

Introduction

North/West Passage completed an [ITS Integrated Corridor Strategic Plan](#) in July 2007. The plan outlined transportation issues within the corridor and established a vision with corresponding goals and objectives for the pooled fund. An ITS architecture and an inventory of ITS devices deployed along I-90 and I-94 were also included in the plan. The inventory was completed to help the states understand what had been deployed and to provide insight into the states’ experiences with various technologies, technology preferences, and the potential for further deployment. The Strategic Plan also included a series of prospective projects through 2012 based on the inventory and corridor goals.

Many of the projects identified in the plan have been completed, along with several other projects related to the corridor goals and objectives. Additional ITS devices have also been deployed in the corridor. As the North/West Passage states considered future work plans for the pooled fund, in 2013 a project was approved ([Project 7.1: Goal Assessment and Planning for ITS Corridor Deployment](#)) to assess their progress. Projects that had been completed to-date were mapped against each of the Strategic Plan goals as an initial indicator of progress. That information was then shared with the member states and a series of interviews were conducted to gather each state’s impressions of progress toward the stated vision and goals. Finally, an updated inventory of ITS deployments in the corridor was reviewed as an additional assessment of progress. In addition, specific updates were made to the [issues, vision, goals and objectives](#) as well as [project ideas](#) to consider for 2013-2018.

In 2018, the North/West Passage members began planning for the next 5 years as the project ideas identified for 2013-2018 were all complete. In 2019, updates to the issues, vision, goals, and objectives were made ([2019 update](#)) and focus areas identified. The focus areas, issues, vision, goals, and objectives were then reviewed and updated by the members in 2022 and are described in this document for use by the North/West Passage program in the development of future work plans. See Figure 1.

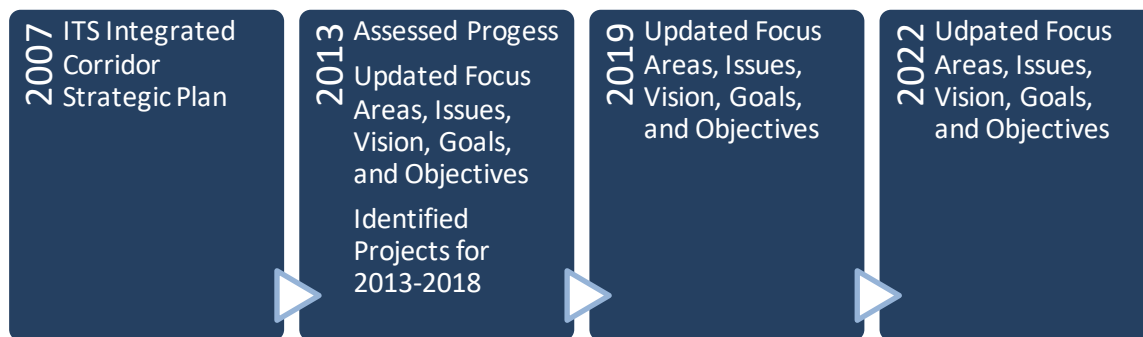


Figure 1: North/West Passage Timeline of Updates to the ITS Integrated Corridor Strategic Plan

Focus Areas and Common Issues, Problems or Needs

When developing the initial plan in 2007 and updating the issues, vision, goals, and objectives in 2013, the North/West Passage states were asked to identify issues, problems, and needs that were common in the corridor. Select ITS architecture, strategic planning, and deployment documents from several states were also reviewed for issues related to the I-90/I-94 corridor. Issues were grouped into three broad categories – Traveler Information, Maintenance and Operations, and Planning and Program Management. In 2018 as revisions were considered, the transportation environment had changed significantly enough to generate new focus areas: Staffing and Resources, Connected and Automated Vehicles, and Freight. In 2022 the focus areas were reviewed again, and Connected and Automated Vehicle was modified to Integrating Emerging Transportation Technologies. See Figure 2. In addition, related common issues, problems or needs of the members within each focus area were documented based on input from the North/West Passage states. See Table 1 for a list of common issues, problems, or needs related to each of the six focus areas.

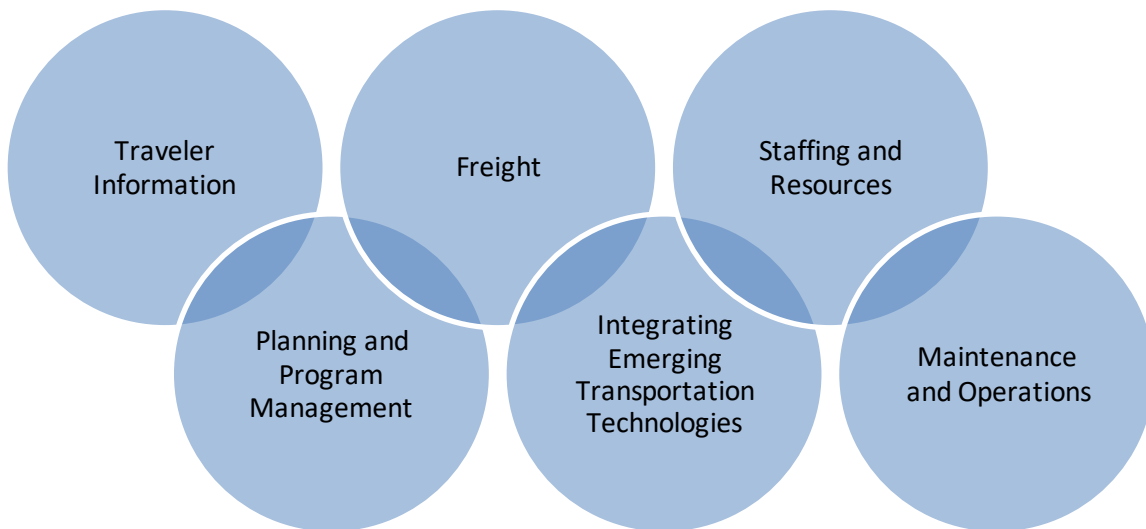


Figure 2: North/West Passage Focus Areas

Vision

In addition to the issues, problems and needs that were identified in the 2007 Strategic Plan, a vision was established. The vision provided a framework to guide the states' future projects in the corridor.

The vision has been reviewed each year at the North/West Passage annual meetings, and periodically modified. In 2022 emerging technologies was added to the vision. Following is the current vision for North/West Passage.

The vision of the North/West Passage Corridor is to focus on developing effective methods for sharing, coordinating, and integrating traveler information, operational activities, and emerging technologies across state and provincial borders.

Updated Goals, and Objectives

Building off the issues identified for the corridor and the vision that was established for the North/West Passage program, an overall goal was developed for each of the six focus areas (Traveler Information, Maintenance and Operations, Planning and Program Management, Staffing and Resources, Integrating Emerging Transportation Technologies, and Freight). To supplement the goals and focus, a series of objectives were also developed. The goals and objectives reflect the unique issues and needs of the North/West Passage corridor but also relate to common transportation priorities within the individual states. Table 1 presents the updated goals and objectives, reflecting member input and the current transportation environment for each of the 6 focus areas.

Table 1: North/West Passage Common Issues, Problems, or Needs and Corresponding Goals and Objectives for each Focus Area

Focus Area	NWP Member’s Common Issues, Problems, or Needs	Goals and Objectives
<p>Focus Area 1: Traveler Information</p>	<ul style="list-style-type: none"> • Traveler information is ever evolving. • It is challenging to understand the best approaches to implementing technology and institutional changes. • There is a need for traveler information focused peer exchanges and collaboration. • Traveler information often does not include local/tribal/national park roadways. • Increasingly, there is a need to quantify the benefits of traveler information provided by transportation agencies. • The role of third-party traveler information providers needs to be understood. 	<p>Goal 1: Share practices, lessons learned, and emerging approaches to advance traveler information along the corridor.</p> <ul style="list-style-type: none"> • Objective 1.1: Share traveler information practices and lessons learned among member agencies. <p>Goal 2: Research current challenges and emerging topics to support traveler information activities of member agencies.</p> <ul style="list-style-type: none"> • Objective 2.1: Understand the common and unique information needs of the corridor’s diverse travelers. This includes the type of information, as well as the mechanism for delivering the information. • Objective 2.2: Research common topics to support traveler information decisions in member states by: <ul style="list-style-type: none"> ○ Expanding traveler information to local/tribal/park roads ○ Quantifying benefits of public traveler information systems ○ Understanding the roles of third-party data providers and information delivery applications.
<p>Focus Area 2: Maintenance and Operations</p>	<ul style="list-style-type: none"> • There is a need for real-time sharing of data and information (e.g., weather, incidents, closures) among states along the corridor. This includes data and information sharing between local and regional transportation management centers. • The corridor experiences unique challenges (e.g., rural, metro areas, mountainous) to traffic incident management. • Gathering reliable, accurate, and timely information on work zones (real-time and planned) throughout the 	<p>Goal 3: Share practices, lessons learned, and emerging approaches to advance maintenance and operations along the corridor.</p> <ul style="list-style-type: none"> • Objective 3.1: Share practices, lessons learned, and emerging approaches to topics such as: work zone reporting, incident management, evolving technologies for maintenance and operations, and evolving supporting activities for maintenance and operations.

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	<p>corridor is challenging and the needs for comprehensive work zone coverage is increasing.</p> <ul style="list-style-type: none"> • There is a need to understand new and changing technology solutions and supporting (soft) aspects of operations and maintenance. 	<p>Goal 4: Research current challenges and emerging topics to support maintenance and operations activities.</p> <ul style="list-style-type: none"> • Objective 4.1: Research advances in automating work zone reporting. • Objective 4.2: Research approaches to improve data sharing between states along the corridor. • Objective 4.3: Research incident management approaches to address unique aspects of the corridor.
<p>Focus Area 3: Planning and Programming</p>	<ul style="list-style-type: none"> • To compete for external funding, there is a need to understand how the corridor will pursue competitive funding and implementation-oriented opportunities. • There is a need to identify groups or committees (e.g., AASHTO Traveler Information Community of Practice) conducting similar activities to leverage and benefit from these while avoiding overlap. • Regulation differences between member states is a challenge for corridor-wide efforts. 	<p>Goal 5: Continue to seek opportunities for external funding or federal collaboration on corridor activities.</p> <ul style="list-style-type: none"> • Objective 5.1: Assess funding opportunities against corridor needs and opportunities. <p>Goal 6: To benefit from, contribute to, and not duplicate planning and programming national efforts.</p> <ul style="list-style-type: none"> • Objective 6.1: Establish a pragmatic approach to participate in and benefit from national efforts of established groups such as AASHTO, ITS America, and FHWA.
<p>Focus Area 4: Staffing and Resources</p>	<ul style="list-style-type: none"> • There is a need to understand the changing workforce needs in member organizations due to the unique aspects of the corridor (e.g., rural areas, geography, weather patterns). <ul style="list-style-type: none"> ○ Impacts of new and evolving technologies (e.g., CAV) ○ Staff turnover, retirement etc. ○ Understanding resilience needs when facing new challenges (e.g., pandemic or other short- or long-term events) • There is a need to hire and retain qualified staff for today's TSMO environment within the traditional DOT structure 	<p>Goal 7: Understand the workforce needs of members due to the unique aspects of the corridor (e.g., rural areas, geography, weather patterns).</p> <ul style="list-style-type: none"> • Objective 7.1: Research and create a list of likely impacts related to changing workforce needs (e.g., CAV, TSMO). • Objective 7.2: Exchange practices for long-term hiring of staff with skill sets that match the evolving DOT needs.

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	<p>and the unique aspects of the corridor (e.g., rural areas, geography, weather patterns).</p> <ul style="list-style-type: none"> • There is a need to manage impacts of the economy on the ability to hire qualified staff (e.g., vehicle operators, equipment maintainers, incident responders, etc.) considering the unique aspects of the corridor (e.g., rural areas, geography, weather patterns). • There are challenges with training staff on increasing systems and technology. • There is a need to identify groups or committees (e.g., National Operations Center of Excellence (NOCoE)) conducting similar activities to leverage and benefit from these while avoiding overlap with the activities. 	<p>Goal 8: Continue to seek and support training opportunities.</p> <ul style="list-style-type: none"> • Objective 8.1: Collaborate to address training challenges. • Objective 8.2: Identify training opportunities. • Objective 8.3: Contribute to creating training materials (e.g., manuals). • Objective 8.4: Address resilience risks that members face. <p>Goal 9: To benefit from, contribute to, and not duplicate staffing and resources national efforts.</p> <ul style="list-style-type: none"> • Objective 9.1: Establish a pragmatic approach to participate in and benefit from national efforts of established groups (e.g., NOCoE).
<p>Focus Area 5: Integrating Emerging Transportation Technologies</p>	<ul style="list-style-type: none"> • There is a need to understand the physical and digital needs of future CAVs (especially regarding corridor operations). • There is a need to conduct pilot projects to understand the applicability of emerging technologies to the unique aspects of the corridor (e.g., rural areas, geography, weather patterns). • The appropriate role of State DOTs in facilitating deployment and operation of the CAV infrastructure needs to be determined. • There is a need to understand 'corridor-specific' needs (e.g., coordination, information movement). • There is a need to understand the current status and trends in CAV (e.g., technologies, regulations). • There is a need to identify groups or committees (e.g., CV Pooled Fund, AV Pooled Fund) conducting similar activities 	<p>Goal 10: Prepare the NWP Corridor to support integrating emerging transportation technologies.</p> <ul style="list-style-type: none"> • Objective 10.1: Understand the likely scenarios for integrating emerging transportation technologies along the corridor. • Objective 10.2: Understand corridor impacts of integrating emerging transportation technologies on the operations of member agencies. • Objective 10.3: Understand corridor needs for policies, funding, legislation, and regulations for member agencies to represent these corridor needs within their organizations. • Objective 10.4: Understand data needs and opportunities specific to member states and corridor wide. • Objective 10.5: Exchange emerging transportation technologies practices and lessons learned.

Focus Area	NWP Member's Common Issues, Problems, or Needs	Goals and Objectives
	<p>to leverage and benefit from these while avoiding overlap with the activities.</p>	<p>Goal 11: Research, pilot, or test integrating emerging transportation technologies.</p> <ul style="list-style-type: none"> Objective 11.1: Identify and research, pilot, or test emerging transportation technologies (emphasis more on field demonstrations than information sharing). <p>Goal 12: To benefit from, contribute to, and not duplicate integrating emerging transportation technologies national efforts.</p> <ul style="list-style-type: none"> Objective 12.1: Establish a pragmatic approach to participate in and benefit from national efforts of established groups (e.g., CV Pooled Fund, AV Pooled Fund).
<p>Focus Area 6: Freight</p>	<ul style="list-style-type: none"> There is a need to understand truck regulation and automation issues, benefits, and approaches specific to corridor travel across multiple states. Commercial vehicle drivers need truck parking locations and the use of public and private spaces (e.g., beyond parking information, the availability of parking is an issue). Commercial vehicle travelers need adequate areas for rest and information on truck parking availability. There are evolving freight travel patterns throughout the corridor (e.g., increased sources of freight traffic, heavier loads, etc.) There is a need to understand the potential benefits and impacts of emerging freight technologies (e-clearance, CAV, platooning etc.). There is a need to identify groups or committees conducting similar activities to leverage and benefit from these while avoiding overlap with the activities. There is a need for consistency with delivery freight information among the states. 	<p>Goal 13: Prepare for and understand freight technology efforts across multiple states.</p> <ul style="list-style-type: none"> Objective 13.1: Coordinate a truck platooning demonstration. Objective 13.2: Understand emerging freight technologies. Objective 13.3: Understand the extent of truck parking needs (e.g., physical parking spaces) and identify possible solutions to reduce these needs. Objective 13.4: Understand regulation and coordination for connected vehicles. Objective 13.5: Understand harmonizing permit requirements. <p>Goal 14: To benefit from, contribute to, and not duplicate freight related national efforts.</p> <ul style="list-style-type: none"> Objective 14.1: Establish a pragmatic approach to participation in and benefitting from national efforts of established groups.

Closing

The 2007 strategic planning process was useful for the North/West Passage program to more clearly identify the issues for the I-90/I-94 corridor that could potentially be addressed by their work. The process also clarified the program vision and established specific goals and objectives that have influenced the projects completed each year since.

This effort to assess the program's progress toward its goals in 2013 and 2019 and now again in 2022 was useful for the states to reflect on their accomplishments, validate their strategic direction for the corridor, and identify future areas of potential work.

Evaluating progress on a periodic basis is useful for all organizations. As such, the North/West Passage may choose to conduct a similar evaluation again in another 3-5 years, particularly in light of the ever changing transportation landscape.

The modified issues, vision, goals, and objectives presented in this document will serve in conjunction with the 2007 Strategic Plan and supplemental updates and will be used by the North/West Passage program in the development of future work plans. Project ideas will be mapped to this updated document to ensure each project selected meets the vision of North/West Passage and one or more overall goals for the program.