

Legislative Report – I-5 Strategic Corridor Opportunities

December 1, 2023



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Opening Letter

Dear Joint Transportation Committee Members:

In Spring 2022, the Washington State Legislature passed the historic Move Ahead Washington transportation package, which included \$40 million intended for a comprehensive I-5 Master Plan that develops a modern vision for a safe, sound, and smart north-south transportation corridor. A modern I-5 corridor must be resilient to support Washington State's economy, quality of life, and ability to respond to and recover from a major emergency.

The Washington State Department of Transportation (WSDOT) is pleased to submit this report as directed by **ESHB 1125, Sec. 219, subsection 9**, which identifies ways to advance and fund resilience investments on the I-5 corridor, requesting that the Agency work with the Emergency Management Division of the Washington Military Department to:

- Identify strategic transportation corridors and opportunities to improve their resilience and reinforce the corridors against natural disasters.
- Identify federal funding opportunities the state should pursue.
- Recommend actions to maximize federal funding for the state of Washington.

WSDOT previously submitted three interim I-5 reports to the Legislature as directed by Senate Substitute Bill (SSB) 5975, Section 209, one in December 2022 and two in June 2023. These reports included a seismic risk analysis for 150 structures between Boeing Field and Lake City Way, a segment not currently part of the designated seismic lifeline.

This report provides an initial look at I-5 resilience opportunities that have the potential to compete for near-term federal grant programs, such as those provided by the Infrastructure Investment and Jobs Act, available through Fiscal Year 2026. A longer-term, more comprehensive analysis of I-5 corridor resilience will be included as part of the I-5 Master Plan process beginning next year.

The I-5 Master Plan is now part of the Cascadia High-Speed Rail and I-5 Program, which allows WSDOT to look holistically at highway, rail, and other travel options and to foster a comprehensive understanding of area communities, their needs, and opportunities in the region. In December 2024, WSDOT will submit a report describing our approach for the remainder of the I-5 Master Plan process and its implementation.

We thank the Legislature for its support and look forward to continuing to work with you and the Governor's Office on the next steps to deliver this innovative program.

Sincerely,

Julie Meredith, PE

Assistant Secretary, Urban Mobility, Access and Megaprograms, WSDOT

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List of Abbreviations

2SHB	Second Substitute House Bill
ADA	Americans with Disabilities
AID	Accelerated Innovation Deployment
BIL	Bipartisan Infrastructure Law
BRIC	Building Resilient Infrastructure in Communities program
DOD	Department of Defense
EMD	Emergency Management Division
FEMA	Federal Emergency Management Agency
FGTS	Freight and Goods Transportation System
FHWA	Federal Highway Administration
FMSIB	Freight Mobility Strategic Investment Board
HOV	high-occupancy vehicle
IIJA	Infrastructure Investment and Jobs Act
INFRA	Nationally Significant Multimodal Freight & Highway Projects program
IRA	Inflation Reduction Act
JBLM	Joint Base Lewis-McChord
NHS	National Highway System
NMFN	National Multimodal Freight Network
NWR	Northwest Region
PPP	Power Projection Platform
PROTECT	Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation Discretionary Grant Program
RAISE	Rebuilding American Infrastructure with Sustainability and Equity program
SDDCTEA	Military Surface Deployment and Distribution Command, Transportation Engineering Agency
SDOT	Seattle Department of Transportation
SMART	Strengthening Mobility and Revolutionizing Transportation
SR	State Route
SSB	Senate Substitute Bill
STRAHNET	Strategic Highway Network

USDOT U.S. Department of Transportation
WSDOT Washington State Department of Transportation

Introduction

In spring 2022, the Washington State Legislature passed the Move Ahead Washington transportation package that included the intention to create a modern vision for the I-5 corridor through the development of a statewide I-5 Master Plan.

In August 2023, WSDOT integrated this I-5 planning work with future High-Speed Rail planning. The Cascadia High-Speed Rail and I-5 Program aim to strategically design a modern, north-south multimodal transportation system that serves everyone who visits, lives, and works in the region by:

- Fostering a vibrant economy
- Enhancing quality of life
- Ensuring safety
- Boosting system efficiency
- Promoting community connectivity
- Reducing carbon emissions

A resilient transportation system is vital to advancing each of these program goals. As a next step in this planning work, **ESHB 1125, Sec. 219** directs WSDOT to identify ways to advance and fund resilience investments on the I-5 corridor, requesting that the Agency work with the Emergency Management Division of the Washington Military Department to:

- Identify strategic transportation corridors and opportunities to improve their resilience and reinforce the corridors against natural disasters.
- Identify federal funding opportunities the state should pursue.
- Recommend actions to maximize federal funding for the state of Washington.

Resilience Defined

This report is guided by the WSDOT [Strategic Plan's](#) Resilience goal, which states that the Agency aims to:

- Plan and/or invest resources to improve our ability to mitigate, prepare for, and respond to emergencies; combat climate change; and build a transportation system that provides equitable services, improves multimodal access, and supports Washington's long-term resilience.

The goal has two main focuses:

1. Improve the resilience of the transportation system through asset management and seismic, climate, natural hazard, and operational resilience.
2. Lead the development of transportation that combats climate change and enhances healthy communities for all through the reduction of greenhouse gas emissions.

Report Collaborators and Development

WSDOT closely collaborated with EMD and other key officials and experts on resilience, national defense, and emergency management in Washington to develop this report. The following sources were

used to identify resilience-related needs and opportunities along the I-5 corridor:

- WSDOT’s Northwest, Olympic, and Southwest regions and Capital Program Development and Management.
- Feedback collected during the I-5 Study Listening Sessions with 137 partners and organizations that included a range of transportation interests, including local jurisdictions, tribal government representatives, state and federal agencies, community organizations, and businesses.
- Reports and recommendations addressing statewide resilience and emergency management needs (see **Appendix B**), including the state’s Enhanced Hazard Mitigation Plan led by EMD.

A resilient I-5 system is a fundamental priority of all who provided feedback, inextricably linked to quality of life, the economy, and emergency response. Common resilience issues and concerns collected and considered in this report’s near- and longer-term recommendations include:

- The functionality of I-5 following a seismic event
- The state of disrepair of the current system due to preservation and funding shortfalls
- The lack of parallel routes to I-5
- I-5 closures caused by flooding and landslides, extreme storm events (snow, ice, wind)
- The impact of extreme heat and wildfires
- System vulnerability caused by cybersecurity threats, for example, those targeting tolling and tunnel systems.

Resilience issues and needs, organized by county and identified in the [I-5 Study Listening Session Feedback Summary](#), provide geographic context to the needs listed above and are attached as **Appendix C**.

Key Themes

1. **Washington State depends heavily on a fully functioning and well-maintained I-5 system, an essential strategic corridor in emergencies and disasters.** The primary north-south strategic corridor performs essential functions in emergency management and disaster response, national defense, and freight movement. If the I-5 system is not maintained, Washington risks losing a vital link during a regional emergency or in response to a natural disaster. This includes access to ports, ferry terminals, military installations, medical facilities, and lifeline routes.
2. **Investments are needed to address the I-5 system’s current and projected resilience needs.** I-5, from border to border, faces many challenges today, including impacts from natural disasters and deteriorating conditions from critical preservation and maintenance funding shortfalls. Climate change will exacerbate many of these challenges, placing greater strain on the system. There are opportunities throughout the entire corridor to advance projects that would support a more resilient I-5 system.
3. **New and existing federal funding opportunities can help advance I-5 system resilience improvements.** Significant federal investments in infrastructure in recent years through the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), and Inflation Reduction Act (IRA) have created new funding tools for projects that

address the resilience of the transportation system. New and existing federal opportunities can be leveraged now and during the I-5 Master Plan process to further investments in a resilient strategic corridor.

Identify Strategic Transportation Corridors

I-5 is a Strategic Transportation Corridor

WSDOT contributors and EMD determined, for the purposes of this report, the definition of a strategic transportation corridor is a route that will play a key role after a seismic event, natural disaster, or other emergency, is vital to the movement of people and goods, and is essential for national defense. Applying that meaning, the entirety of I-5 from the Oregon border to the Canadian border is considered a strategic transportation corridor because any localized vulnerability or closure threatens the overall system.

Federal, state, and other organizations recognize the importance of I-5 as reflected by its various designations, such as the state seismic lifeline and federal Strategic Highway Network, described in **Appendix A**.

In the I-5 System Partnership’s 2019 Call to Action report, visionary leaders described the corridor as follows:

“I-5 is the backbone of Washington’s transportation system, powering our economy, linking statewide markets to our ports, and connecting people to jobs, goods, and each other. All of the transportation systems it connects to, including local streets, highways, transit, freight, and national defense, rely on I-5. A lasting change is needed.”

The state’s reliance on I-5 will continue as tremendous growth occurs over the next 30 years, with 3 to 4 million additional people expected to move to the Cascadia megaregion.



-  **3-4 million people** expected to move into the Cascadia megaregion in the next 30 years
- 1.8 million people** expected to move to the Puget Sound region alone
-  **13 ports** interconnect with I-5
-  I-5 provides access to **4 major military facilities**
-  **88%** of all statewide air cargo goes through the Puget Sound region
-  The stretch of I-5 in downtown Seattle is the **busiest highway** in the state
- Highest truck volumes** statewide on I-5 near Seattle and Vancouver

Left: Map of the Cascadia megaregion that stretches from Vancouver, B.C. through the Seattle, WA metropolitan area to Portland, OR.
Right: Snapshot of the vital role I-5 plays in the state.

Identify Opportunities to Advance and Fund Resilience

Opportunities to improve and fund resilience on the I-5 corridor are organized in the following subsections: 1) near-term opportunities and 2) I-5 Master Plan opportunities.

Near-Term Opportunities

This section presents near-term opportunities to improve corridor resilience matched with available federal grant programs, an important step in creating a grant pipeline for potential resilience investments.

Near-Term Federal Funding Outlook

The IIJA marks a significant change in transportation funding. It provides an estimated 24 percent increase in formula-based allocations and sets aside almost triple the past budget for transportation discretionary funding. As of October 2023, the IIJA is a third of the way through its five-year authorization period. With [more than \\$210 billion](#) remaining, WSDOT can capitalize on this generational federal investment in infrastructure to advance priority needs throughout the state, including the resilience of the I-5 system.

A **Once-in-a-Generation**
Increase in
Federal Transportation Funding

\$1.2 trillion

in total funding from
FY 2022 through FY 2026

Approximately

\$18 billion

in discretionary grants per year

Near-Term Project Identification and Resilience Classification

As a first step in pursuing near-term funding, WSDOT worked with Regional Office staff to identify a list of approximately 100 existing I-5 resilience-enhancing opportunities that require funding and are not yet in construction. Only WSDOT projects planned for I-5 were considered for an initial assessment. Other projects, including those led by local agency partners and those serving connections to I-5, remain vital to improving the resilience of the corridor and will be addressed during the Master Plan.

The near-term opportunities included in this analysis originate from capital plans and ongoing programs. The projects were then classified according to how well they address the following resilience criteria used by the U.S. Department of Transportation (USDOT) in the PROTECT program since this reflects recent criteria and policy guidance common to other federal funding programs.

- **Hazard Risk:** Likelihood of natural hazard impacts, including addressing the needs of disadvantaged populations that are often the most vulnerable to hazards. Opportunities were scored based on their location using FEMA's National Risk Index, which assigns a natural hazard risk to each census tract based on geographic and demographic factors.
- **Criticality:** How vital a given piece of infrastructure is to the functioning of the corridor, especially in the event of emergency evacuation. Opportunities were scored qualitatively with

input from staff from WSDOT's regional offices along the I-5 corridor.

- **Design Elements:** The extent to which resilience improvements are already planned as part of the scope of the project. One type of relevant improvement is direct efforts to better withstand natural hazards (such as seismic retrofits). A project could also receive a high resilience score for design elements through the inclusion of nature-based solutions or those that create more resilient ecosystems. Federal programs have included this more holistic definition of resilience based on the goal of addressing the causes of climate change as well as specific natural disasters. Opportunities were scored based on descriptions of scope elements in existing planning documents, as well as input from staff from WSDOT's regional offices along the I-5 corridor.

A score for each of these criteria was assigned and applied to each opportunity. For example, a project that (1) is located in an area extremely vulnerable to earthquakes, (2) serves a critical evacuation route, and (3) includes the seismic retrofit of a bridge, as well as accommodations for fish passage, would receive a “very high” resilience score.

Based on this resilience screen, **30 opportunities, approximately 10 from each WSDOT region along I-5, were selected to move forward into a funding analysis.** The 30 identified opportunities all address one or more resilience criteria. As a result, the funding analysis focuses on grant programs that are best positioned to advance each opportunity, which includes alignment with other grant evaluation criteria, funding potential, and competitiveness.

Funding Analysis of Potential Resilience Investments

A funding analysis was conducted on the list of resilience opportunities that consisted of a high-level assessment of the grant program that best fit each opportunity based on available data, as well as a brief qualitative analysis. Of the dozens of federal grant programs available, the following 10 programs aligned with the list of near-term WSDOT opportunities on the I-5 corridor:

- Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation Discretionary (PROTECT)
- Bridge Investment Program
- Nationally Significant Multimodal Freight & Highway Projects (INFRA)
- Mega
- Rural
- Reconnecting Communities and Neighborhoods
- Safe Streets and Roads for All
- National Culvert Removal, Replacement & Restoration Grants
- Strengthening Mobility and Revolutionizing Transportation (SMART)

Appendix D summarizes the following for each of these programs: descriptions, annual funding available, the success rate in FY22, and project types funded.

Other federal grant opportunities, such as those under the umbrella of FEMA's Hazard Mitigation

Assistance Program, have a strong alignment with advancing infrastructure resilience but do not provide significant funding potential for the list of near-term opportunities and will be considered during the Master Plan process.

The purpose of the funding analysis of the near-term opportunities was to identify which grant programs are most likely to advance each specific project and provide direction on the attributes that should be emphasized to maximize grant competitiveness. The analysis is not intended to recommend application submittal for any specific grant program or guarantee competitiveness. The analysis provides:

- Guidance on a grant strategy that pre-positions and prepares WSDOT to swiftly respond to Notice of Funding Opportunities (NOFOs).
- A starting point for strategy and advancement of opportunities as part of the I-5 Master Plan, both in terms of specific investments and lessons learned to inform mid- and long-term analysis and project development.

Most Promising Near-Term Funding Opportunities

Three grant programs stood out as providing the most promising funding opportunities for near-term I-5 resilience investments.

- **Bridge Investment Program:** Many of WSDOT's projects addressing seismically deficient bridges along the I-5 corridor align well with the Federal Highway Administration (FHWA) Bridge Investment Program. This program stands out due to its ability to address a core resilience need and its extensive funding availability.
- **PROTECT:** Seismic retrofit projects for the I-5 corridor align strongly with PROTECT program criteria. Bundling near-term capital projects could be a compelling approach to leverage the program. Additionally, the significant seismic vulnerability analysis effort needed for structures between Boeing Field and Lake City Way in the Central Puget Sound area could be advanced using PROTECT planning funds, which would position these structures for future design and construction funding.
- **INFRA:** The INFRA program offers substantial funding potential and is especially well-suited for interstate projects. The program considers resilience as part of its merit criteria, prioritizing projects with benefits to disadvantaged communities and strategic sites, such as military bases and airports. Several near-term resilience opportunities aligned with INFRA emphasize capacity expansion, operational enhancements, and intersection upgrades near strategic sites, including Joint Base Lewis–McChord (JBLM).

The complete list of grant programs matched to their best-aligned opportunities and descriptions is attached as **Appendix E**, which helps clarify the need for the project. The following table indicates the best matches between WSDOT resilience opportunities and the most promising three grant programs. In most cases, the strongest grant application would involve either identifying a specific project component or bundling similar improvements across several identified potential investments. These recommendations offer a starting point for discussions related to upcoming NOFOs. Advancing grant applications for near-term funding opportunities will require further assessment against other project priorities at the corridor, regional, and state levels.

Table 1. Top Three Near-Term Grant Program Opportunities with Best Aligned Opportunities

Grant Program	Rationale	Opportunities and investments (County)	Relative Resilience Score
Bridge Investment Program (FHWA)	Deficient bridges were identified as the most critical resilience need for the I-5 corridor among currently defined projects. Several projects align well with the program’s priority considerations, including addressing state-of-good repair deficiencies. The Bridge Investment Program also has more funding available than any other single competitive grant program.	I-5 East Fork Lewis River NB Bridge – Replacement (Clark)	Criticality: Very High Design Elements: Very High Hazard Risk: Very High
		I-5/N Fork Lewis River Bridge SB – Rehabilitation (Clark)	Criticality: Very High Design Elements: High Hazard Risk: Very High
		Northwest Region (NWR) I-5 Sign Bridges – Replace 138 sign bridges that are at end of their lifecycle (Whatcom, Skagit, Snohomish, King)	Criticality: Very High Design Elements: Very High Hazard Risk: Very High

Grant Program	Rationale	Opportunities and investments (County)	Relative Resilience Score
PROTECT (FHWA)	The identified projects associated with seismic retrofit represent a strong alignment with program criteria. For these four, the best approach might involve bundling them, especially given their similar development stages. All PROTECT candidate projects could be strengthened with hazard assessment tasks from the I-5 Master Plan.	Seismic Vulnerability Analysis of 150 structures (bridges, ramps, retaining walls) between Boeing Field and Lake City Way, a current gap in the I-5 lifeline in central Puget Sound (King)	Criticality: Very High Design Elements: Very High Hazard Risk: Very High
		I-5/Bridgeport Way over I-5 – Bridge Seismic Retrofit (Pierce)	Criticality: Very High Design Elements: Very High Hazard Risk: Medium
		I-5/S 56th St over I-5 – Bridge Seismic Retrofit (Pierce)	Criticality: Very High Design Elements: Very High Hazard Risk: Medium
		I-5/S 30th St Over S-S Ramp – Bridge Seismic Retrofit (Pierce)	Criticality: Very High Design Elements: Very High Hazard Risk: High
		I-5/Porter Way over I-5 – Bridge Seismic Retrofit (Pierce)	Criticality: Very High Design Elements: Very High Hazard Risk: High
		I-5 NB/0.5 Miles N of Headquarters Rd - Slope Stabilization (Cowlitz)	Criticality: Very High Design Elements: Very High Hazard Risk: Medium

Grant Program	Rationale	Opportunities and investments (County)	Relative Resilience Score
INFRA (FHWA)	INFRA offers significant funding potential and is the federal grant program best aligned with interstate projects generally. The program's best alignment with resilience is in serving critical operations in the event of an emergency. Several of the projects advanced through the resiliency screening target capacity expansion, operational improvements, and intersection upgrades, which match the recent history of successful INFRA projects. The proximity to historically disadvantaged regions and strategic locations, such as airports and healthcare facilities, should be emphasized in any grant application.	I-5 S 38th St South to JBLM - additional high-occupancy vehicle (HOV) lanes in both directions (Pierce)	Criticality: Very High Design Elements: Very High Hazard Risk: High
		I-5/State Route 6 and Chamber Way - Intersection Improvements (Lewis) - Access to Centralia-Chehalis Airport, coastal access from I-5 via SR 6)	Criticality: Medium Design Elements: Medium Hazard Risk: Very High
		SR 531 - 43rd Ave NE to 67th Ave NE - Widening roundabouts (Snohomish) - access to Arlington Airport and between I-5 and parallel route SR 9 for freight and travelers	Criticality: Medium Design Elements: High Hazard Risk: Medium
		SR 526 - Corridor Improvements, including an eastbound lane between Seaway Boulevard and I-5 (Snohomish)	Criticality: Medium Design Elements: High Hazard Risk: Very High
		I-5 - SR 161 - SR 18 Triangle Interchange Vicinity - Improvements (King)	Criticality: Medium Design Elements: High Hazard Risk: Very High

The complete list of grant programs matched to their best-aligned projects and project descriptions is attached as **Appendix E**.

I-5 Master Plan Opportunities

The master planning process will provide opportunities to advance resilience through the development of programmatic approaches and individual projects.

Addressing System-wide Resilience

Creating a resilient transportation system requires thoughtful planning to (1) align statewide goals with community needs, informed by an equitable engagement process; (2) address issues that could be faced

during implementation and avoid future risks; and (3) provide a comprehensive understanding and approach to system challenges. For example, improving the seismic resilience of a single structure does not necessarily address the ability to access or use it following a seismic event if adjacent or connected structures and slopes are compromised.

The I-5 Master Plan will address resilience at the system level and cultivate solutions that focus on potential challenges in their totality. It will also coordinate with statewide efforts, such as the future EMD-led Statewide Resilience Network, directed by Second Substitute House Bill (2SHB) 1728, and working with other state agencies as directed by HB 1170 which directs state agencies to collaborate on a coordinated response to federal funding opportunities to advance the state's climate resilience. A data-driven approach will help WSDOT understand likely impacts to the system over the next several decades. The pipeline will focus on developing and documenting the following aspects of proposed improvements:

- **Data Collection:** The I-5 Master Plan will help standardize a hierarchy and data collection process to create apples-to-apples considerations for future funding potential.
- **Timing and Phasing:** The I-5 Master Plan will prioritize investments to maximize public benefits. This will help define a work plan that aligns with federal funding opportunities.
- **Partnerships:** The I-5 Master Plan will advance system resilience through strategic collaboration with partner agencies, including those that own and operate transportation and ecological systems that connect to the I-5 strategic transportation and lifeline corridor.

An example of this approach could include identifying gaps and developing parallel routes to provide alternatives to routes currently vulnerable to landslides and other hazards based on their alignment with federal funding opportunities. The PROTECT program includes a category of funding for Community Resilience and Evacuation Routes dedicated to these kinds of projects. Another example includes using clear and documented resilience project needs to leverage post-natural disaster funds, such as FEMA's Emergency Relief Program, to reconstruct failed infrastructure that can better withstand future disasters.

Developing Future Investment Opportunities

In addition to the programmatic approach to maximize federal funding, the I-5 Master Plan can also help proactively position individual investments for federal funding. Understanding what projects could likely benefit from federal funding, and when the funding could most effectively be leveraged, will allow WSDOT to create a data-driven case for project need and project readiness. For example, the I-5 Master Plan will utilize the following strategies to advance resilience:

- **Resilience Criteria:** The I-5 Master Plan will develop a structured set of criteria for evaluating projects, providing a framework for strategic data collection and analysis. By proactively gathering relevant data and aligning it with established federal evaluation criteria and grant application guidelines, the Plan can help reduce the burden of grant applications and greatly improve competitiveness. For example, any traffic analysis should include bicycle, pedestrian, and transit considerations, which are critical to federal benefit-cost analysis.
- **Project Readiness:** The emphasis on projects' "shovel readiness" has recently shifted to "shovel worthiness," focusing on projects that will likely deliver on scope, schedule, and budget commitments articulated in grant applications. The I-5 Master Plan will align with this shift by clearly documenting development activities, such as right-of-way and utility agreements, in

order to streamline funding and approval processes and position projects for successful delivery. By naming specific projects, the I-5 Master Plan will also demonstrate local support and commitment, reducing delivery risk.

Examples of this approach include creating context-specific resilience criteria and collecting data to support nonstandard interstate improvements, such as wildlife crossings and connections for people who bike and walk, to cast a wider net of community benefits and funding program alignment.

Recommendations to Maximize Federal Funding for Resilience

There are several significant actions that can help the state future-proof the I-5 system, compete for federal funds, and maximize successful awards while balancing limited resources and workforce constraints.

Maintain a State of Good Repair

Developing sustainable long-term funding for a resilient I-5 system starts with understanding and planning for costs associated with maintaining a state of good repair. The I-5 system is expected to require \$2.5 billion for preservation and maintenance work through 2040, with \$1.2 billion needed for pavement preservation alone. Deferring or delaying preservation work not only increases costs but also increases the risk of system failures and poses significant challenges to I-5 system resilience, especially in the face of more challenging climate conditions and greater demands from expected population and economic growth. Meeting the needs of the I-5 system will require planning and prioritizing within the state's overall preservation and maintenance needs, which currently faces an annual funding gap of \$1.1 billion.

The IJJA has specific policy goals that support funding critical preservation needs if they reduce future maintenance costs. A successful award is dependent on a steady, reliable source of state funding, both for federal match requirements and to demonstrate a plan for long-term maintenance. This state funding must be established to fully maximize resilience-related federal grant funding. Until then, the Cascadia Program will help create clear expectations about mid- and longer-term needs and allow for an allocation of financial and workforce resources that best position the corridor to meet its resilience goals.

Complete Seismic Vulnerability Analysis in the Central Puget Sound Region

The IJJA includes a policy framework and funding incentives associated with systematic planning efforts that address broad objectives such as equity and resilience. For resilience, there are clear benefits associated with taking a holistic, quantitative approach to planning that aligns with work WSDOT is already committed to undertaking. This applies to the legislative-directed seismic risk assessment for 150 structures between Boeing Field and Lake City Way in Seattle, documented in the 2022 [I-5 Seismic Report](#). The report recommended the type of seismic vulnerability analysis for each study structure and the associated level of effort, as well as next steps to continue to advance the work. Completing these vulnerability analyses will create a strong data-driven case supporting applications to all federal grant programs, maximizing successful awards.

Seeking federal PROTECT program funds is an opportunity to help advance and complete the seismic vulnerability analysis as part of a Resilience Improvement Plan, as defined by the program. The program allows for a reduction in the typical 20 percent local match requirements for projects named in such a plan, meaning up to 90 percent of future project costs could come from federal sources.

Develop Seismic Lifeline Designation Criteria and Process

While the I-5 corridor's importance is recognized in many formal designations (Appendix A), it is only designated as a seismic lifeline route in two segments: Paine Field to Lake City Way and Boeing Field to JBLM.

Currently, there is no criteria, policy, or process for extending or augmenting the current seismic lifeline in Washington. The most recent rounds of federal grant programs offer national standards for the evaluation of resilience needs, but they consciously defer to local processes, such as statewide criteria for seismic resilience. Establishing WSDOT lifeline criteria and a process for extending the I-5 lifeline will improve grant competitiveness for seismic-related requests and can result in higher scores from reviewers at USDOT, the Federal Emergency Management Agency (FEMA), and other relevant federal agencies.

Clear criteria can help to strategically expand the lifeline in Washington on the I-5 system and the entire state, strengthening the state's position for federal funds. A planned but unfunded WSDOT effort, known as the Transportation Seismic Lifeline Enhancement project, is tasked with developing a statewide seismic lifeline designation process and criteria.

Once a process and criteria are established, there is potential to expand the current I-5 seismic lifeline. For example, the I-5 Seismic Report recommended a determination be made whether the study corridor will be designated as part of the designated seismic lifeline route to apply the appropriate performance criteria that align with WSDOT's strategic priorities.

Broadening the Definition of a Resilient System to Leverage Cross-Sector Partnerships and Expand Funding Options

Traditionally, the definition of "transportation infrastructure" focused on categories of physical assets such as roads and bridges. This definition of infrastructure is limiting when advancing resilience because both the current and future transportation infrastructure interfaces with and relies on many other systems to function. IIJA recognized this and is the first surface transportation authorization that provides funding for broadband, energy, water, and other infrastructure that interacts with the transportation system. Collaborations across federal agencies are being developed to help fund work that addresses issues like climate change with holistic, cross-sector approaches. For example, the PROTECT program allows investments outside of the roadway, such as stream stabilization. Additionally, IIJA created a [Joint Office of Energy and Transportation](#) to support the transition to zero-emission vehicles through technical assistance, data, and dedicated funding programs.

Statewide resilience efforts also emphasize the need to maintain and simultaneously invest in all types of infrastructure that support a resilient transportation system. Cooperative statewide efforts, including the Washington State Emergency Management Council, aim to prepare critical infrastructure to withstand and respond to major emergencies and natural disasters. Transportation is one of the state's four identified "lifeline" sectors, meaning its resilience is necessary to enable all other types of critical infrastructure.

Investments in I-5 that further statewide resilience recommendations across infrastructure sectors create a strong case for the use of federal funds to support improvements. A cooperative approach will

help identify funding opportunities beyond USDOT programs for which state departments of transportation are traditionally most competitive, such as FEMA’s Building Resilient Infrastructure in Communities (BRIC) program.

Reports that include recommendations from other agencies, which will inform the I-5 Master Plan, are listed in **Appendix B**.

Appendix A: I-5 Designations



Appendix A: I-5 Designations

Designation	Organization	Location	Description
National Highway System (NHS)	FHWA	All of I-5 in Washington	The National Highway System consists of roadways important to the nation's economy, defense, and mobility.
Strategic Highway Network (STRAHNET)	Department of Defense (DOD), FHWA	All of I-5 in Washington	A subsystem of the NHS, STRAHNET is a system for emergency transportation of military personnel and equipment in times of peace and war. This system provides connections to military installations and ports. I-5 provides primary access either directly or via connection to: <ul style="list-style-type: none"> • JBLM • Thirteenth Coast Guard District (via SR 99) • Whidbey Naval Air Station (via SR 20) • Everett Naval Base (via SR 529)
Power Projection Platform (PPP) Route	DOD	I-5 from JBLM to the Port of Tacoma (21 miles)	JBLM is a designated PPP, one of 18 U.S. military installations for rapid deployment and mobilization of high-priority units. Routes between PPPs and their designated air and seaports of embarkation represent the most critical public roadways to national defense.
State Priority Route	WSDOT, EMD	All of I-5 in Washington	State priority routes are used by WSDOT to assign an assessment priority following a major incident. The entire span of I-5 in Washington is considered a Level 1 (highest) priority for immediate assessment.
Seismic Lifeline (existing)	WSDOT	Paine Field (Everett) to Lake City Way (Seattle), Boeing Field (Seattle) to JBLM (Lakewood)	Seismic lifelines identify highway transportation routes that will be best able to reopen quickly following a major earthquake to establish post-disaster emergency supply chains between federally designated Incident Support Bases.
Interim National Multimodal Freight Network (NMFN)	USDOT	All of I-5 in Washington	A developing federal program that identifies key freight transportation network assets to inform investments that advance national policy goals, including improving the safety, security, and resilience of the national freight system.

Designation	Organization	Location	Description
Freight and Goods Transportation System (FGTS)	Freight Mobility Strategic Investment Board (FMSIB), WSDOT	All of I-5 in Washington	FGTS is a Washington state-specific freight designation system that identifies the state's freight corridors to prioritize investments for an efficient network. All of I-5 in Washington is designated as a Tier 1 truck corridor, representing more than 10 million gross tons transported annually.

**Appendix B:
Resilience and Emergency Management-
Related Reports**



Appendix B: Resilience and Emergency Management-Related Reports

[Appendix D: Washington's Freight Transportation System \(2022 Washington State Freight System Plan Update\)](#), WSDOT, November 2022.

[Climate Impacts Vulnerability Assessment](#), WSDOT, November 2011.

[Critical Incident Annex: Tab A: Critical Transportation](#), Emergency Management Division, Washington Military Department, June 1, 2022.

[Establishment of Interim National Multimodal Freight Network](#), U.S. Department of Transportation, May 27, 2016.

[Final Bill Report, 2SHB 1728](#), Washington State Legislature, May 2023.

[I-5 System Partnership: A Call to Action](#), WSDOT, May 2019.

[Joint Base Lewis McChord, WA to the Port of Tacoma, WA: Power Project Platform \(PPP\) Route](#), Military Surface Deployment and Distribution Command, Transportation Engineering Agency (SDDCTEA), U.S. Army, May 10, 2022.

[National Freight Strategic Plan \(NFSP\)](#), U.S. Department of Transportation, September 4, 2020.

[Resilient Washington Subcabinet Report: Findings and Recommendations](#); Emergency Management Division, Washington Military Department, et. Al; August 2017.

[State Facilities Action Plan](#), WSDOT, December 12, 2017.

[Transportation Asset Management Plan](#), WSDOT, June 2022.

[Washington Disaster Resiliency Work Group: Final Report](#), Office of the Insurance Commissioner of Washington State, October 31, 2019.

[Washington State Enhanced Hazard Mitigation Plan](#), Washington Military Department Emergency Management Division (EMD), October 1, 2023.

[Washington Transportation Plan 2040 & Beyond](#), Washington State Transportation Commission, 2018.

Appendix C: Resilience Needs and Opportunities by County



Appendix C: Resilience Needs and Opportunities by County

During the 2022-2023 I-5 Study Listening sessions, the following resilience-related feedback was provided by participants from 137 different jurisdictions, tribes, agencies, and organizations, including those representing underserved communities.

Whatcom

- The lack of parallel routes to I-5 is a concern, especially with climate change and the increase in events such as flooding and landslides.
- General concerns with international border efficiency.
- Seismic bridge improvements.

Skagit

- Flooding and landslides commonly cause I-5 closures.
- Skagit County is studying traffic impacts on I-5 detour routes.
- Proper preservation and maintenance of existing bridges, crossings, and interchanges plays a vital role in safety throughout the I-5 corridor and is a key transportation priority among participating jurisdictions.
- Area agencies and jurisdictions have concerns about system resilience on I-5, specifically the functionality and capacity of parallel routes, including SR 9, during flooding and landslides.
- It is important for I-5 to be usable shortly after a seismic event.

Snohomish

- Addressing seismic vulnerabilities of I-5 infrastructure should be a priority.
- Wildlife crossings must be considered in I-5 planning efforts.
- I-5 in the county is vulnerable to natural disasters. Stormwater, floodplain, and resilience planning are essential.
- SR 9 is a major I-5 parallel route through Snohomish County. This highway and its connections to I-5 need to be part of future corridor planning.

King

- Addressing I-5 seismic vulnerabilities should be a priority. Emergency lifeline routes need to be established and maintained.
- Aging I-5 infrastructure is a source of frequent lane closures. There needs to be more resilience planning to mitigate closure impacts.
- The Virtual Coordination Center partnership between WSDOT and the University of Washington is a good step in coordinated incident response.
- As I-5 traffic grows, there are increasing burdens on local emergency services, including financial costs and operational changes to avoid the use of I-5 as much as possible.

Pierce

- Jurisdictions are working to address floodplain risks around Clover Creek, just north of JBLM. Flooding has caused I-5 closures in the past.

- Climate change poses a threat to I-5, especially around the Nisqually Delta. Pierce County is developing plans to mitigate climate change impacts.
- There are a few parallel routes along I-5, which makes it the most important north-south corridor for the local economy and JBLM.
- Flooding and erosion around the Nisqually Delta are a significant concern and make I-5 structures in the area vulnerable.

Thurston

- The Nisqually Delta is a major area of focus for county jurisdictions and agencies due to its importance to local environmental health, local tribes, and its intersection with I-5.
- A lack of parallel routes causes severe backups on major arterials when lanes are closed on I-5. Roads in cities like Yelm cannot handle high traffic volumes.
- Access to and from JBLM is a challenge for the region. If there is a closure and JBLM employees cannot report for duty, it becomes a mission-readiness issue.

Lewis

- Flooding on I-5 has resulted in financial impacts on local economies and should be addressed to increase resilience. Landslides are also a concern.
- The lack of parallel routes is a challenge. When I-5 closures occur, commuters and freight vehicles use local roads, which are not equipped to handle freight and high traffic volumes.
- Flood mitigation efforts are considered in many jurisdictions' infrastructure plans.
- Area I-5 bridges are regularly struck by vehicles because they do not meet current height standards. Many I-5 bridges cannot handle freight vehicles carrying excess loads, thus forcing trucks to detour onto other highways.
- A seismic study of Lewis County structures would be helpful for planning.

Cowlitz

- Closures on I-5 due to flooding, landslides, or accidents are challenging due to the lack of adequate parallel routes. I-5 traffic using local area roads, such as Green Mountain Road, are not equipped to handle freight vehicles and high traffic volumes.
- I-5 between Woodland and Kelso experiences regular flooding and landslides.
- I-5 bridges are a source of traffic congestion due to their reduced lane capacity and frequent maintenance projects. I-5 bridges are often struck by vehicles, which results in the need for repairs and subsequent lane closures.

Clark

- Sections of I-5 through Clark County are at a lower elevation and vulnerable to flooding.
- I-5 structures in this part of the corridor could be at risk in the event of significant seismic activity.

A detailed report of the listening sessions can be found in the [Listening Sessions Feedback Summary](#).

**Appendix D:
Federal Grant Programs Aligned with I-5
Near Term Resilience Opportunities**



Appendix D: Federal Grant Programs Aligned with I-5 Near-term Resilience Opportunities

Grant Program	Description	Available funds per year	Average Grant Amount Awarded	Success Rate (FY 2022)	Number of relevant project types funded in FY 2022 *
RAISE	Helps communities build transportation projects that have significant local or regional impact and improve safety and equity.	~\$2 billion	\$14 million (FY2022)	166 total awards (937 applications submitted) – 18% success rate	Resilience/resiliency (6), seismic (3), interchange (9), interstate (16)
PROTECT	The PROTECT program offers grants to enhance the resilience of transportation assets against natural threats and to fortify essential evacuation routes.	~ \$400 million	\$16 million (anticipated)	Approximately 50 (estimated – no awards announced yet)	No awards announced yet. However, the program’s focus on resiliency creates an obvious nexus with I-5 work.
Bridge Investment Program	Funds projects addressing existing bridges to reduce the overall number of bridges in poor condition or at risk of falling into poor condition, open to all levels of government.	~ \$2 billion	Small/Medium Bridges: \$34 million Large Bridges: \$560 million (FY 2022)	Planning: (24 awards) Small/Medium Bridges: 9 awards Large Bridges (4 awards). Applications submitted: unknown	Interstate (2), seismic (3)
INFRA	Multimodal freight and highway projects of national or regional significance to improve the safety, efficiency, and reliability of the movement of freight and people.	~\$1.5 billion	\$58 million (FY 2022)	26 awards (250 applications submitted), 10% success rate	Resilience/resiliency (1), interchange (16), interstate (4)

Grant Program	Description	Available funds per year	Average Grant Amount Awarded	Success Rate (FY 2022)	Number of relevant project types funded in FY 2022 *
Mega	Support large, complex projects that are difficult to fund by other means and likely to generate national or regional economic, mobility, or safety benefits.	~ \$1 billion	\$130 million (FY 2022)	9 awards (138 applications submitted), 7% success rate	Resilience/resiliency (1), interchange (2), interstate (1)
Rural	Improve and expand surface transportation infrastructure in rural areas to increase connectivity, improve the safety and reliability of movement of people and freight, and generate regional economic growth and quality of life	~\$300 million	\$23 million (FY 2022)	12 awards (317 applications submitted), 3% success rate	Interchange (2)
Reconnecting Communities and Neighborhoods	Fund projects that prioritize disadvantaged communities enhance access to daily necessities, promote equitable development, and restore community connectivity by addressing transportation barriers.	~ \$200 million (FY 2023); ~\$1.8 billion (FY 2024 and beyond)	\$23 million (FY 2022)	45 awards (435 applications submitted) 10% success rate**	Resilience/resiliency (4), interchange (4), interstate (17)

Grant Program	Description	Available funds per year	Average Grant Amount Awarded	Success Rate (FY 2022)	Number of relevant project types funded in FY 2022*
Safe Streets and Roads for All	Funds regional, local, and tribal initiatives through grants to prevent roadway deaths and serious injuries.	~ \$600 million	\$16 million (FY 2022)	Implementation: 37 awards (201 applications submitted), 18% success rate	Interstate (3)
National Culvert Removal, Replacement & Restoration Grants	Funds the modification of culverts and weirs to promote healthy fisheries by improving water flow and supporting the migration of fish like salmon and steelhead, which transition between freshwater and ocean environments.	~ \$200 million	\$3.3 million (FY 2022)	59 awards (102 applications submitted), 58% success rate	Resilience/resiliency (1)
Accelerated Innovation Deployment (AID)	The AID Demonstration, part of the FHWA's Technology and Innovation Deployment Program (TIDP), offers funding to state and federal transportation agencies and Tribal governments to fast-track the adoption of innovative highway transportation strategies.	~\$12.5 million	Approximately \$1 million (expected future cycles)	Not issued in FY 2022. 10 to 15 awards expected per cycle.	No awards issued in FY 2022. Most recent awards (FY 2021) were all awarded to state DOTs for system-wide or programmatic technology pilot programs.

Grant Program	Description	Available funds per year	Average Grant Amount Awarded	Success Rate (FY 2022)	Number of relevant project types funded in FY 2022 *
SMART	Conduct demonstration projects focused on advanced smart community technologies and systems in order to improve transportation efficiency and safety.	~ \$100 million	\$1.6 million (Stage 1)	59 awards (392 applications submitted), 15% success rate	Resilience/resiliency (1)

*Based on a keyword search of recent awards from USDOT's [BIL Launchpad](#)

**The first year of the program only included the Reconnecting Communities Pilot program, authorized by the IIJA. Subsequent versions of the program, including FY 2024, include the Neighborhood Access and Equity program authorized by the IRA, which creates more than double the available funds and expands project eligibility.

**Appendix E:
Funding Analysis Results for I-5 Near
Term Resilience Opportunities**



Appendix E: Funding Analysis Results Organized by Program

The programs and opportunities listed here derive from the near-term funding analysis. From the list of approximately 100 projects identified in collaboration with Regions, 30 were identified as addressing a resilience goal and meeting initial resilience screening criteria. The funding analysis for this shorter list is summarized below, organized by federal grant program. The opportunities listed under each grant program are those that match the program's requirements best. This list is limited to potential investments that had a strong alignment with a federal program, so not all of the 30 short-listed opportunities are included. Similarly, only grant programs with a strong alignment with the short list of opportunities are listed here – so some grant programs included in the analysis, such as the Rural Surface Transportation program, are not shown here.

Bridge Investment Program | (FHWA)

Deficient bridges were identified as the most critical resilience need for the I-5 corridor among currently defined projects. Several projects align well with the program's priority considerations, including addressing state-of-good repair deficiencies. This program also has more funding available than any other single competitive grant program.

I-5 East Fork Lewis River NB Bridge – Replacement (Clark County): The East Fork Lewis River Bridge on northbound I-5 will be removed and replaced to provide a structurally robust crossing that meets modern engineering and safety standards. The project aligns well with the BIP program's intent and addresses a critical evaluation criterion in its focus on safety.

I-5/N Fork Lewis River Bridge SB – Rehabilitation (Clark County): Repair damaged steel truss elements and address shear deficiency on the concrete approach spans of Bridge #5/040W. The project aligns strongly with program goals, advancing resiliency through major infrastructural improvements.

NWR I-5 Sign Bridges (Whatcom, Skagit, Snohomish, and King Counties): Replace NWR steel/aluminum truss sign bridges that are at the end of service life with steel monotube structures. This includes 44 cantilevered steel truss signs, 38 steel truss sign bridges, and 56 aluminum sign bridges that will increase the resiliency of the roadway system and provide enhanced connectivity, avoiding emergency closures due to emergency repair projects. It could also align with other programs as well, as bundled projects are eligible and oftentimes encouraged.

PROTECT | (FHWA)

The identified projects associated with seismic retrofit represent a strong alignment with program criteria. For these six, the best approach might involve bundling them, especially given their similar development stages. All PROTECT candidates could be strengthened with hazard assessment tasks from the I-5 Master Plan.

Seismic Vulnerability Analysis: Boeing Field to Lake City Way (King County): Seismic Vulnerability Analysis of 150 structures (bridges, ramps, retaining walls) between Boeing Field and Lake City Way, a current gap in the I-5 lifeline in central Puget Sound. There is an opportunity to connect this work with the PROTECT program both through planning phases as part of a program-compliant Resilience Improvement Plan and in the eventual implementation of the projects.

I-5/Bridgeport Way over I-5 - Seismic Retrofit (Pierce County): Repair damaged steel truss elements and address shear deficiency on the concrete approach spans of Bridge #5/040W. This project aligns well with the program goals, improving the infrastructure to withstand major seismic events. The need is well-defined, and the project already has funding that could be used as a match.

I-5/S 56th St over I-5 - Seismic Retrofit (Pierce County): The structure does not meet current seismic design standards. Seismically retrofit the bridge to bring it up to current seismic design standards and reduce the risk of catastrophic failure during an earthquake. There is a similar alignment with the grant program to those projects detailed above.

I-5/S 30th St Over S-S Ramp – Seismic Retrofit (Pierce County): The structure does not meet current seismic design standards. Seismically retrofit the bridge to bring it up to current seismic design standards and reduce the risk of catastrophic failure during an earthquake. There is a similar alignment with the grant program to those projects detailed above.

I-5/Porter Way over I-5 – Seismic Retrofit (Pierce County): This structure does not meet current seismic design standards. This project will seismically retrofit this bridge to bring it up to current seismic design standards and reduce the risk of catastrophic failure during an earthquake. There is a similar alignment with the grant program to those projects detailed above.

I-5 NB/0.5 Miles N of Headquarters Rd – Slope Stabilization (Cowlitz County): Slope stabilization work, which aligns well with program goals and could be combined with resilience assessment work as part of the Master Plan.

INFRA | (FHWA)

INFRA offers significant funding potential and is the federal grant program generally best aligned with interstate projects. Several of the opportunities advanced through the resiliency screening target capacity expansion, operational improvements, and intersection upgrades, which match the recent history of successful INFRA projects. The proximity to historically disadvantaged regions and strategic locations, such as airports and healthcare facilities, should be emphasized in any grant application.

I-5 S 38th St South to JBLM HOV Improvements: (Pierce County) I-5 from S 38th Street south to JBLM HOV lanes, to add HOV lanes in both directions, rebuild the I-5/SR 512 interchange, and potentially modify overcrossings. This project aligns well with the program, addressing major capacity and operation improvements on I-5 and includes interchange improvements addressing safety and efficiency. The project is also well defined and has available funding allocated and an anticipated construction date, helping to address “shovel worthiness.”

I-5/SR 6 and Chamber Way - Intersection Improvements (Lewis County): Construct roundabout at Chamber Way and SR 6 ramps; Part of I-5 Chamber Way project. The project has potential alignment with INFRA, as it focuses on intersection improvements, which can greatly improve safety and efficiency.

SR 531 - 43rd Ave NE to 67th Ave NE - Widening (Snohomish County): SR 531 between 43rd Avenue Northeast and 67th Avenue Northeast in Arlington will be widened to add a second lane in each direction, and roundabouts will be added at three intersections to improve safety and reduce congestion. Widening projects that ease congestion and improve safety can be competitive for this program, especially on crucial routes.

SR 526 - Corridor Improvements (Snohomish County): The SR526 project aims to improve portions of the SR 526 corridor by constructing an eastbound lane between Seaway Boulevard and I-5, improving signal operations, and installing new ramp meters. The project is relatively well-defined and would align with program goals to improve the safety, efficiency, and reliability of the movement of freight and people. The project is also located along the border of a historically disadvantaged area and is close to the airport, making it more competitive.

I-5 - SR 161 - SR 18 Triangle Interchange Vicinity - Improvements (King County): Rebuild the southbound I-5 interchange with SR 18, a new southbound I-5 exit and roundabouts at South 356th Street, realignment of the SR 161/Milton Road South/20th Avenue South intersection, removal of fish passage barriers and other improvements. The project meets the INFRA program goal of highway projects of national or regional significance to improve the safety, efficiency, and reliability of the movement of freight and people. There are also clear connectivity and operational improvements associated with the project.

RAISE | (USDOT, Office of the Secretary)

RAISE prioritizes projects that serve an equity goal and provide alternatives to single-occupancy-vehicle travel. The program also emphasizes public engagement, especially with historically disadvantaged communities. Several projects identified in the screening meet these criteria. The most competitive applications for this program will request under \$20 million in grant funding. Therefore, identifying specific project elements (such as non-motorized parallel/crossing facilities) would be an important next step.

I-5/ Marvin to Mounts Road (Construction Phase Only): Added HOV lanes in both directions on I-5, shared-use path, and reconstructed I-5 onto bridge structure for a minimum length of 3,000 feet, replacing the existing truss bridges that are at future risk from Nisqually River erosion. The scope of improvements and focus on future-proofing against natural threats like river erosion would make it attractive for federal grants. However, the sheer scale and cost of the project will likely require a diversified approach to funding, where RAISE is one piece of a larger puzzle.

I-5 and 54th Avenue East Interchange: Overall, the project will improve safety, access to I-5, freight mobility, and connectivity for vehicle and non-motorized travel. The project is anticipated to be constructed in phases, with the north half of the interchange being the first phase. Strongly aligns with program goals addressing safety, mobility, and equity. The project can also be completed in phases and could seek funding for both or just one part of the project at a time. The project also has identified funding that could be used as a match.

I-5/Coweeman River Br to N Kelso Ave Br - Expansion Joint Rehab: Replace expansion joints to support safety and a state of good repair. Medium alignment with program goals, including safety and state of good repair; however, the scope is smaller than other projects eligible for the same program and may be less competitive.

SR 9/176th Street SE to SR 96: Widening. SR 9 is essentially used as an I-5 bypass in Snohomish County. While the project is in early development and does not have available funding to be used as a match yet, the project does align well with the program goals and would improve mobility and community connectivity.

Reconnecting Communities and Neighborhoods (RCN) | (USDOT, Office of the Secretary)

The RCN program has significant potential to advance projects in the near term, in part because of its over \$1 billion annual funding capacity. The program focuses exclusively on projects that address inequities and bring benefits to historically disadvantaged communities. Several of the projects align with this goal, especially given their proximity to disadvantaged communities as identified by USDOT, including the Tulalip Reservation. Partnerships with these communities would be critical to grant success.

I-5/SB Marine View Drive to SR 528: Corridor Improvements - Southbound I-5 between Everett and Marysville experiences severe congestion during peak travel periods. Minor widening of the roadway and re-striping southbound I-5 to create four lanes, with one designated HOV only, will improve mobility and increase highway capacity. This project aligns strongly with the program; portions of the project are in a designated disadvantaged community, potentially providing enhanced connectivity for the Tulalip Tribe.

I-5/NB and SB SR 528 to SR 531: Corridor Improvements – additional lane (HOV likely) and other improvements for the entire length. The project elements align well with the program, and it is partially in a disadvantaged community. There is a potentially competitive narrative focused on improving connectivity between two rural towns.

Lewis County – Westside Connector: The Westside Connector project will construct a new bridge and roadway to provide a westside connection over the Chehalis River. The project appears to be well-defined and can potentially enhance regional connectivity and accessibility, but specific details regarding project funding and exact construction details would influence competitiveness.

AID Demonstration (FHWA) and SMART (USDOT, Office of the Secretary)

AID Demonstration and SMART are the two federal grant programs with a focus on technological innovation relevant to near-term opportunities along I-5.

AID is focused specifically on improving highway efficiency, safety, and resilience, reducing construction-related congestion, and promoting the use of cutting-edge tools and techniques that can lead to the construction of longer-lasting highways.

SMART is a new program established by the IIJA that advances technology-based projects in two stages: prototyping/planning and implementation. The program is unique in that it establishes cohorts of grant recipients each year, such that all successful applicants advance their projects on the same timeline, creating more opportunities for collaboration and knowledge-sharing.

The opportunity to advance near-term I-5 resilience is to use AID and SMART funding to test new approaches to ITS in particular.

NWR Regionwide ITS Hardening: Securing ITS sites, securing communications conduits, replacement of vehicle detection, and Cooperative Automated Transportation infrastructure for operational resiliency. The focus on enhancing the resilience and security of ITS aligns very well with the grant program.

SB I-5 Part-Time Shoulder Use (Sleater-Kinney Rd to Henderson Blvd SE): Allow part-time shoulder use in the southbound direction of I-5 between the Sleater-Kinney Road Northeast on-ramp and the Henderson Boulevard Southeast on-ramp, approximately Marvin Rd and the US 101 interchange. Depending on the method of applying shoulder use, this project could be a good candidate to pilot under one or more of the SMART categories deployment and operation of integrated congestion management systems, innovative sensor-based infrastructure, or potentially coordinated automation. Collaboration with academia/tech companies could leverage additional funding or pilot opportunities.