operations, and sharing of best practices. The I-15 Mobility Alliance was selected as one of six Corridor Coalitions nationwide to receive \$1,250,000 funding under the Multistate Corridor Operations and Management (MCOM) Program, which will help the alliance achieve these goals.
- **Data Sharing/Standardization** – Corridor-wide data is available in a centralized location (via a consultant) on a wide range of topics for most

jurisdictions within the corridor. Reports and data on environmental, freight, land use, alternative fuel infrastructure, model, rail, road, bridge, safety, socioeconomic, traffic volume, transit, and other areas are contributed by and available to alliance members.

- **Collaboration Among Planning Partners** – Collaboration among planning partners has resulted in the I-15 Corridor System Master Plan, a summary document of a series of technical studies conducted by the I-15 Mobility Alliance. It includes a long-range multimodal plan, and a vision for development of facilities along the corridor. The Master Plan “tells a story of the importance of the corridor and the challenges facing it, and outlines an approach for addressing these challenges, including multijurisdictional and interest group collaboration.”
- **Collaboration Among Modal Partners** – The Master Plan “...views I-15 as a multimodal activity corridor that also includes the energy, communications, data, and resource transmission lines that bind the megaregions of California, Nevada, Arizona, and Utah. This integrated, multimodal perspective will reduce friction between modes of transportation to maximize the carrying capacity for people and goods.” As such, members of the alliance include the Nevada State Office of Energy and NV Energy, as well as transit agencies, MPOs, cities, freight companies, railroads, high-speed rail authorities, environmental protection agencies, departments of aviation, FHWA, the FRA, counties, the Ports of Long Beach and San Diego, and regional councils.

I-5/West Coast Corridor Coalition

The West Coast Corridor Coalition is a collaboration of public, private, and nonprofit entities focused on planning and financing along the West Coast, principally along I-5. The coalition includes members from California, Oregon, Washington, and Alaska.

Started in 2001, the corridor coalition facilitates coordination of system level policies, best practices, and investment strategies, and works together on many common goals and projects that make the north-south corridor “clean, green, and smart.” In 2010, in part due to WCCC sponsorship, the I-5 was selected as one of 18 Marine Corridors by the U.S. DOT. Moreover, WCCC support to coalition members applying for TIGER funding has been helped several win funding. Most recently, ODOT received \$2 million in highly competitive TIGER II funding to install charging stations in rural areas along I-5 in Southern Oregon and on connectors to the Oregon coast and Cascade mountains.

CORRIDOR SUMMARY

Typology: Urban, Rural, International Trade

Stage of Corridor Development: Built Out

Coalition: All of the Above

Modes: Highway, Rail, Water

Goal Areas: Freight/Economic Vitality

Data Availability: Medium

Key noteworthy practices include the areas of:

- **Management and Operations** – The U.S. DOT has approved funding for the WCCC Clean Green and Smart Corridor Development – Multistate Corridor Operations and Management Program in 2012. Funding will be used to develop an Alternative Fuel Infrastructure Inventory and Business Model Template Design. The partnership agreement is currently in development.
- **Data Collection/Availability** – The WCCC has developed a corridor-wide Trade and Transportation Study that highlights the freight challenges in the Corridor. This study is the first step by Coalition members to inform decision-makers about the importance of the Corridor as an unparalleled driver of economic growth and innovative technology.
- **Organizational Structure** – The 30-member WCCC Board is composed of four representatives from each of the four member states. Additionally, WCCC has a 3 member executive committee. Additionally, there are 5 committees on topics ranging from goods movement to environment/ITS. Both private- and public-sector involvement in the organization, as well as nonprofit.
- **Collaboration with Planning Partners** – Through its work program, quarterly meetings, active committees, financial advocacy, conferences, studies, peer exchanges, and web site, the WCCC has continually strived to support its members in pursuing common transportation goals.

Lake Michigan Interstate Gateway Alliance (former Gary-Chicago-Milwaukee Corridor)

The U.S. DOT identified the Gary-Chicago-Milwaukee (GCM) Corridor as an ITS high priority corridor in 1993. The GCM Corridor included all major transportation agencies covering a 16-county region. In 2006, the GCM Corridor members re-evaluated the focus of the program to emphasize coordination of interstate highway operations among agencies around the entire southern Lake Michigan area. The Lake Michigan Interstate Gateway Alliance (LMIGA) was created to fulfill this mission and provide for the safe and efficient movement of traffic across this expanded region that includes 51 counties in southern Wisconsin, northern Illinois, northern Indiana, and southwestern Michigan. LMIGA focuses on traffic operations along major corridors in the Chicago region and surrounding areas to improve safety and mobility.

CORRIDOR SUMMARY

Typology: Urban, Rural

Stage of Corridor Development:
Established/Built Out

Coalition: State DOTs, Tollway Operators

Modes: Highway, Rail

Goal Areas: Freight/Economic Vitality, Safety, Mobility/Reliability, Operations

Data Availability: High

The LMIGA organizational structure includes an Interstate Highway Operations (IHO) Work Group that focuses specifically on efficient interstate traffic operations through collaborative efforts. A Traffic Center Communications (TCC) Subcommittee focusing on center-to-center operations and Traffic Incident Management (TIM) Subcommittee emphasizing transportation system operations and incident management both provide project development for IHO consideration. The initial focus of the original GCM partnership was centered on corridor planning and coordinated responses to traffic congestion. In late 2006, the focus of the coalition (now LMIGA) shifted toward interstate operations.

Noteworthy practices include the following:

- **Data Standardization/Sharing** - The corridor alliance has a strong history of information sharing among partner agencies, and operates a centralized data repository. LMIGA also provides systems information with several other coalitions: Northwest Passage, Mid-America Freight Coalition, and the I-95 Corridor Coalition. Additionally, raw data is available to outside organizations upon request.
- **Availability of Data for Corridor Users** - Real-time reports are created from data provided by a variety of sources, including the Illinois DOT, the Illinois Tollway, the Chicago Skyway, the Wisconsin DOT, the Indiana DOT, the Indiana Toll Road, and the Michigan DOT. Reports cover the following topics: travel time, congestion, incidents, construction, customizable traveler report, truckers report, dynamic message signs, special events, detectors, Chicago traffic, and travel time statistics. The <http://www.travelmidwest.com> web site provides a single location where the unique needs of commercial carriers operating vehicles over both interstates and arterials are addressed. This section is titled the Travel Midwest Truckers Report. The Truckers Report includes travel time watch zones which flag road segments that are experiencing higher than average travel times, a table displaying high severity or long duration incidents, a table for major construction, an announcements section to display major events, and a table of links to web sites for other trucker services. Additionally, the enhanced <http://www.travelmidwest.com> web site for the Gateway Traveler Information System was named ITS Midwest 2010 Project of the Year.
- **Organizational Structure** - LMIGA is comprised of two administrative-level committees that oversee the operations of three working-level subcommittees. Administrative-level committees include the Executive Committee and the Coordination Work Group. The subcommittees include the Interstate Highway Operations Work Group, the Traffic Center Communications Subcommittee, and the Traffic and Incident Management Subcommittee.
- **Collaboration with Planning Partners** - To best leverage existing transportation investments, LMIGA coordinates regularly with the Great Lakes Regional Transportation Operations Coalition (GLRTOC). Through such coordination, LMIGA can increase their range of effectiveness for “long-

haul” travelers and the transportation community. This coordination is an example of low-cost, communication-based initiatives that LMIGA utilizes. Finally, LMIGA also coordinates with Northwest Passage and the I-95 Corridor Coalition on transportation issues.

Great Lakes Regional Transportation Operations Coalition

The Great Lakes Regional Transportation Operations Coalition (GLRTOC) is a partnership of regional agencies that collaborates on initiatives that improve crossregional transportation operations in support of regional economic competitiveness and improved quality of life. The coalition specifically focuses on operations along U.S. 2 and I-94.

GLRTOC was recently awarded a Multistate Corridor Operations and Management (MCOM) grant by the U.S. DOT. This grant will help fund two projects through 2015 that improve data management, operations, communications, and help coordinate multijurisdictional work zones.

The coalition specifically focuses on operations along two demonstration routes:

1. I-94/CA 401 to the south of the Great Lakes and alternate routes (e.g., CA 402/CA 403/I-69) that emphasizes work zone coordination and urban aspects.
2. U.S. 2/CA 17/69/400 to the north of the Great Lakes and alternate routes (e.g., CA28) that emphasizes winter operations and more rural aspects.

Key noteworthy practices include:

- **Availability of Data for Corridor Users** – On-line work zone map for all scheduled road work along regional corridors available at <http://www.glrto.org/workzones/wzim/>. This includes both low- and high-impact work (filters available to show one or the other).
- **Goals and Objectives** – According to the coalition’s web site, the coalition “will provide opportunities for operating the region’s transportation network on a large scale, collective, and consensus basis. This is the beginning of a megaregion transportation operational approach which can lead to addressing the challenges of economic competitiveness, quality of life, traffic congestion, and aging transportation infrastructure. The benefit of this collaboration is to leverage joint funding, compete more effectively for national resources and funding, share and expand best practices to improve travel time and economic competitiveness of the region, benchmark efficient

CORRIDOR SUMMARY

Typology: Urban, Rural, International Trade

Stage of Corridor Development: Built Out

Coalition: State DOTs/Other Public-Sector Agencies

Modes: Highway

Goal Areas: Freight/Economic Vitality, Operations

Data Availability: Medium

operating models, and, ultimately, improve transportation operations for freight movement and travelers throughout the Great Lakes region.”

- **Data Sharing/Standardization** - The coalition is working on data sharing in the area of traffic incident management and emergency traffic operations (TIM/ETO) to create common protocols for major events, and to link operations centers and share contacts.

FAST Corridor

The Freight Action Strategy for the Everett-Seattle-Tacoma Corridor (FAST Corridor), while not a multistate corridor, represents several noteworthy practices in corridor collaboration. FAST is a partnership of 26 cities, counties, ports, Federal, state, and regional transportation agencies, railroads, and trucking interests. These entities work together to address freight mobility problems with coordinated solutions.

CORRIDOR SUMMARY
Typology: Urban, International Trade
Stage of Corridor Development: Partially Built Out
Coalition: All of the Above
Modes: Highway, Rail, Water
Goal Areas: Freight/Economic Vitality, Operations
Data Availability: Medium

The FAST corridor has shared information and funding resources. In some instances, the coalition has shifted resources from delayed projects to those that were ready to be built, in order to benefit the corridor as a whole. Since 1998, the corridor partners have assembled \$568 of funding - both private and public - to finance nine strategic infrastructure improvements and begin construction on four more.

Noteworthy practices have been identified in the areas of:

- **Goals and Objectives** - FAST Corridor partners work together under a common freight mobility vision, which integrates local and regional transportation system improvements along mainline rail lines, and along truck corridors, near ports in the Puget Sound region. The FAST Corridor's goals are to: Improve the functionality, capacity, and connectivity of the mainline rail system; Eliminate chokepoints where railroad and arterial networks intersect; Provide safe railcrossings and reliable emergency access for local communities; and establish reliable truck links between ports, railroad intermodal yards and regional distribution centers.
- **Organizational Structure** - In January 2006 the supportive administrative responsibility for the FAST Corridor was consolidated in the Puget Sound Regional Council (PSRC).
- **Data Collection/Availability** - As part of PSRC's current Congestion Management Process (CMP), freight movement was identified as being one of the most challenging functions of the transportation system to adequately

address. The primary reason identified for this was the lack of available data and analysis tools. In order to adequately incorporate freight into the CMP, and the regional long-range transportation plan, analysis of better data will begin to provide a more accurate picture of the ways that freight movement behaves with regards to regional congestion. Freight data analyses were done in four areas: truck values of time, operating costs, speeds, and performance measures.

I-73/74/75

The National I-73/74/75 Coalition supports the development of a cohesive corridor from Michigan to South Carolina through Ohio, West Virginia, Virginia, and North Carolina. Most information available to the public on the coalition's web site focuses on I-73/74/75's economic impact (and potential economic impact for unbuilt portions). The corridor coalition also has commissioned studies for I-73 as a potential hurricane evacuation route for coastal South Carolina.

CORRIDOR SUMMARY

Typology: Rural, International Trade
Stage of Corridor Development: Partially Built Out
Coalition: All of the Above
Modes: Highway
Goal Areas: Freight/Economic Vitality
Data Availability: Medium

Illiana

This bistate corridor linking I-65 in Indiana and I-55 in Illinois is proposed and currently an EIS is in progress. The corridor has been proposed since the 1909 Plan of Chicago, but has only recently undergone more detailed analysis.

Initial efforts to study the corridor were pursued by Indiana DOT starting in 2007, including a Corridors of the Future application, which was unsuccessful. Nevertheless, a feasibility study was commissioned, with some invited participation by Illinois DOT as well. Subsequent studies were performed by each DOT, culminating the signing of a bistate agreement by the governors of each state to work together.

CORRIDOR SUMMARY

Typology: Urban, Domestic Freight
Stage of Corridor Development: Proposed
Coalition: State DOTs
Modes: Highway
Goal Areas: Freight/Economic Vitality, Mobility/Reliability
Data Availability: Medium

Currently, IDOT is managing the consulting contracts and overall EIS. INDOT is financially participating in the study and will provide leadership for the Indiana portion of the study area. IDOT and INDOT will act as joint lead agencies with FHWA.

As a corridor in its nascent stages of development, the Illiana provides an example of how two states go about building up a coalition, funding a corridor, and perhaps establishing a unique corridor agency to either build, operate, or oversee the corridor. Some of these functions are likely to be taken on by a private concessionaire as both states are interested in using a public-private partnership (P3) of some form.

The intent of the Illiana, expressed by IN and IL, is to provide an alternative to severely congested I-94 at the state line, with particular interest in easing congestion for the large amount of freight traffic in the region. Further, the area around the expressway is strongly freight/logistics focused, and the hope is to connect and further develop this economy.

I-67

This bistate corridor joining I-65 at Bowling Green, Kentucky to proposed I-69 at Washington, Indiana, is proposed and a feasibility study has recently been completed.

It is unique in that it is driven by a bistate, grassroots effort of private businesses and local elected officials, known as the I-67 Development Corporation. Similar to the Illiana, it is in its nascent stages of development, allowing an opportunity to observe the early stages of bistate coalition development. Also, the Corporation is considering P3 funding mechanisms. Unlike the Illiana, however, the effort is funded entirely by the grassroots Corporation, which in turn looks to the state DOTs for buy-in.

Primary unifying themes are connectivity (currently much of the corridor relies on a two-lane U.S. highway), economic development, freight movement (spurring economic development), and safety issues.

Tri-State Performance Measures Partnership

The Tri-State Performance Measures Partnership is a collaboration between Maine, New Hampshire, and Vermont with a focus on performance measures. These states have a strong working relationship which includes the sharing of information, coordinated training exercises, and the cooperative development of the Managing Assets for Transportation Systems (MATS).

CORRIDOR SUMMARY

Typology: Rural
Stage of Corridor Development: Proposed
Coalition: Grassroots
Modes: Highway
Goal Areas: Freight/Economic Vitality, Mobility/Reliability, Safety
Data Availability: Medium

CORRIDOR SUMMARY

Typology: Rural
Stage of Corridor Development: Fully Built-Out
Coalition: State DOTs
Modes: Highway
Goal Areas: Freight/Economic Vitality, Safety, Preservation
Data Availability: Medium

In 2010, the three states signed a Memorandum of Understanding that catalyzed the common development of standardized performance measures for business processes and assets. Performance measures for assets will cover bridge and pavement condition, safety, and traffic signs. Business processes performance measures will include annual bid advertisement percent on time, annual dollar amount advertised compared to planned, and engineers' estimate compared to low bid. This joint effort has led to an increased level of communication and collaboration on issues and objectives relevant to each of the cooperating states. Furthermore, the partners plan to include additional assets and business processes in the future.

Noteworthy practices include the following:

- **Target Setting** - In the goal area of Safety, the partners have adopted the vision of the national Toward Zero Deaths campaign with a target of zero highway deaths. The partners also have safety targets related to crashes involving young drivers, aggressive driving, and impaired driving, among other safety targets.
- **Data Sharing/Standardization** - Performance data is shared by each state and compiled by Vermont DOT.
- **Goals and Objectives** - The partnership started with the near-term objective of rolling out three to six standardized performance measures for assets as well as business practices and reporting on them quarterly thereafter.

Maine East-West Corridor

The proposed East-West Corridor in Maine would run approximately 220 miles from the international border crossing at Calais, ME to the international crossing at Coburn Gore, Maine. Unlike the vast majority of road construction in the United States, proponents of the project have stated that it will be privately funded, owned, and operated.

CORRIDOR SUMMARY

Typology: Rural

Stage of Corridor Development:
Proposed

Coalition: Private/Other

Modes: Highway

Goal Areas: Freight/Economic Vitality

Data Availability: Low

Currently, a \$300,000 financial feasibility study, funded through Maine DOT, is underway. The highway is proposed to link the deep water port at Easport, Maine with the Canadian cities of Montreal and Toronto, and with the industrial Midwest. Project proponents also foresee utility and communications connections as a part of the corridor.

Noteworthy practices include the following:

- **Goals and Objectives** - Goals include the development of a long-term transportation, utility, and communications corridor, improved connections between U.S. and Canadian Heartland and Atlantic Ports, and the development of preclearance border crossing demonstrations.
- **Organization Funding** - The coalition advocating for the corridor's construction is privately funded. Moreover, the coalition claims that construction will be privately funded, making this example unique among the corridors examined.

3.0 Maturity Model

3.1 KEY CRITERIA AND APPROACH TO DEVELOPING THE MODEL

The development of the maturity model began with the three overarching themes identified by FHWA:

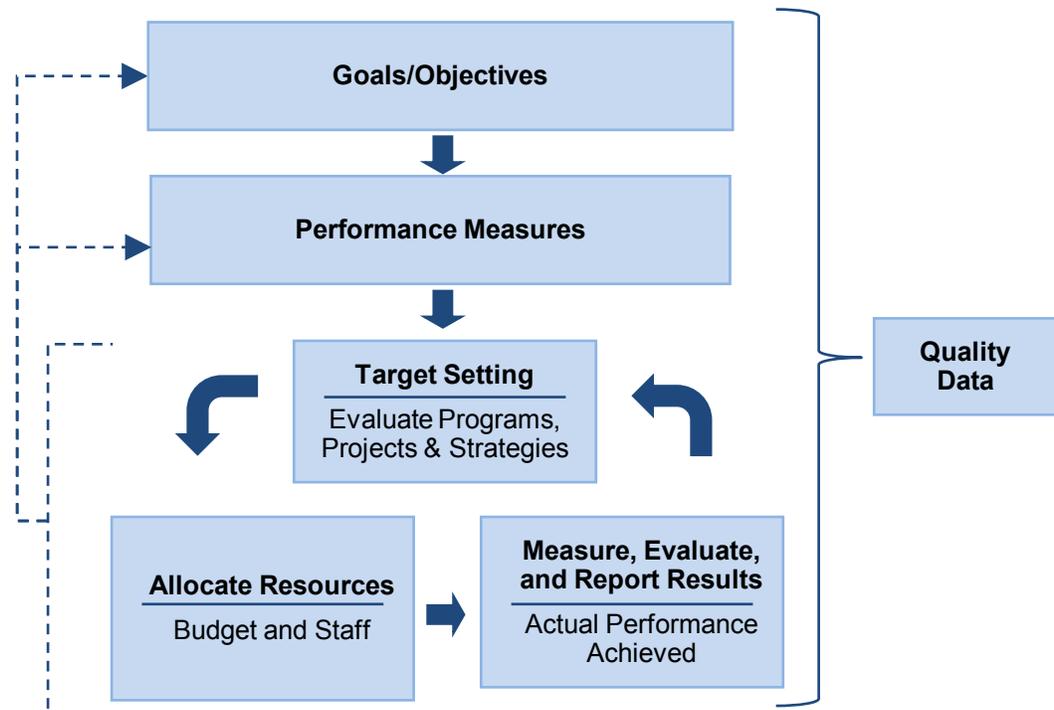
- Performance Management Processes;
- Technology/Tools; and
- Institutional/Governance.

Each element for judging a corridor's maturity falls within these categories.

Performance Management Processes

The elements of the maturity model within the theme of Performance Management Processes reflect the fundamental concepts of a performance-based planning and programming framework (Figure 3.1).

Figure 3.1 Performance-Based Planning and Programming Framework



Source: Cambridge Systematics, Inc.

These elements include:

- **Goals/Objectives** – An organization’s goals and objectives define priorities and provide the foundation for performance-based planning and management decisions;
- **Performance Measures** – Performance measures establish a set of metrics to help organizations monitor progress toward achieving its goals and objectives;
- **Target Setting** – Establishing quantifiable targets for each performance measure allows an organization to gauge progress over time relative to a desired goal;
- **Resource Allocation** – An organization builds on the preceding steps by allocating resources such as time and money through budgeting processes to achieve specific performance targets; and
- **Performance Monitoring and Reporting** – Monitoring and reporting progress to decision-makers and other stakeholders allows organization to identify key factors influencing performance and necessary actions to improve results.

The maturity model also includes two additional elements within the theme of Performance Management Processes to reflect the institutionalization of performance management practices within other agency/organization planning activities:

- **Management and Operations** – Captures the degree to which organizations have applied a systematic, performance-based approach for congestion management and operations using outcome-oriented performance measures and targets.
- **Integration into Long-Term Planning and Programming** – Assesses the degree to which an organization has translated the performance-based planning and programming concepts identified in Figure 3.1 into real-world transportation planning applications. It also addresses the process for implementing projects identified by the organization, including how the projects are programmed and funded.

Technology/Tools

The second key theme of the maturity model relates to the availability and application of technology and tools to support performance-based decision-making in a corridor. Elements within this theme include:

- **Data Collection/Availability** – Effective decision-making through each element of the performance management framework described above requires a solid foundation of accurate, timely, and appropriate data. This element assesses the availability and quality of data across all modes within the corridor.

- **Data Sharing/Standardization** – As data collection across a multistate corridor typically involves multiple jurisdictions, this element addresses the ability of a corridor coalition/organization to compile, standardize, and share data across jurisdictional boundaries for decision-making.
- **Analysis Tools/Capabilities** – This element reflects the capabilities of an organization to analyze corridor data and translate it into information that can supports corridor-level planning and the development of performance-based management and operations strategies.
- **Availability of Data for Corridor Users** – This element assesses the ability of an organization to share information with corridor travelers, including the quality of real-time information.

Institutional/Governance

The third key theme of the maturity model reflects the institutional/governance framework overseeing multistate coordination activities. These include:

- **Mobilization of Partners** – This element addresses the degree to which cohesive partnerships are formalized to manage performance within a corridor.
- **Organizational Structure/Leadership/Strategic Direction** – Assesses the degree to which a multijurisdictional organization is proceeding under consistent leadership, guided by strategic direction and oversight. Some corridor groups operate under a formalized structure while others offer a more grassroots, informal approach.
- **Organization Funding** – The source and availability of a consistent, reliable funding source is an important requirement for a sustained multistate effort over time.
- **Collaboration with Modal Partners** – This element considers the organization’s working relationships with other modal agencies managing operations within the corridor, such as transit or rail operators.
- **Collaboration with Planning Partners** – This element considers the organization’s working relationships with the state DOTs, MPOs, public safety agencies, local governments, and the private sector to plan projects and manage operations within the corridor.

Levels of Organization Maturity

After independently identifying appropriate elements for each of the three categories, the elements were augmented through research of other relevant,

performance-themed maturity models.²⁴ This provided the framework for the model. Next, levels of maturity were classified, also based on the review of relevant maturity models. The levels, from least to most mature, are as follows:

- **Level 1 - None/Limited.** At this lowest level of maturity, activities for a given model element are either limited or nonexistent.
- **Level 2.** This level of maturity indicates that there is some activity within the corridor for a given element. Activities are isolated and not coordinated across the corridor, and may only exist within one portion or be undertaken by one agency within the corridor. For many elements, this level can be described as “ad hoc.”
- **Level 3.** For a given element at this maturity level, the earliest signs of corridor-level coordination across jurisdictions are present. Coordination may not include all jurisdictions or modes within the corridor, however. In many instances, corridor activities at this level of maturity can be said to be “initiated.”
- **Level 4.** At this level of maturity, coordinated, corridor-wide activities are taking place for the element at hand. Whereas undertakings at Level 3 may have still been in the planning stages, at this level they are executed. In many cases in the model, this level of maturity can be described as “performed.”
- **Level 5.** At the fifth level of maturity, operations and planning activities are united such that corridor-wide performance is prioritized. While individual jurisdictions still exhibit autonomy, their activities and actions treat the corridor as a single, cohesive unit. This level of maturity can, in many instances, be best described as “integrated.”
- **Level 6 - Optimized.** At this highest level of maturity, all corridor planning and operations undertakings among partner agencies are unified. Additionally, activities and processes are continually monitored and improved.

With the framework and levels of maturity in place, each level of maturity was detailed for each element in the context of performance management among multiple jurisdictions and multiple modes. This further development of the maturity model was an iterative process and relied heavily on information gleaned from the corridor literature review. The literature review revealed best practices for each of the elements; conversely, in certain instances, it highlighted what a less mature state of a given element might look like.

²⁴ Examples of relevant performance-themed maturity models include: FHWA, *Creating an Effective Program to Advance Transportation System Management and Operations: Primer*, January 2012; IBM, *Delivering Intelligent Transport Systems*, 2007; and Software Engineering Institute, *Smart Grid Maturity Model Update*, October 2010.

In some instances, the best practice for an element from the literature would not necessarily be considered most mature (i.e., Level 6/Optimized). In these cases, the definitions of the higher levels of maturity were extrapolated from the less mature levels to identify potential for improvement. For example, the literature review found the most mature level of “Resource Allocation” to be “Projects undertaken that cross jurisdictional boundaries and require funding from multiple partnering agencies.” However, ideally resources and staff would be pooled across all jurisdictions within a corridor (i.e., Level 6/Optimized). While no corridor in the literature review exemplified this level of maturity for resource allocation, this is a reasonable expectation for the most mature level of corridor integration and coordination.

3.2 SUGGESTED MODEL

The suggested draft maturity model can be found in Figure 3.2 below. Levels of maturity range from 1 (None/Limited) to 6 (Optimized). Elements of the model are grouped into three main topical areas: Performance Management Processes, Technology/Tools, and Institutional/Governance as described above.

Figure 3.2 Maturity Model

			Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Performance Management Processes	Goals/ Objectives	Safety	No goals/objectives defined	Goals/objectives defined for portions of corridor	Goals/objectives defined across full corridor	Policies in place across jurisdictions established to achieve goals/objectives	Policies in place across jurisdictions established to achieve goals/objectives; progress toward achieving goal area tracked	Policies to achieve goals/objectives established and successful; new goals/objectives continually established after previous goals/objectives met
		Reliability						
		Freight						
		Economic Development						
		Infrastructure Conditions						
	Performance Measures	Safety	No performance measures considered or selected	Defined metrics (by mode, if applicable); performance measures applied in portion of corridor.	Limited integration of performance measurement across organizational silos	Performance measures applied for some modes across entire corridor, or for all modes in portion of corridor; some data integration among partner agencies	Shared, multimodal, corridor-wide performance metrics	Real-time data collection and corridor-wide performance management across all modes
		Reliability						
		Freight						
		Economic Development						
		Infrastructure Conditions						
	Target Setting	Safety	No performance management framework or targets established	Factors influencing target-setting examined	Appropriate approaches for target-setting selected	Methods for achieving targets established	Progress toward targets tracked	Targets adjusted over time
		Reliability						
		Freight						
		Economic Development						
		Infrastructure Conditions						

	Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Resource Allocation	Allocation of staff and funding not guided by performance management	Limited use of performance measures to guide project selection; limited coordination of these processes across jurisdictions	Some funding coordination/joint advocacy by corridor partners; projects selected using performance measures and targets but within individual jurisdictions	Projects prioritized and programmed using performance management that cross jurisdictional boundaries and require funding from multiple partnering agencies	Staff in place devoted to corridor-wide projects and/or performance management; projects that benefit entire corridor selected using performance management	Complete financial coordination across all modes in corridor using performance management; staff and other resource pooling
Performance Monitoring and Reporting	No performance monitoring or reporting	Some performance monitoring/ reporting for defined performance metrics in portion of corridor	Performance monitoring and reporting in portion of corridor; limited integration across partner agencies	Performance monitoring/ reporting applied for some modes across corridor, or for all modes in portion of corridor; some data integration among partner agencies	Shared, multimodal, corridor-wide performance monitoring/ reporting	Real-time data collection and corridor-wide performance monitoring and reporting across all modes
Management and Operations	Little or no management across jurisdictional boundaries	Some management/ operations coordination between different corridor agencies, or among different modes within one agency	Corridor management/operations agreement in place between various corridor agencies	Corridor-wide operations optimization performed on at least one mode	ITS integration between corridor jurisdictions or across modes	Full ITS and other operations/management integration across all corridor jurisdictions and modes
Integration into Long-Term Planning and Programming	Long-term planning and programming siloed; performance management not integrated	Some joint long-term planning done across jurisdictions using performance management; little or no joint programming	Joint long-term planning across jurisdictions; joint programming initiated	Joint strategic/long-term planning using performance management performed for at least one mode	Corridor-wide strategic/long-term planning and programming using performance management integrated into long-range plans of participating agencies	Complete integration of corridor-wide needs and performance into long-term planning and programming process across all modes with understanding of investment tradeoffs

		Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Technology/Tools	Data Collection/ Availability	Incomplete or no data collected or available	Limited data collected/available, or data only available for portion of corridor or network element; manual input	Some automated data collection; data for at least one mode available for entire corridor	Automated data collection/remote sensing for at least one mode in portion of corridor; data available across entire corridor for multiple modes	Automated data collection/remote sensing for multiple modes across entire corridor; data available across entire corridor for multiple modes	Continuous, automated data collection across all modes for entire corridor
	Data Sharing /Standardization	Data siloed among different agencies	Ad hoc data sharing across jurisdictions	Some data sharing among partner agencies for at least one mode	Data shared by some partner agencies among all modes	At least some data shared among all partner agencies for all modes	Complete sharing of all available data; central data repository
	Analysis Tools/Capabilities	Little or no data analysis capabilities	Ad hoc analysis	Data analysis undertaken across jurisdictions for at least one mode	At least some analysis undertaken across jurisdictions for all modes	High-level data analysis across jurisdictions in near real-time	Detailed (multimodal, if applicable) analysis in real-time
	Availability of Data for Corridor Users	No data made available to corridor users	Some data made available to specialized users (i.e., freight)	Some data made available to users across multiple modes in portion of corridor	Multiple types of data (i.e., crash, congestion) made available for portion of corridor for single mode	Multiple types of data (i.e., crash, congestion) made available across corridor for multiple modes	Real-time and archived data available in centralized location for all modes and users (including data for activities such as EMS vehicle routing, longer term planning processes, etc.)
Institutional/ Governance	Mobilization of Partners	Little or no mobilization of corridor partners	Communication lines open between partner agencies within corridor	Partner agencies collaborate joint funding applications	Partner agencies or corridor coalition coordinate lobbying efforts	Partner agencies or corridor coalition successful at obtaining funding for multijurisdictional corridor management for at least one mode	Partner agencies or corridor coalition successful at obtaining funding for multijurisdictional corridor management for all modes

	Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Organizational Structure/ Leadership/Strategic Direction	No formal organizational structure or leadership established	Ad hoc organizational structure; some discussion of strategic direction between partner agencies	Lead agency established; organizational structure established for at least one mode in corridor across multiple jurisdictions	Partner agencies have executed agreement for organizational structure	Partner agencies have staff dedicated to corridor-wide activities; strong oversight mechanism and strategic plan in place to guide corridor management efforts	Corridor coalition/organization has Chief Executive, Board, and Committees that represent all modes; every partner agency has staff charged with integrating corridor management with other corridor partners
Organization Funding	No formal corridor-wide funding arrangement	Corridor collaboration undertaken on an ad hoc basis using individual agency funds	Memorandum of Understanding executed between multiple state DOTs in corridor regarding funding	Some corridor activities jointly funded	Jointly funded corridor planning and management agency oversees all cross-jurisdictional corridor planning and management	All cross-jurisdictional corridor planning and management activities jointly funded
Collaboration among Modal Partners	No Collaboration	Limited collaboration between partners	Some collaboration between modes within portion of corridor	Collaboration among different agencies and modes that takes management of all assets into consideration	Proactive (multimodal if applicable) management of infrastructure assets by institutional partners	Corridor capacity integrated and managed across networks; corridor treated as system rather than individual network assets
Collaboration with Planning Partners (DOTs, MPOs, etc.)	No Collaboration	Limited collaboration between partners	Memorandum of Understanding executed between multiple jurisdictions in corridor	Some collaboration between planning partners from multiple jurisdictions in at least a portion of corridor	Coordinated planning efforts between State DOTs, MPOs, transit authorities, etc., within corridor	All planning activities that affect corridor performance fully integrated among all partner agencies

Source: Cambridge Systematics, Inc.

3.3 CASE STUDY APPLICATION

I-95 Corridor Coalition

Organization Formation

The I-95 Corridor Coalition has become one of the best known corridor organizations in the United States. The coalition has formally existed since the early 1990s. Informal meetings with stakeholders began in the late 1980s. The organization's formation as a permanent entity emerged out of the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 that led to the first sustained funding. ISTEA established High-Priority NHS Corridors along with funding for High-Priority NHS Corridor Studies and a High-Priority NHS Corridor Revolving Fund that has helped to fund the I-95 Corridor Coalition. Since 1993, the Coalition has received significant funds from Federal Surface Transportation Legislation, including ISTEA and the Transportation Equity Act for the 21st Century (TEA-21).²⁵



**I-95 CORRIDOR
COALITION**

Source: I-95 Corridor Coalition.

Several of the early advocates for the organization's formation came out of the Maryland State Highway Office. Hal Kassoff served as the Coalition's founding chairman and Emil Frankel served as the organization's founding vice-chair.

The need to establish the coalition emerged from the increased focus on ITS issues in the late 1980s and early 1990s. ITS had been featured prominently within ISTEA and this led to national attention on the state of the ITS industry. At the same time, electronic tolling was being launched or developed in several areas which drew attention to the eventual need for interoperability.

The Northeast was a natural test area for the ITS issues that were put forward by ISTEA. Given that their highway systems were largely built out, the DOTs of the Northeast had a very operations-oriented, as opposed to an engineering-oriented, focus. This orientation made the northeastern state DOTs well positioned to try out new ITS-oriented technologies. Another factor that improved the momentum for coordination included the presence of congestion along multiple locations of the I-95 corridor. The activities of the early I-95

²⁵http://www.i95coalition.org/i95/Portals/0/Public_Files/forms-guidelines/Procedural_Guidelines_2012_1213%20Update%20Final.pdf

corridor coalition were not seen as unprecedented given that the Northeast Corridor included states that regularly interacted with each other on joint planning issues due to their small size and shared transportation assets.

The emergence of ITS technology and support from ISTEA provided the states within the northeast a policy lens to address a number of related big picture policy questions, such as:

- What should states do to better understand what transportation priorities the region should have?
- How could new technology be used to coordinate responses to major events like hurricanes and other incident management challenges?

The early advocates for a coalition based around I-95 convened leaders of various preexisting organizations like Northeast Association of State Transportation Officials (NASTO) and the International Bridge, Tunnel and Turnpike Association (IBTTA) in order to develop ideas on what potential niche a coalition could fill and how it could best incorporate ITS technologies.²⁶

Predecessor Organizations and Early Development

The I-95 Corridor Coalition was the first organization of its kind that covered a wide range of operational challenges across multiple states. The technology coordination aspects were modeled in part after TRANSCOM – an organization developed by the Port Authority of NY/NJ and a number of other New York-based agencies, including MTA, Metro North, and NJ Transit which sought to improve mobility and safety by using existing traffic and transportation management systems.²⁷ TRANSCOM was later selected as the Coalition’s interim communications facility to provide a clearinghouse for corridor-wide activity.²⁸

In May 1992, I-95 Corridor Coalition was formed stretching from Maine to Virginia with operations and incident management as the focus areas. In March 1993, the U.S. DOT formally designated the I-95 Northeast Corridor as a Priority Corridor.²⁹ ISTEA defined a priority corridor as having “traffic density above the

²⁶The International Bridge, Tunnel, and Turnpike Association (IBTTA) is the worldwide association for the owners and operators of toll facilities and the businesses that serve tolling.

²⁷TRANSCOM improves the mobility and safety of the traveling public by supporting its member agencies through interagency communication and the enhanced utilization of their existing traffic and transportation management systems. Further, as additional systems become available, TRANSCOM is a forum for ensuring that they are implemented in a coordinated manner.

²⁸<http://www.ite.org/Membersonly/annualmeeting/1995/AHA95C94.pdf>.

²⁹<http://www.ite.org/Membersonly/annualmeeting/1995/AHA95C94.pdf>.

national average, severe or extreme ozone nonattainment, a variety of transportation facilities and an inability to significantly expand capacity.”³⁰ By 1995, the Coalition was governed by an Executive Board made up of a CEO, and a Steering Committee that included both policy and technical staff from each of the member agencies. While not part of the original structure, the Coalition decided to establish an executive director position to provide leadership independent of individual members. Morey Rothenberg became the Coalition’s first executive director.

Early projects included traffic management centers for incident response, Variable Message Signs (VMS), and highway advisory radio. The Coalition convened players and established the protocols for VMS along the corridor in order to determine how states could use VMS to establish a consistent set of messages. These activities attracted broad support because they did not duplicate services that were already being performed by other agencies.

Evolution of Coalition Activities

The coalition prepared its first five-year business plan in 1993. ITS projects funded in the early years of the Coalition included the “National Transportation Communication ITS Protocol (NTCIP) for VMS,” funded in 1995; and an “Early Information Exchange Network (IEN),” funded from 1993 to 1996, in order to expand information exchange between major transit agencies, airport authorities, commuter rail operators, motor carrier divisions and intercity bus operators.

In addition to ITS, some of the early goals of the Coalition were to establish shared transit information and trip itineraries in order to eventually get to shared payment for transit services. By the late 1990s the Coalition’s principal activities shifted to tolling as the implementation of automated tolling on the corridor became a dominant concern for several member agencies. In 1998, the Coalition funded an “Assessment of Tolling Interoperability.” The Coalition has also explored new funding strategies such as the “Multistate VMT-Based Charge System.”

Since 2000, the Coalition’s membership has moved south of Virginia. Florida was the first state to join the Coalition outside the Northeast and Mid-Atlantic. Georgia, South Carolina, and North Carolina have subsequently joined the Coalition. Through discussions with state DOTs, the Coalition carved out a niche that complemented the activities that were being undertaken by state DOTs without undermining the DOTs’ position in charge of operational issues.

In recent years, the Coalition’s activities have been expanded to include freight. The Mid-Atlantic Rail Operations Study (MAROPS) was the first major effort that brought in freight and catered to the interests of the newly joined southern states. Rail operators began to partner with the Federal government on truck

³⁰<http://www.ite.org/Membersonly/annualmeeting/1995/AHA95C94.pdf>.

diversion efforts around the time of MAROPS and took a more active role in the Coalition. The Coalition had some growing pains while integrating rail and maritime interests while maintaining a focus on ITS and other highway priorities. Although the Coalition began research on Commercial Vehicle Operations in its first five-year program, freight activities had been a modest component of the Coalition's activities at its inception. This began to change in 1997 the Coalition received a \$3.1 million earmark from Federal Motor Carrier Safety Administration (FMCSA) that was used for facilitated meetings among the states in large part to identify freight needs and potential freight projects. The demand for this activity was aided by the fact that every state was required by FMCSA to create a Commercial Vehicle Operations business plan.

Stakeholder Integration

The Coalition has broadened its membership in recent years, not only by expanding geographically, but also by including a wider range of stakeholders as full or affiliate members. MPOs were not initially included within the organizational structure but several have become affiliate members in the last six years. Affiliate members do not vote; however, they are allowed to attend of the Coalitions' executive meetings. The wider program committees handle specific topics. The Coalition has stressed the importance of including parties from outside the DOTs to gain a broader perspective. While the coalition has relied on bylaws for the better part of the decade that set forward the objectives of the organization, it has generally not established formal MOUs.

Funding

With the passage of TEA-21, the Coalition received an annual allocation of funds written into the bill. This produced more reliable income and allowed the Coalition to build a more robust research program. The Executive Director at the time, John Baniak, stressed that stability of funding was as important to corridor coalitions as level of funding. Federal funding is important because many of projects the Coalition pursues transcend the value of one state.

At present, each program committee is led by a staff member. Funding from member states covers the Coalition's base-level operations of three program-level staff; however, it is not sufficient to issue significant RFPs. The Maryland State Highway Administration administers the money through the University of Maryland. All staff are officially employees of the University of Maryland.

Balancing Objectives

The Coalition views the lack of formalized MOUs as a key advantage in keeping stakeholders at the table and adapting to emerging needs. Members generally understand that there are not sufficient funds to fulfill all of the ideas on the table and the most important goal is to finish the efforts that have been started.

Use of Performance Measures

The Coalition created a strategic vision for 2040 in order to demonstrate a vision for the next 30 years, yet it has always avoided putting out specific “targets” as to what should be achieved. Instead the Coalition has relied on descriptive targets and has avoided hard numbers. The Coalition has been hesitant to recommend performance measures as these decisions are ultimately up to the states. Rather, the Coalition provides a forum in which states can discuss which performance measures they are using and what measures they are pursuing. Nevertheless, the Coalition does directly measure and report real-time speed, travel time, expected speed and free-flow speed through its INRIX based data.

Data Sharing/Communication with Other Organizations

The Coalition has established a systemwide congestion monitoring system relying on INRIX as a pooled fund project. Some states are able to buy this data from INRIX. The ICAT and WEBCAT are the other tools that the Coalition has developed. Data is made available to DOTs and MPOs with signed usage agreements. Every other month the Coalition holds a webinar with a Vehicle Probe Project team to assess the status of this ongoing effort.

Maturity Model Assessment

Figure 3.3 illustrates an assessment of the Coalition’s current organizational structure and multistate planning capabilities against the maturity model developed for this study. The assessment is based on information gathered from case study interviews, completion of the self-assessment tool, and supporting documentation. Several observations on the Coalition’s maturity assessment are provided below:

- **Goals and Objectives.** The I-95 Corridor Coalition received the highest rating for Goals/Objectives related to Safety, Reliability and Freight. Safety has been a major focus of the coalition from the beginning and is an area that is continuously tracked through the incident management and safety committee. Reliability for both passenger and freight vehicles are tracked through the Coalition’s INRIX and pilot probe technologies. Economic development and infrastructure conditions are often mentioned in Coalition sponsored publications but are not a key focus area.
- **Performance Measures.** The Coalition collects a large amount of data that could be used to generate performance measures. The Coalition, however, has generally avoided the formal codification of performance measures, preferring to leave this activity to the states. The clearest areas in which the Coalition gathers performance data is through INRIX, which tracks flow conditions along I-95 and connecting corridors. The Coalition has also assessed the conditions of key assets through its major research efforts such as the MAROPs and NEROPs reports.

- **Target Setting.** The I-95 Corridor Coalition prefers to use qualitative descriptions in describing targets. In general, the Coalition prefers to not put out definitive targets for infrastructure quality that the Coalition has no ability to directly influence. Through its coordination activities, the Coalition helps member states with target setting by sharing the activities of other states.
- **Resource Allocation.** The Coalition has full-time staff dedicated to administering different aspects of the portfolio. General performance management principals are followed when selecting projects.
- **Performance Monitoring and Reporting.** The Coalition uses several tools including INRIX and the ICAT model to monitor activity within the corridor.
- **Management and Operations.** ITS integration was one of the foundational goals of the I-95 Corridor Coalition. For two decades the Coalition has worked to improve coordination on highways through Variable Message Signs, through real time information on traffic flows and sharing of transit performance data.
- **Integration into Long-Term Planning and Programming.** The data that the Coalition collects has been integrated, formally and informally, into the plans of several states.
- **Data Collection/Availability.** The corridor utilizes automated data collection, which is continuous in the case of INRIX, but not across all modes for the entire corridor.
- **Data Sharing/Standardization.** To the extent feasible, the Coalition makes data available to its members and to the public. It also publishes publically accessible reports.
- **Analysis Tools/Capabilities.** The Coalition conducts ongoing research and data analysis using its own on-site staff and contractors.
- **Availability of Data for Corridor Users.** Through its research library, the Coalition provides a rich resource of data on safety, congestion and freight activity to users and the general public.
- **Mobilization of Partners.** The Coalition has been very successful over many years in garnering funding for a diverse range of activities.
- **Organizational Structure/Leadership/Strategic Direction.** The Coalition has developed a future vision that guides its overall direction. It maintains contacts with point persons in various member agencies who donate time to assisting with coalition activities. It has a formalized organizational structure with emphasis areas.
- **Collaboration amongst Modal Partners.** For the last decade the Coalition has emphasized additional coordination with the Class I railroads as well as the incorporation of ports and Marine Highways into the Corridor concept.
- **Collaboration with Planning Partners.** The Coalition carries out significant collaboration activities while maintaining a degree of separation from planning activities that are considered the internal purview of the states.

Figure 3.3 I-95 Corridor Coalition Maturity Model Assessment

		Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized	
Performance Management Processes	Goals/ Objectives	Safety	No goals/objectives defined	Goals/objectives defined for portions of corridor	Goals/objectives defined across full corridor	Policies in place across jurisdictions established to achieve goals/objectives	Policies in place across jurisdictions established to achieve goals/objectives; progress toward achieving goal area tracked	
		Reliability						
		Freight						
		Economic Development						
		Infrastructure Conditions						
	Performance Measures	Safety	No performance measures considered or selected	Defined metrics (by mode, if applicable); performance measures applied in portion of corridor.	Limited integration of performance measurement across organizational silos	Performance measures applied for some modes across entire corridor, or for all modes in portion of corridor; some data integration amongst partner agencies	Shared, multi-modal, corridor-wide performance metrics	Real-time data collection and corridor-wide performance management across all modes
		Reliability						
		Freight						
		Economic Development						
		Infrastructure Conditions						
	Target Setting	Safety	No performance management framework or targets established	Factors influencing target-setting examined	Appropriate approaches for target-setting selected	Methods for achieving targets established	Progress toward targets tracked	Targets adjusted over time
		Reliability						
		Freight						
		Economic Development						
		Infrastructure Conditions						

		Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Performance Management Processes	Resource Allocation	Allocation of staff and funding not guided by performance management	Limited use of performance measures to guide project selection; limited coordination of these processes across jurisdictions	Some funding coordination/joint advocacy by corridor partners; projects selected using performance measures and targets but within individual jurisdictions	Projects prioritized and programmed using performance management that cross jurisdictional boundaries and require funding from multiple partnering agencies	Staff in place devoted to corridor-wide projects and/or performance management; projects that benefit entire corridor selected using performance management	Complete financial coordination across all modes in corridor using performance management; staff and other resource pooling
	Performance Monitoring and Reporting	No performance monitoring or reporting	Some performance monitoring/reporting for defined performance metrics in portion of corridor	Performance monitoring and reporting in portion of corridor; limited integration across partner agencies	Performance monitoring/reporting applied for some modes across corridor, or for all modes in portion of corridor; some data integration amongst partner agencies	Shared, multi-modal, corridor-wide performance monitoring/reporting	Real-time data collection and corridor-wide performance monitoring and reporting across all modes
	Management and Operations	Little or no management across jurisdictional boundaries	Some management/operations coordination between different corridor agencies, or among different modes within one agency	Corridor management/operations agreement in place between various corridor agencies	Corridor-wide operations optimization performed on at least one mode	ITS integration between corridor jurisdictions or across modes	Full ITS and other operations/management integration across all corridor jurisdictions and modes
	Integration into Long-Term Planning and Programming	Long-term planning and programming siloed; performance management not integrated	Some joint long-term planning done across jurisdictions using performance management; little or no joint programming	Joint long-term planning across jurisdictions; joint programming initiated	Joint strategic/long-term planning using performance management performed for at least one mode	Corridor-wide strategic/long-term planning and programming using performance management integrated into long range plans of participating agencies	Complete integration of corridor-wide needs and performance into long-term planning and programming process across all modes with understanding of investment trade-offs

		Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Technology/Tools	Data Collection /Availability	Incomplete or no data collected or available	Limited data collected/available, or data only available for portion of corridor or network element; manual input	Some automated data collection; data for at least one mode available for entire corridor	Automated data collection/remote sensing for at least one mode in portion of corridor; data available across entire corridor for multiple modes	Automated data collection/remote sensing for multiple modes across entire corridor; data available across entire corridor for multiple modes	Continuous, automated data collection across all modes for entire corridor
	Data Sharing/Standardization	Data siloed among different agencies	Ad hoc data sharing across jurisdictions	Some data sharing among partner agencies for at least one mode	Data shared by some partner agencies among all modes	At least some data shared among all partner agencies for all modes	Complete sharing of all available data; central data repository
	Analysis Tools/Capabilities	Little or no data analysis capabilities	Ad hoc analysis	Data analysis undertaken across jurisdictions for at least one mode	At least some analysis undertaken across jurisdictions for all modes	High-level data analysis across jurisdictions in near real time	Detailed (multi-modal, if applicable) analysis in real time
	Availability of Data for Corridor Users	No data made available to corridor users	Some data made available to specialized users (i.e. freight)	Some data made available to users across multiple modes in portion of corridor	Multiple types of data (i.e., crash, congestion) made available for portion of corridor for single mode	Multiple types of data (i.e., crash, congestion) made available across corridor for multiple modes	Real-time and archived data available in centralized location for all modes and users (including data for activities such as EMS vehicle routing, longer term planning processes, etc.)

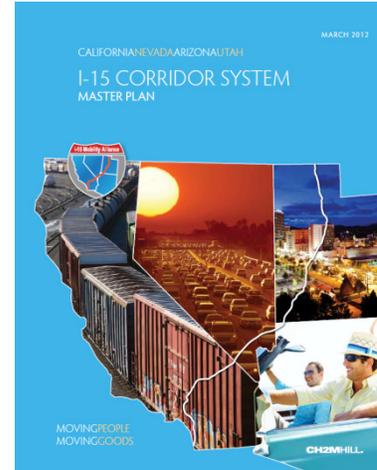
		Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Institutional/ Governance	Mobilization of Partners	Little or no mobilization of corridor partners	Communication lines open between partner agencies within corridor	Partner agencies collaborate joint funding applications	Partner agencies or corridor coalition coordinate lobbying efforts	Partner agencies or corridor coalition successful at obtaining funding for multi-jurisdictional corridor management for at least one mode	Partner agencies or corridor coalition successful at obtaining funding for multi-jurisdictional corridor management for all modes
	Organizational Structure/ Leadership /Strategic Direction	No formal organizational structure or leadership established	Ad hoc organizational structure; some discussion of strategic direction between partner agencies	Lead agency established; organizational structure established for at least one mode in corridor across multiple jurisdictions	Partner agencies have executed agreement for organizational structure	Partner agencies have staff dedicated to corridor-wide activities; strong oversight mechanism and strategic plan in place to guide corridor management efforts	Corridor coalition/ organization has Chief Executive, Board, and Committees that represent all modes; every partner agency has staff charged with integrating corridor management with other corridor partners
	Organization Funding	No formal corridor-wide funding arrangement	Corridor collaboration undertaken on an ad hoc basis using individual agency funds	Memorandum of Understanding executed between multiple State DOTs in corridor regarding funding	Some corridor activities jointly funded	Jointly-funded corridor planning and management agency oversees all cross-jurisdictional corridor planning and management	All cross-jurisdictional corridor planning and management activities jointly funded
	Collaboration among Modal Partners	No Collaboration	Limited collaboration between partners	Some collaboration between modes within portion of corridor	Collaboration among different agencies and modes that takes management of all assets into consideration	Proactive (multimodal if applicable) management of infrastructure assets by institutional partners	Corridor capacity integrated and managed across networks; corridor treated as system rather than individual network assets
	Collaboration with Planning Partners (DOTs, MPOs, etc.)	No Collaboration	Limited collaboration between partners	Memorandum of Understanding executed between multiple jurisdictions in corridor	Some collaboration between planning partners from multiple jurisdictions in at least a portion of corridor	Coordinated planning efforts between State DOTs, MPOs, transit authorities, etc. within corridor	All planning activities that affect corridor performance fully integrated among all partner agencies

Source: Cambridge Systematics, Inc.

I-15 Mobility Alliance

Organization Formation and Evolution

The I-15 Mobility Alliance coordinates planning activities along 843 miles of the I-15 corridor from San Diego, California to the Utah/Idaho border (Figure 3.4). Early coordination within the I-15 corridor began with CANAMEX in the 1990s (the CANAMEX corridor connects with the I-15 corridor in Las Vegas). After I-15 was designated by the U.S. DOT as one of six corridors in the Corridors of the Future program in 2007, the Nevada DOT created a staff position to coordinate the corridor's multistate activities. Following the dissolution of the Corridors of the Future program, the Nevada DOT executive director, Susan Martinovich, championed an effort to keep the I-15 coalition together. In 2011, the four DOT directors signed an interagency agreement that expressed the departments' commitment to work together and officially changed the name of the coalition to the I-15 Mobility Alliance (Alliance). The Alliance has continued to expand and diversify its partnerships to include MPOs, local agencies, economic development authorities, and private-sector stakeholders.



Source: I-15 Mobility Alliance.

The Alliance was created to support efforts to identify and obligate the necessary financial resources to implement worthwhile improvements (products and services) in the I-15 corridor, and ultimately adapt and renew them at the end of each successive life-cycle so that the corridor is sustainable and relevant for current and future generations. In March 2012, the Mobility Alliance published its *I-15 Corridor System Master Plan*. This plan documents the ways in which the Alliance plans to work together to improve the movement of people and goods through the corridor. It also outlines the mission and organizational structure of the Alliance and gives clear direction for the Alliance's future corridor activities.

Figure 3.4 I-15 Mobility Alliance Study Area



Source: I-15 Mobility Alliance, I-15 Corridor System Characteristics: Highways, June 2011.

Institutional/Governance

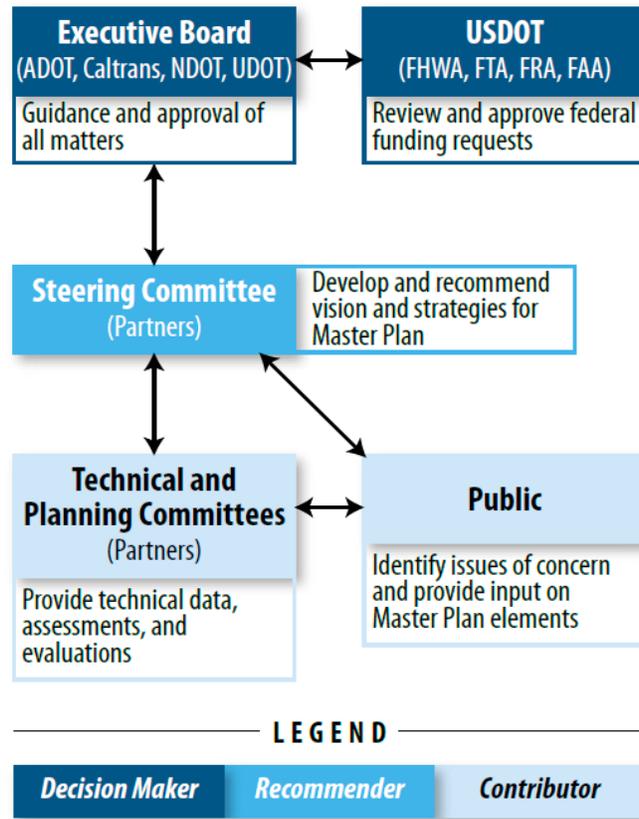
The Alliance organizational structure, shown in Figure 3.5, includes an Executive Board composed of the most senior leaders of the four state DOTs and supported by a Steering Committee that includes senior personnel from all corridor partners and several technical and planning committees. The existing I-15 Alliance agreement was kept intentionally loose in the interest of achieving buy-in from all four DOT directors and putting a basic structure in place. The

agreement commits the agencies to work together, but does not address issues such as funding contributions or voting structure.

For the first phase of work, the Nevada DOT took the lead on creating the Alliance and funding the Master Plan. In 2012, the I-15 Mobility Alliance was selected as one of six corridor coalitions nationwide to receive \$1,250,000 funding under the Multistate Corridor Operations and Management (MCOM) Program that will fund the next phase of coalition activities. Given the availability of new funding, the Alliance is now trying to develop a more robust partnership agreement to address local funding commitments. All states except Arizona (through which only three percent of the corridor passes) have verbally agreed to contribute funds for the local match, but a formalized agreement would help to solidify the partnership. While the Alliance would prefer to develop a sustainable, long-term agreement, many Alliance partners are unwilling to commit to any agreement that extends beyond the horizon of the current funding source. As a result, the Alliance recognizes the importance of keeping track of what it achieves in the coming years to help make the case for continuing Alliance activities longer term.

Collaboration with the Alliance's planning partners was integral to the development of the Master Plan. The Alliance views I-15 as a "multimodal activity corridor that also includes the energy, communications, data, and resource transmission lines that bind the megaregions of California, Nevada, Arizona, and Utah. This integrated, multimodal perspective will reduce friction between modes of transportation to maximize the carrying capacity for people and goods." As such, members of the Alliance include the Nevada State Office of Energy and NV Energy, as well as transit agencies, MPOs, cities, freight companies, railroads, high-speed rail authorities, environmental protection agencies, departments of aviation, FHWA, the FRA, counties, the Ports of Long Beach and San Diego, and regional councils. Collaboration with these groups is conducted through a handful of technical committees on an informal basis. For example, the Alliance engaged the freight community (railroads and ports) during the development of the Master Plan to present information and solicit the group's reaction and comment. Other technical committees include Project Development (planning, programming, funding), Highway Operations, Multimodal (passenger rail, aviation, bicycle), Sustainability, Policy, Data Management, and Public Outreach.

Figure 3.5 I-15 Mobility Alliance Organizational Structure



Source: I-15 Mobility Alliance, *I-15 Corridor System Master Plan*, March 2012.

Performance Management Process

To support the development of the Master Plan, the Alliance developed a prioritization process to identify projects of interregional significance that support one or more of the Alliance’s goals:

- Reduce or eliminate congestion impacting the interregional movement of people and goods;
- Improve interregional travel time reliability of people and goods movement;
- Improve the safety of the interregional movement of people and goods; and
- Respect and honor the unique goals, objectives, and standards of each sponsoring community.

The Alliance’s prioritization process is summarized in Figure 3.6. The Master Plan identified needs by locating the segments with the worst congestion and safety issues. A comprehensive list of projects was compiled from all of the STIPs, TIPS, long-range plans, corridor studies, and other planning documents from among the jurisdictions within the corridor. From this list, the Alliance identified a list of 27 Immediate Projects of Interregional Significance and used this list to pursue TIGER

grants. All other projects (approximately 400) were assigned to priority groups A through D with an ascending order of priority based their impact on regional priorities. The Alliance plans to convene periodically to update and agree upon the immediate projects of interregional significance every one to two years and the comprehensive project list every three to four years. However, the process to update the project lists is not yet formalized.

Figure 3.6 I-15 Mobility Alliance Project Prioritization Process



Source: I-15 Mobility Alliance, *I-15 Corridor System Master Plan*, March 2012.

The Alliance took efforts to gain consensus among partners on the process early and to underscore that the objective of Alliance prioritization was not to supplant priorities established locally (understanding that a local agency’s priorities based on its own goals and objectives may not align with the interregional goals and priorities of the Alliance). Instead, Alliance prioritization is intended to identify interregional projects to position for discretionary funding while complimenting and reinforcing the efforts of the individual partner agencies.

Technology/Tools

In general, Alliance partners are eager to share information across jurisdictions to support corridor planning efforts. Corridor-wide data assembled for the Master Plan is available in a centralized location (via a consultant) on a wide range of topics for most jurisdictions within the corridor. Reports and data on environmental, freight, land use, alternative fuel infrastructure, model, rail, road, bridge, safety, socioeconomic, traffic volume, transit, and other areas are contributed by and available to Alliance partners. The Alliance’s bigger data challenges have to do with storage and related security concerns, making the data more dynamic (as opposed to a snapshot in time), and keeping the data up to date.

Funding received through the MCOM program will help the Alliance execute and accelerate the delivery of the Multistate I-15 Dynamic Mobility Project (I-15 DMP) designed to improve real-time information exchange between planning partners

and improve interregional traveler information. The I-15 DMP seeks to obtain, exchange, and disseminate real-time data on all segments of I-15 and all modes. It also hopes to create a seamless ITS backbone along the entire 843-mile length of the I-15 corridor. Project benefits include filling rural data gaps, providing the freight industry with cost/time saving information, improving public pretrip and en route traveler information for the corridor, and fostering interstate cooperation on ITS planning, ITS operations, and sharing of best practices.³¹

Maturity Model Assessment

Although the Alliance's efforts have resulted in the development of a Master Plan, identification of priority projects of interregional significance, and the successful pursuit of grant funding, the Alliance is actively seeking ways to strengthen its partnerships and evolve its organizational development. The Alliance is looking more in depth at other coalitions, including I-95, West Coast Corridor Coalition, I-80 Operations Coalition, and the North/West Passage, for best practice examples.

Figure 3.7 arrays the Alliance's current organizational structure and multistate planning capabilities against the maturity model developed for this study. The assessment is based on information gathered from case study interviews, completion of the self-assessment tool, the I-15 Corridor System Master Plan, and supporting documentation. Several observations on the Alliance's maturity assessment are provided below:

- **Performance Management Process.** The Alliance's project prioritization process incorporates several fundamental elements of performance management, including the establishment of corridor-wide goals and limited integration of performance measures. However, a performance-based process could be further strengthened by incorporating performance measures more explicitly in the project evaluation criteria, establishing performance targets, and tracking progress toward interregional goals.
- **Institutional/Governance.** A high-level champion (Nevada DOT Director Susan Martinovich) was instrumental in keeping the coalition together following the end of the Corridors of the Future Program. Sustained support has been provided by staff dedicated to oversee multistate coordination activities. However, mobility of staff within their DOT organizations remains a challenge; the Alliance loses momentum when staff members change positions. The Alliance is also seeking to create a sustainable multistate agreement that addresses funding commitments from among its partners.
- **Technology/Tools.** As a result of the MCOM funding to execute delivery of the I-15 Dynamic Mobility Project, the Alliance's data collection capabilities will soon advance to the highest level of capability on the maturity model scale.

³¹I-15 Mobility Alliance, *Multistate I-15 Dynamic Mobility Project*, http://www.i15alliance.org/pro_multistate_dmp.html.

Figure 3.7 I-15 Mobility Alliance Maturity Model Assessment

			Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Performance Management Processes	Goals/ Objectives	Safety	No goals/objectives defined	Goals/objectives defined for portions of corridor	Goals/objectives defined across full corridor	Policies in place across jurisdictions established to achieve goals/objectives	Policies in place across jurisdictions established to achieve goals/objectives; progress toward achieving goal area tracked	Policies to achieve goals/objectives established and successful; new goals/objectives continually established after previous goals/objectives met
		Reliability						
		Freight						
		Economic Development						
		Infrastructure Conditions						
	Performance Measures	Safety	No performance measures considered or selected	Defined metrics (by mode, if applicable); performance measures applied in portion of corridor.	Limited integration of performance measurement across organizational silos	Performance measures applied for some modes across entire corridor, or for all modes in portion of corridor; some data integration amongst partner agencies	Shared, multi-modal, corridor-wide performance metrics	Real-time data collection and corridor-wide performance management across all modes
		Reliability						
		Freight						
		Economic Development						
		Infrastructure Conditions						
	Target Setting	Safety	No performance management framework or targets established	Factors influencing target-setting examined	Appropriate approaches for target-setting selected	Methods for achieving targets established	Progress toward targets tracked	Targets adjusted over time
		Reliability						
		Freight						
		Economic Development						
		Infrastructure Conditions						

		Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Performance Management Processes	Resource Allocation	Allocation of staff and funding not guided by performance management	Limited use of performance measures to guide project selection; limited coordination of these processes across jurisdictions	Some funding coordination/joint advocacy by corridor partners; projects selected using performance measures and targets but within individual jurisdictions	Projects prioritized and programmed using performance management that cross jurisdictional boundaries and require funding from multiple partnering agencies	Staff in place devoted to corridor-wide projects and/or performance management; projects that benefit entire corridor selected using performance management	Complete financial coordination across all modes in corridor using performance management; staff and other resource pooling
	Performance Monitoring and Reporting	No performance monitoring or reporting	Some performance monitoring/reporting for defined performance metrics in portion of corridor	Performance monitoring and reporting in portion of corridor; limited integration across partner agencies	Performance monitoring/reporting applied for some modes across corridor, or for all modes in portion of corridor; some data integration amongst partner agencies	Shared, multi-modal, corridor-wide performance monitoring/reporting	Real-time data collection and corridor-wide performance monitoring and reporting across all modes
	Management and Operations	Little or no management across jurisdictional boundaries	Some management/operations coordination between different corridor agencies, or among different modes within one agency	Corridor management/operations agreement in place between various corridor agencies	Corridor-wide operations optimization performed on at least one mode	ITS integration between corridor jurisdictions or across modes	Full ITS and other operations/management integration across all corridor jurisdictions and modes
	Integration into Long-Term Planning and Programming	Long-term planning and programming siloed; performance management not integrated	Some joint long-term planning done across jurisdictions using performance management; little or no joint programming	Joint long-term planning across jurisdictions; joint programming initiated	Joint strategic/long-term planning using performance management performed for at least one mode	Corridor-wide strategic/long-term planning and programming using performance management integrated into long range plans of participating agencies	Complete integration of corridor-wide needs and performance into long-term planning and programming process across all modes with understanding of investment trade-offs

		Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Technology/Tools	Data Collection /Availability	Incomplete or no data collected or available	Limited data collected/available, or data only available for portion of corridor or network element; manual input	Some automated data collection; data for at least one mode available for entire corridor	Automated data collection/remote sensing for at least one mode in portion of corridor; data available across entire corridor for multiple modes	Automated data collection/remote sensing for multiple modes across entire corridor; data available across entire corridor for multiple modes	Continuous, automated data collection across all modes for entire corridor
	Data Sharing /Standardization	Data siloed among different agencies	Ad hoc data sharing across jurisdictions	Some data sharing among partner agencies for at least one mode	Data shared by some partner agencies among all modes	At least some data shared among all partner agencies for all modes	Complete sharing of all available data; central data repository
	Analysis Tools/Capabilities	Little or no data analysis capabilities	Ad hoc analysis	Data analysis undertaken across jurisdictions for at least one mode	At least some analysis undertaken across jurisdictions for all modes	High-level data analysis across jurisdictions in near real time	Detailed (multi-modal, if applicable) analysis in real time
	Availability of Data for Corridor Users	No data made available to corridor users	Some data made available to specialized users (i.e. freight)	Some data made available to users across multiple modes in portion of corridor	Multiple types of data (i.e., crash, congestion) made available for portion of corridor for single mode	Multiple types of data (i.e., crash, congestion) made available across corridor for multiple modes	Real-time and archived data available in centralized location for all modes and users (including data for activities such as EMS vehicle routing, longer term planning processes, etc.)

		Level 1: None/Limited	Level 2	Level 3	Level 4	Level 5	Level 6: Optimized
Institutional/ Governance	Mobilization of Partners	Little or no mobilization of corridor partners	Communication lines open between partner agencies within corridor	Partner agencies collaborate joint funding applications	Partner agencies or corridor coalition coordinate lobbying efforts	Partner agencies or corridor coalition successful at obtaining funding for multi-jurisdictional corridor management for at least one mode	Partner agencies or corridor coalition successful at obtaining funding for multi-jurisdictional corridor management for all modes
	Organizational Structure/ Leadership/Strategic Direction	No formal organizational structure or leadership established	Ad hoc organizational structure; some discussion of strategic direction between partner agencies	Lead agency established; organizational structure established for at least one mode in corridor across multiple jurisdictions	Partner agencies have executed agreement for organizational structure	Partner agencies have staff dedicated to corridor-wide activities; strong oversight mechanism and strategic plan in place to guide corridor management efforts	Corridor coalition/organization has Chief Executive, Board, and Committees that represent all modes; every partner agency has staff charged with integrating corridor management with other corridor partners
	Organization Funding	No formal corridor-wide funding arrangement	Corridor collaboration undertaken on an ad hoc basis using individual agency funds	Memorandum of Understanding executed between multiple State DOTs in corridor regarding funding	Some corridor activities jointly funded	Jointly-funded corridor planning and management agency oversees all cross-jurisdictional corridor planning and management	All cross-jurisdictional corridor planning and management activities jointly funded
	Collaboration among Modal Partners	No Collaboration	Limited collaboration between partners	Some collaboration between modes within portion of corridor	Collaboration among different agencies and modes that takes management of all assets into consideration	Proactive (multimodal if applicable) management of infrastructure assets by institutional partners	Corridor capacity integrated and managed across networks; corridor treated as system rather than individual network assets
	Collaboration with Planning Partners (DOTs, MPOs, etc.)	No Collaboration	Limited collaboration between partners	Memorandum of Understanding executed between multiple jurisdictions in corridor	Some collaboration between planning partners from multiple jurisdictions in at least a portion of corridor	Coordinated planning efforts between State DOTs, MPOs, transit authorities, etc. within corridor	All planning activities that affect corridor performance fully integrated among all partner agencies

Source: Cambridge Systematics, Inc.

3.4 KEY LESSONS FROM CASE STUDIES

The case studies serve several key purposes in this study:

- Test the maturity model and provide opportunities for refinement in definition of the elements and definition of the scale for each element;
- Test the self-assessment methodology and provide opportunities for refinement to the questions; and
- Glean information that can inform recommendations for implementation.

In addition to the summaries of the noteworthy practices identified above, several key trends and lessons emerge from the case studies to provide recommendations to other corridor coalitions or potential corridor coalitions:

- These coalitions clearly identified a common need. They articulated a vision, mission, goals, and a plan.
- Performance measurement should be regarded as a potential activity for corridor organizations, however there are currently few instances of corridor organizations using performance measures to guide funding or project decisions.
- Each coalition serves a niche, and does not simply duplicate or attempt to supplant existing DOT or MPO functions. They focus on interregional needs, and in some cases, discretionary funding sources for projects. ITS infrastructure and data collection are common roles exhibited by the case study coalitions.
- Successful coalitions remain dynamic and adapt to changing needs: they refocus and revision as necessary. This is easier than rebuilding partnerships from the beginning whenever a new need arises.
- These coalitions required committed parties. These parties are not just organizations, but staff (either separate or from within organizations) dedicated to the coalition. Champions are also critical.
- MOUs may or may not be necessary.
- A funding source is critical. Stability of funding was as important to coalitions as level of funding. Federal funding was important because many of projects transcend the value of one state.
- It was critical for these coalitions to demonstrate success in order to maintain and build interest among current and potential partners.
- Each coalition leveraged existing coalitions and organizations.
- Though challenges exist, maintaining and sharing data can be a vital role for a coalition. Obtaining, exchanging, and disseminating real-time data was an ultimate goal of these coalitions.

- Though coalitions may form around a single mode, multimodality is a common and necessary progression towards greater maturity.
- Perspective and interpretation of performance management, and question phrasing, impact an agency's perceived level of maturity.

4.0 Implementation Strategies

4.1 OPERATIONALIZING THE MODEL

Operationalization of the model was tested by applying it to two case study corridors, described in Section 3.0. Each of the two corridors is analyzed element-by-element against the maturity model. This is done graphically by highlighting where the corridor falls on the matrix, and is accompanied by an explanation of the ranking for each element.

The maturity model will help agencies gauge how corridor level planning and monitoring activities within their jurisdiction compare with current national standards as well as the future standards envisioned under MAP-21 for effective interstate corridor performance management. The implementation plan, based on the maturity model, noteworthy practices, and case studies, describes the steps that states would need to take in order to advance to the next level of maturity. While state DOTs are the primary audience, the implementation plan considers other roles in the process.

Operationalizing the model includes the following three key elements, described in greater detail below:

- Self-assessment tool, allowing application of the model by agencies to determine where they are at now;
- Recommendations to understand where to go next, with some differences depending on agency perspective; and
- Additional suggestions for “starting from zero” and initializing a new coalition or a new element within an existing coalition.

4.2 SELF-ASSESSMENT TOOL

The self-assessment tool is one of the keys in operationalizing the model. It walks an agency step-by-step through a series of questions, with the need to answer some questions conditional on answers to others, thereby minimizing the number of questions that need to be answered. These answers are then linked to a summary maturity model that displays an agency’s current level of maturity, along with broad recommendations for next steps based on recommendations in this report from Section 4.3.

A draft framework for a self-assessment tool was developed for this study and tested in the case studies (Figure 4.1). FHWA will further develop this concept to further operationalize the maturity model for use by agencies.

Figure 4.1 Draft Self-Assessment Tool

Institutional		(select from drop-down menus)	(Insert additional comments here)
How formalized are the partnerships that form the coalition?			
Which of the following best describes the leadership/organizational structure of the coalition?			
Which of the following best describes how the coalition is funded?			
To what extent does the coalition collaborate with other modal partners (e.g., Class I railroads, transit agencies, seaports/ferry terminals, etc.)?			
To what extent does the coalition collaborate with other planning partners (e.g., DOTs, MPOs, city planning jurisdictions, etc.)?			
Performance Measures			
Does your coalition use performance measures, data, and tools in the corridor to identify needs, prioritize investments, monitor operations, or other purposes?		Yes	
Please indicate whether your coalition has established goals, performance measures, and/or targets for use in planning or operations in any or all of the following areas by selecting the appropriate item from each drop down box:			
	Goals/Objectives	Performance Measures	Targets
Safety			
Reliability			
Freight Movement			
Economic Development			
Infrastructure Condition			
Other			
How does the coalition currently use the performance measures? (mark "x" next to all that apply)			
<input checked="" type="checkbox"/> Identifying needs within the corridor <input checked="" type="checkbox"/> Evaluating investments <input checked="" type="checkbox"/> Prioritizing investment and allocating resources <input checked="" type="checkbox"/> Monitoring operations <input checked="" type="checkbox"/> Reporting performance			
Which of the following statements best characterizes how the coalition utilizes performance management for allocating resources?			
Which of the following statements represent the coalition's current practice for performance monitoring and reporting?			
Which of the following statements best represents the extent to which corridor-level performance management is integrated into the long-term planning and programming activities of the various state and regional jurisdictions within the corridor?			
Technology and Tools			
Which of the following statements best characterizes the collection/availability of data within the corridor:			
To what degree is data shared among coalition members or across jurisdictions:			
Which the of the following statements best characterizes the corridor coalition's analysis tools/capabilities?			
Which of the following best describes the data made available for corridor users (e.g., the public, EMS providers) either directly or through other organizations?			

Source: Cambridge Systematics, Inc.

The self-assessment tool was administered to a small test group of stakeholders for the I-95 and I-15 case studies described in Section 3.0. Participants generally had little difficulty completing the self-assessment yet also sought greater specificity in the coded responses. Greater specificity in these possible responses also will help to reduce disparities among respondents from the same coalition, though some variation is expected based on role within the organization. Finally, the testing resulted in redesigning the conditional formatting of the self-assessment tool. The self-assessment tool had previously been designed to only

require respondents to answer questions related to “performance management processes” or “technology and tools” if they first indicated the existence of performance measures. However, this “trigger” question was changed to be based on the existence of goals.

4.3 RECOMMENDATIONS FOR AGENCIES

After understanding an agency’s position on the maturity model, the final step is to link this to steps they would need to take in order to advance to the next level for each element of corridor transportation performance management. These may differ by type of agency.

The recommendations in Table 4.1 below are organized by maturity model element. The first column describes why that element is important or should be considered. For example, an existing coalition may be exploring elements on the maturity model (e.g., data and tools) for which it is “starting from zero.” The second column provides recommendations on moving forward from the lowest level of maturity (e.g., one) and essentially “initiating” that element; the third column provides recommendations on moving from a low-level to a mid-level (e.g., from two to three or four); and the last column provides recommendations on moving to the highest levels of maturity (e.g., five or six) from a mid-level. This table is also included in the self-assessment tool.

Other agencies or organizations may be just in the stages of exploring the creation of a new coalition. Does the need exist for a new coalition? Should one be created, or can the goals be accomplished through alternative means? Through the noteworthy practices and case studies, three fundamental questions arise that should be asked by these agencies or organizations:

1. Is there a common need in the corridor? Does there appear potentially to be a common vision or goals among entities within the corridor? ITS infrastructure and data collection and sharing are common roles exhibited by the case study coalitions.
2. Can another existing coalition absorb the identified need, or be modified to include the corridor and absorb the need?
3. Are there champions in the corridor for the identified need?

Upon positively answering these three questions, a fourth questions follows closely:

4. Are the potential partners willing to explore contributing resources in the form of staff time or money, or helping to pursue funding from outside sources (e.g., Federal grants)?

Table 4.1 Agency Recommendations for Advancing Maturity

		Why Should a Multistate Corridor Coalition Pursue Maturity in this Area?	Actions to Initiate Capabilities (Progress from Level 1 to 2)	Actions to Progress from Low to Medium Level of Maturity (Progress to Levels 3 and 4)	Actions to Progress from Medium to High-Level of Maturity (Progress to Levels 5 and 6)
Performance Management Processes	Goals/Objectives – Safety, Reliability, Freight, Economic Development, Infrastructure Conditions	Goals/objectives describe the coalition’s strategic direction and provide the foundation for decision-making.	Identify whether individual jurisdictions have established goals/objectives for the portion of the corridor within their boundaries. Identify common themes.	Conduct a workshop involving coalition members to discuss and reach consensus on corridor goals and objectives. Example: The I-80 Winter Operations Coalition convened a workshop in January 2010 to discuss the corridor’s primary needs, issues, and concerns. From these discussions emerged the coalition’s two primary focus defined in the strategic plan.	Implement an update cycle to assemble coalition members, revisit the current goals/objectives, and modify as needed to reflect new corridor priorities.
Performance Management Processes	Performance Measures – Safety, Reliability, Freight, Economic Development, Infrastructure Conditions	Performance measures help the coalition evaluate existing conditions and monitor progress toward achieving its goals and objectives. Picking a small number of measures that relate to goals can help the coalition focus on the things it cares most about.	Determine whether individual jurisdictions have identified performance measures for the portion of the corridor within their boundaries. Identify common themes.	Identify a small number of targeted performance measures that are meaningful at a multistate corridor level and that link back to each goal/objective. Build off existing measures and evaluation methods where appropriate, keeping in mind available data and IT resources. Similar to goal development, a coalition workshop is a good venue for this discussion. Example: The Mohawk-Erie Multimodal Transportation Corridor Study developed a set of 28 performance measures that linked back to its three goals and 12 objectives.	As the coalition’s data collection and analysis capabilities advance over time, assess whether adding new measures or replacing less effective measures will provide the coalition with a clearer understanding of corridor performance. This should be done in concert with goal update cycle.

		Why Should a Multistate Corridor Coalition Pursue Maturity in this Area?	Actions to Initiate Capabilities (Progress from Level 1 to 2)	Actions to Progress from Low to Medium Level of Maturity (Progress to Levels 3 and 4)	Actions to Progress from Medium to High-Level of Maturity (Progress to Levels 5 and 6)
Performance Management Processes	Target Setting – Safety, Reliability, Freight, Economic Development, Infrastructure Conditions	Target setting establishes quantifiable expectations of performance that tie back to the coalition’s goals. Though some targets may be aspirational, most typically reflect a desired change and an understanding of the resources required to achieve the target. Goal and performance measure elements should exist first and be at least at a moderate level of maturity before considering target setting.	Determine whether individual jurisdictions have set performance targets for the portion of the corridor within their boundaries. Use a resource such as NCRP Report 666 to consider the dynamics of the corridor and whether targets are appropriate and how they might be set for individual measures.	Coalition members should meet and agree on which measures should have targets and the target setting process. Coalition staff should prepare some data analysis to illustrate possible future performance for these measures under difference scenarios, which will help guide corridor decision-makers on an appropriate targets. Member agencies may have different targets, but all should contribute to the overall target; they should agree to program projects and policies that contribute to the target.	Integrate target setting into the planning process and cycle. All members should agree on using regular performance reporting (see Performance Monitoring and Reporting element) as an opportunity to review and reassess targets.
Performance Management Processes	Resource Allocation	Performance-based resource allocation is one of the most fundamental uses of performance management, though it is often the last element of the process to develop. It requires an assessment of the relationship between actions/ investments and future performance, leading to increased accountability and transparency.. Goal, performance measure, and technology/tools elements should exist first and be at least at a moderate level of maturity before considering resource allocation. It is helpful to do embark on this element in concert with target-setting.	Coordinate with member jurisdictions to determine whether any are using a performance-based process to allocate resources for projects affecting their portion of the corridor. Identify opportunities to leverage their process for potential corridor-wide application.	Resource allocation discussions can be held in concert with target setting to understand how investing in different pots of money or specific projects will result in achieving different levels of performance for different measures. Even if target-setting has not yet been established, members can agree on priority projects for corridor-wide implementation. Example: The North/West Passage Corridor has developed an ITS Integrated Strategic Plan and has successfully implemented 5 work plans containing 24 projects	Members should meet on at least an annual basis to discuss project programming for the corridor, which should be well-integrated into member programming processes. Dedicated funding sources for corridor-level projects should be established. Example: The states in the North/West Passage corridor formally established as a Transportation Pooled Fund (TPF) in 2003 through FHWA. NWP has held seven solicitations for funding. Typically each state contributes \$25,000 per solicitation to fund each Work Plan. The program has averaged funding six to seven projects per year.

		Why Should a Multistate Corridor Coalition Pursue Maturity in this Area?	Actions to Initiate Capabilities (Progress from Level 1 to 2)	Actions to Progress from Low to Medium Level of Maturity (Progress to Levels 3 and 4)	Actions to Progress from Medium to High-Level of Maturity (Progress to Levels 5 and 6)
Performance Management Processes	Performance Monitoring and Reporting	Performance monitoring allows the coalition to track progress over time and evaluate the impact of strategies and investments. While the various DOTs and MPOs in the multistate corridor are likely to monitor and report performance on various system elements within their jurisdictions, corridor-wide performance monitoring allows the coalition to track progress on a larger scale, which may help make the case for continuing coalition activities into the future. This element can be started even at a relatively low level of goal and performance measure maturity.	Identify whether individual jurisdictions are monitoring and/or reporting performance for the portion of the corridor within their boundaries.	Members should meet and agree to report on the agreed-to corridor measures within their respective reporting processes and websites. They may begin to test reporting processes/tools for one or two measures on a corridor-wide basis. Example: The Appalachian Regional Commission uses a management information system, ARC.net, to track critical project performance information and gauge progress toward strategic plan performance goals. It also produces an annual performance and accountability report, made publically available on the ARC web site.	Members should establish a standardized reporting template organized around the goals, measures, and targets of the coalition. This can be not only for an annual report, but can include online, real-time reporting for operational purposes (e.g., real-time traffic data) and planning purposes (a performance measure dashboard). Example: The Multistate I-15 Dynamic Mobility Project is implementing a seamless ITS system along the full length of the corridor that will allow the coalition to obtain, exchange, and disseminate real-time data on all segments of I-15 for all modes.
Performance Management Processes	Management and Operations	Management and operations is intended to maximize the performance of existing infrastructure through cross-jurisdictional coordination. Development of institutional elements at a corridor level will help day-to-day operations issues as much as longer term planning. Many coalitions focus more on management and operations as a need not satisfied by individual member agencies at a corridor level.	Identify whether individual jurisdictions are coordinating monitoring and/or reporting performance for the portion of the corridor within their boundaries. If not, meet with members to begin to explore informal coordination and sharing of best-practices and information. Example: The I-80 Winter Operations Coalition's 2010 Strategic Plan includes an inventory of the tools and technologies that Coalition states currently use or have envisioned for future. The Plan serves as a resource by providing a description of each tool/technology and inventories use within member states.	Member agencies should establish a management/operations agreement (MOU) and share data and information. Start with a focus in one mode (e.g., highway), and begin looking for "easy win" operational/management components to standardize across agencies in the corridor.	Using the other elements of Performance Management Processes, prioritize and fund ITS integration throughout the corridor, along with standardization of other operational practices (e.g., snow removal, incident response, intermodal coordination). Example: The Multistate I-15 Dynamic Mobility Project is implementing a seamless ITS system along the full length of the corridor that will allow the coalition to obtain, exchange, and disseminate real-time data on all segments of I-15 for all modes.

		Why Should a Multistate Corridor Coalition Pursue Maturity in this Area?	Actions to Initiate Capabilities (Progress from Level 1 to 2)	Actions to Progress from Low to Medium Level of Maturity (Progress to Levels 3 and 4)	Actions to Progress from Medium to High-Level of Maturity (Progress to Levels 5 and 6)
Performance Management Processes	Integration into Long-Term Planning and Programming	Ideally, the cross-jurisdictional coordination efforts of the coalition will result in the implementation of projects and strategies to improve corridor performance. Once identified, projects should adhere to the planning and programming requirements of the implementing agencies in the corridor. Achieving maturity in this element requires corridor and member maturity in the first 5 elements in this section.	Meet with member agencies to create a corridor plan. An MOU or similar agreement should indicate that individual agency plans will reference the outcomes (e.g., policies and projects) from the corridor plan.	Corridor planning schedules should be aligned with individual member planning and programming schedules to the extent possible. There should be cross-collaboration between coalition members and agency staff on corridor plan and agency LRTP development.	All member staff and decision-makers involved in member LRTP and TIP development should be involved in corridor plan development, and coalition members should be included as key stakeholders in individual agency LRTP and TIP development as well. The process should be informed by some data analysis on tradeoffs in performance for different investments.
Technology/Tools	Data Collection/Availability	Effective decision-making requires a solid foundation of accurate and timely data. Multistate corridors span numerous jurisdictions, many of whom are likely to collect data relevant to their individual needs. Managing performance on a multistate corridor level requires a coordinated data collection effort.	Conduct a data inventory to identify the disparate data collection activities of the various jurisdictions within the corridor. Identify gaps and areas of overlap by mode over the length of the corridor.	Identify opportunities to automate the collection of some data elements within the corridor. Establish an update cycle to manually compile and refresh the disparate data items collected by the various jurisdictions within the corridor. Example: The I-95 Corridor Coalition implemented a vehicle probe project to collect real-time speed, travel time, expected speed, and free-flow speed.	Establish a dynamic data collection system that collects continuous, automated data across all modes over the full length of the corridor. Example: The Multistate I-15 Dynamic Mobility Project is implementing a seamless ITS system along the full length of the corridor that will allow the coalition to obtain, exchange, and disseminate real-time data on all segments of I-15 for all modes.

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Technology/ Tools	Data Sharing/ Standardization	Multistate corridors span numerous jurisdictions, many of whom are likely to collect data relevant to their individual needs. Coalition efforts to compile, standardize, and share data across jurisdictional boundaries supports corridor-level decision-making.	Provide a forum for coalition members to share data, compare data collection frequencies, and identify potential inconsistencies. Example: Several coalitions host annual conferences that provide members an opportunity to share information and learn about local plans.	Create a central repository for corridor data and other relevant resources and make the information available to all members. Example: Since its inception in 1994, NASCO has compiled corridor planning documents, data, and other research efforts on their web site to serve as a clearinghouse of information for its members.	Develop a central data repository with consistent data standards and definitions available for all modes. Establish institutional arrangements governing the collection, management, and use of the data. Assign individuals to be accountable for the accuracy, integrity, and timeliness of the data as well as for informing users of the appropriate use of the data (data stewards).
Technology/ Tools	Analysis Tools/Capabilities	Analysis tools enable the coalition to evaluate corridor data and translate it into information that can support the identification of corridor-level needs, prioritization of projects, or evaluation of tradeoffs.	Compile available corridor plans, needs assessments, or other planning documents developed by individual jurisdictions.	Leveraging the expertise of coalition members or hiring an outside consultant, conduct a technical study to assess corridor needs and/or describe corridor characteristics by mode or by corridor purpose (e.g., goods movement). Example: The I-80 Winter Operations Coalition’s strategic plan includes an inventory of the tools and technologies currently in use by member states.	Develop corridor-level models and analysis tools to analyze data and evaluate deficiencies. Example: The I-95 Corridor Coalition has developed a model known as ICAT for estimating truck and passenger vehicle volumes between different points on the corridor and identifying bottlenecks.

		Why Should a Multistate Corridor Coalition Pursue Maturity in this Area?	Actions to Initiate Capabilities (Progress from Level 1 to 2)	Actions to Progress from Low to Medium Level of Maturity (Progress to Levels 3 and 4)	Actions to Progress from Medium to High-Level of Maturity (Progress to Levels 5 and 6)
Technology/ Tools	Availability of Data for Corridor Users	Sharing information with corridor travelers and freight haulers, such as real-time travel information or weather-related roadway conditions, helps users make more informed decisions that lead to safer, more efficient performance of the corridor.	Provide access to static, historical information to relevant corridor users (e.g., emergency providers, trucking companies, etc.).	Begin developing a platform – perhaps using an existing member’s platform – to test the provision of more current or real-time data to a broader set of users, such as through a web portal. This may start with individual agencies providing their own data and uploading it to a centralized location.	Provide real-time data in a centralized location for all corridor users and modes (such as travel time, congestion, incidents, construction, road condition, etc.) Example: Several coalitions have proposed or currently operate web sites to provide real-time pretrip and en route traveler information that allow users to make more informed travel choices.
Institutional/ Governance	Mobilization of Partners	The mobilization of partners is fundamental to the development of a corridor coalition. Formalizing these partnerships (through funding agreements, participation commitments, etc.) gives the coalition some traction to pursue its corridor-level goals and objectives.	Establish lines of communication between partner agencies within the corridor.	Establish a basic interagency agreement that commits partner agencies to work together, but does not go so far as to commit funding for coalition activities. Some coalitions may formalize their partnerships by obtaining status as a U.S. 501(c)(6) non-profit organization. Example: The existing I-15 Mobility Alliance agreement was kept intentionally loose in the interest of achieving buy-in from all four DOT directors and putting a basic structure in place.	Establish a multistate agreement that not only commits partner agencies to work together, but also commits funding and/or dedicated staff to guide corridor management efforts. Mature agreements should be capable of withstanding changes in administrations and provide a sustainable source of funding to support coalition activities and maintain momentum.

		Why Should a Multistate Corridor Coalition Pursue Maturity in this Area?	Actions to Initiate Capabilities (Progress from Level 1 to 2)	Actions to Progress from Low to Medium Level of Maturity (Progress to Levels 3 and 4)	Actions to Progress from Medium to High-Level of Maturity (Progress to Levels 5 and 6)
Institutional/ Governance	Organizational Structure/ Leadership/ Strategic Direction	A formalized organizational structure helps to identify key coalition partners, define member roles (including leadership, advisory, and contributory positions), and establish an expectation for who is responsible for steering the strategic direction of the coalition.	Establish a basic organizational structure that identifies lead agencies and supporting staff.	Create an executive/steering committee to provide oversight and define the strategic direction of the coalition. If appropriate, develop a supporting committee structure, such as regional or technical committees, to provide recommendations to coalition leadership. Example: The I-95 Corridor Coalition is led by an Executive Director along with an Executive Board and steering committee. Coalition leadership is supported by four program tracks committees and five regional committees.	Create a strategic plan or master plan that defines coalition goals and objectives, formalizes partnerships, represents all modes within the corridor, and provides strategic direction to guide coalition activities. Example: The <i>I-15 Corridor System Master Plan</i> outlines the mission and organizational structure of the Alliance and gives clear direction for the Alliance’s future corridor activities.
Institutional/ Governance	Organization Funding	Availability of a consistent, reliable funding source is an important requirement for a sustained multistate effort over time.	Identify one or more partner agencies willing to fund a specific coalition activity (such as the development of a strategic plan) or allocate staff time to attend coalition meetings. Examples: CANAMEX (Arizona DOT), I-15 Mobility Alliance (Nevada DOT)	Look for opportunities to jointly pursue funding, such as applying for Federal grants or jointly lobbying for funding.	Establish an interagency agreement to jointly and sustainably fund corridor planning and management activities. This may require executive buy-in from each member agency to contribute dedicated funds on an annual basis.

		Why Should a Multistate Corridor Coalition Pursue Maturity in this Area?	Actions to Initiate Capabilities (Progress from Level 1 to 2)	Actions to Progress from Low to Medium Level of Maturity (Progress to Levels 3 and 4)	Actions to Progress from Medium to High-Level of Maturity (Progress to Levels 5 and 6)
Institutional/ Governance	Collaboration among Modal Partners	Multimodal corridor planning requires an inclusive, collaborative approach that involves input of the appropriate modal partners (public or private) at key milestones or active participation throughout the planning process.	Conduct a stakeholder briefing to inform modal partners of coalition activities.	Solicit feedback from modal partners on an ad hoc basis, either through informal committee participation or one-on-one briefings.	Involve modal partners on advisory or technical committees on a consistent or formalized basis. Example: The Mohawk-Erie Multimodal Transportation Corridor Study involved ongoing coordination with modal groups representing freight and passenger rail, aviation, public transit, waterways, and others.
Institutional/ Governance	Collaboration with Planning Partners (DOTs, MPOs, etc.)	Responsibility for implementing corridor projects (and incorporating projects into plans and programs) is often likely to fall to the state DOTs, MPOs, county governments, or the private-sector entities in the corridor. Ongoing collaboration with these planning partners is fundamental to the identification of corridor needs and implementation of projects.	Conduct a stakeholder briefing to inform planning partners of coalition activities.	Solicit feedback from planning partners on an ad hoc basis, either through informal committee participation or one-on-one briefings.	Involve planning partners on advisory or technical committees on a consistent or formalized basis. After project priorities are established, work closely with the appropriate implementing agency to incorporate project into the planning/programming pipeline and assist the agency in identifying a potential funding source.

A. Appendix of Acronyms

AASHTO - The American Association of State Highway and Transportation Officials - a nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia, and Puerto Rico.

ADHS - Appalachian Development Highway System - a program for highway construction authorized by Congress in 1965.

ARC - Appalachian Regional Commission - a regional economic development agency that represents a partnership of Federal, state, and local government established by an act of Congress in 1965.

CANAMEX - a corridor defined by a series of linking highways connecting Canada and Mexico.

CITE - The Consortium for ITS Training and Education - an organization of universities and industry associations focused on providing comprehensive advanced transportation training and education.

DOT - Department of Transportation

FAF - Freight Analysis Framework - a database that integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation.

FAST Corridor - The Freight Action Strategy for the Everett-Seattle-Tacoma Corridor - partnership of 26 local cities, counties, ports, Federal, state and regional transportation agencies, railroads and trucking interests, intent on solving freight mobility problems with coordinated solutions.

FHWA - Federal Highway Administration

(FPMWeb) - FHWA's Freight Performance Measures Initiative - A web based tool developed through Federal Highway Administration's Office of Freight Management and Operations, through a research partnership with the American Transportation Research Institute (ATRI).

GLRTOC - Great Lakes Regional Transportation Operations Coalition - a partnership of Great Lakes agencies that collaborates on initiatives that improve cross-regional transportation operations in support of regional economic competitiveness and improved quality of life.

HPMS - Highway Performance Monitoring System - A national level system that tracks highway information and includes data on the extent, condition, performance, use and operating characteristics of U.S. highways.

IBTTA - The International Bridge, Tunnel, and Turnpike Association - worldwide association for the owners and operators of toll facilities and the businesses that serve tolling

ICAT - Integrated Corridor Analysis Tool - A GIS based transportation information system developed for the I-95 Corridor Coalition.

INRIX - a software company founded in 2004 that provides current and historical data on traffic.

ISTEA- The Intermodal Surface Transportation Efficiency Act of 1991 (Public Law 102-240) - a Federal transportation law that designated High Priority Corridors and introduced many multimodal planning concepts that have been incorporated into later transportation bills.

ITS - Intelligent Transportation System

LMIGA - Lake Michigan Interstate Gateway Alliance - organization that Lake Michigan Interstate Gateway Alliance

MAFC - Mid-America Freight Coalition - a regional organization that cooperates in the planning, operation, preservation, and improvement of transportation infrastructure in the Midwest.

MAP-21 - Moving Ahead for Progress in the 21st Century Act - The most recent Federal transportation funding and authorization legislation which consolidates a number of programs sets forward a number of goals for performance measurement.

MCOM - Multistate Corridor Operations and Management Program - a research program established under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) to promote regional cooperation, planning, and shared project implementation for research programs and projects to improve multimodal transportation system management and operations.

MOU - Memorandum of Understanding

NAFTA - North American Free Trade Agreement - Trilateral trade agreement between Canada Mexico and the United States that came into force in 1994.

NASCO - North America's SuperCorridor Coalition, Inc. - A non-profit organization that focuses on North American competitiveness through logistics, infrastructure, security and a skilled workforce.

NBIAS - National Bridge Investment Analysis System - a software program that performs a system level analysis of anticipated bridge investment needs and outcomes.

TDM - Travel Demand Management

TRANSCOM - a forum aimed at improving the mobility and safety of the traveling public by supporting its member agencies through interagency communication and the enhanced utilization of their existing traffic and transportation management systems.

UMFCS - Upper Midwest Freight Corridor Study - a study of Midwest freight corridors that was concluded in 2006.

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