Washington State Freight Mobility Strategic Investment Board

Integrating Community Considerations in Freight Investments

Recommendations to Create Benefits and Minimize Negative Impacts on Overburdened Communities

Adopted November 22, 2024

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Executive Summary

The movement of freight is essential to Washington's economy, supporting hundreds of thousands of jobs and creating billions of dollars in the state. This study demonstrates that well-designed freight infrastructure investments both enhance these benefits and deliver significant benefits to nearby overburdened communities that have historically experienced disproportionate negative impacts of freight infrastructure..

The Freight Mobility Strategic Investment Board (FMSIB) has a longstanding commitment to bringing the benefits of freight to communities across Washington by investing in projects that strengthen the economy, promote mobility, reduce congestion, address road/rail conflicts, and reduce pollution. The Washington State Legislature passed Substitute House Bill (SHB) 1084 in 2023 that directed FMSIB to study *"best practices for preventing or mitigating the impacts of investments in and the operation of freight systems in overburdened communities, with a focus on developing common procedures and practices for use by jurisdictions developing freight projects."*

Overburdened Communities

An "overburdened community" describes a census tract where vulnerable populations face multiple environmental harms and health impacts, or which includes Tribal lands. To qualify as an overburdened community, a census tract must meet at least one of the following conditions:

- has an overall rank of 9 or 10 on the Environmental Health Disparities (EHD) map created by the Washington State Department of Health. These ranks are calculated from indicators of population characteristics and pollution burden.
- is characterized as "disadvantaged" on the federal Climate and Economic Justice Screening Tool.
- contains Tribal lands.

This definition was developed by an interagency workgroup convened by the Governor's Office in June 2024 for use making and tracking investments under the Healthy Environment for All (HEAL) and Climate Commitment Acts.

Four Key Findings

This study identified four key findings that inform FMSIB's work with overburdened communities.

1. The movement of freight contributes significantly to the Washington State economy and the well-being of Washingtonians.

Whether they are employed in a freight-dependent industry or are consumers of goods imported from elsewhere, all Washingtonians benefit from freight. Washington handles roughly $707 billion of cargo annually, and in 2022, was the nation's 13th most trade-dependent state per

capita (see report body for all sources). Washington freight-dependent industries made up 35% of the state's gross domestic product (GDP) and generated nearly $213 billion in state GDP in 2019, the last year for which there is reliable data. Freight-dependent industries contributed 45% of jobs statewide, employing 1.5 million workers in Washington communities.

2. The benefits of freight often come at a disproportionate cost to members of overburdened communities who live near freight infrastructure.

Neighborhoods close to freight and industrial activity tend to be more affordable and so are attractive to homebuyers and renters with relatively lower incomes. Populations with low income in Washington state and elsewhere in the country are disproportionately made up of individuals and families of color, immigrants, and refugees.

More than two decades of academic research has demonstrated disparities in the negative impacts of freight and industrial infrastructure. Across the U.S., a larger share of individuals with low incomes and individuals that identify as Black, Indigenous, and People of Color (BIPOC) live near more heavily trafficked roadways. Proximity to freight infrastructure exposes these groups to increased air and noise pollution, increased traffic congestion and reduced safety, contaminated stormwater runoff and infiltration, urban heat islands, neighborhood divisions that can create barriers to access and mobility. This contributes to disproportionate health impacts and lower life expectancies. For example, increased air pollution has been linked to respiratory illness, asthma, and premature mortality from cardiovascular disease, pulmonary disease, stroke, lung cancer, and diabetes.

3. Infrastructure investments can be designed with community input to deliver significant benefits to overburdened communities while enhancing the freight system.

Case studies developed for this study show that with meaningful community engagement, well-designed and well-executed investments can:

- Enhance freight mobility, improve safety, and reduce emergency response times.
- Support a healthy built environment, reducing air and noise pollution and improving safety.
- Support a healthy natural environment, including restoring habitats, enhancing stormwater management, and remediating environmental contamination.
- Support climate goals by encouraging the use of transportation modes and energy sources that are less harmful to humans and the natural environment.
- Strengthen local economies through facilitating effective movement of goods and people and by creating jobs directly and indirectly dependent on efficient freight movement.

4. Freight system partners will benefit from capacity building and practical tools.

Infrastructure owners struggle with resource constraints and employ a wide variety of community engagement processes, some of which are insufficient and some of which are effective best practices. They would benefit from practical tools and recommended best practices that can be tailored and scaled to their circumstances.

FMSIB's Focus

FMSIB will address the inequitable benefits and burdens freight creates by centering environmental justice principles and integrating consideration of overburdened communities in its work and in its expectations of applicants and project sponsors. FMSIB has two areas of focus, described below.

Focus 1: FMSIB will advance forward-looking investments that enhance freight mobility, bring equitable community benefits, and reduce harms to overburdened communities.

This focus is consistent with FMSIB's charge to recommend a comprehensive and coordinated strategic state investment program that facilitates freight movement between and among local, national, and international markets. FMSIB will prioritize opportunities that bring benefits and reduce harms to members of overburdened communities when recommending investments to enhance freight mobility and strengthen Washington's economy.

To advance this work, FMSIB will integrate environmental justice principles and practices in its two historical responsibilities, described below. The main body of this report contains recommended future actions to improve FMSIB's effectiveness in each of these areas.

1) As a Thought Leader and Subject Matter Expert

FMSIB can serve as a statewide thought leader and subject matter expert on freight mobility and infrastructure investments. Forums and pathways for this leadership include:

- Advising the Legislature.
- Providing guidance to the Governor and coordinating with executive branch departments.
- Developing freight policy.
- Participating in joint initiatives.
- Coordinating with MPOs and RTPOs.
- Conducting research.

2) As the Steward of a Six-Year Freight Mobility Strategic Investment Program

One of FMSIB's core responsibilities is to recommend and monitor a statewide program of highest-priority freight mobility investments, with a six-year outlook, updated every two years. Called the Six-Year Freight Mobility Strategic Investment Program, this serves as the basis for the Legislature's budgeted investments in the freight system.

As outlined by Chapter 47.06A RCW, every project FMSIB recommends for funding in the statewide Strategic Six-Year Program must meet the "threshold" of including an engagement plan and consideration of community impacts and alternatives to reduce harms.

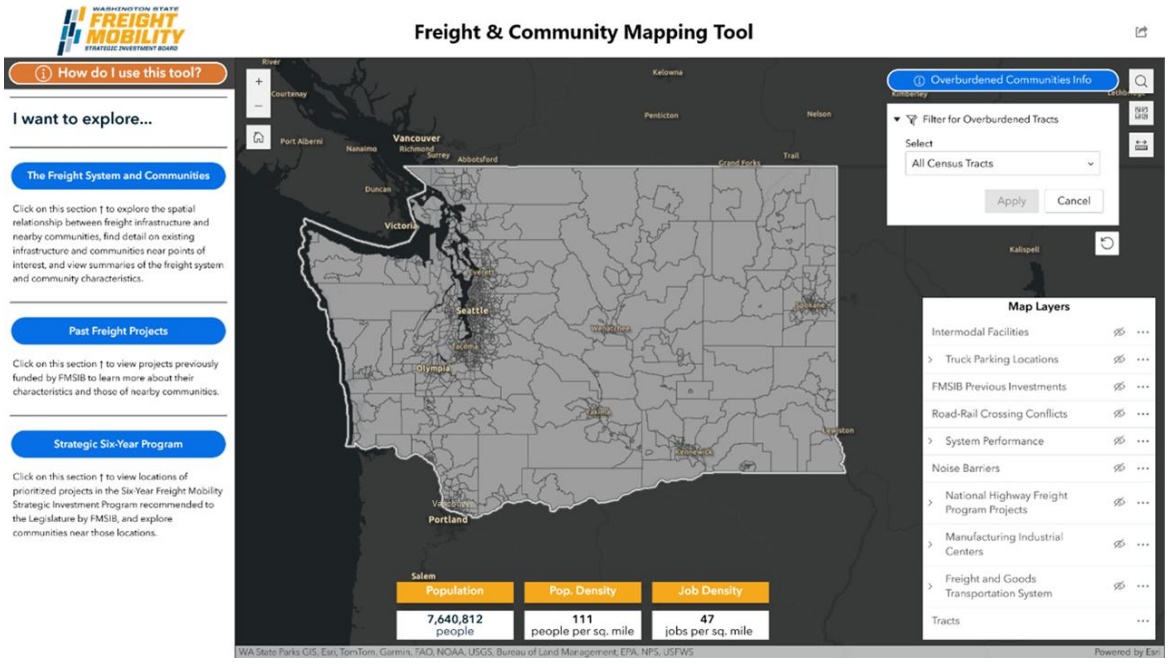
Focus 2: FMSIB will provide tools and recommend best practices to support project applicants, sponsors and others.

FMSIB has developed two significant tools in this study, described below.

FMSIB Freight and Community Mapping Tool

To support the integrated consideration of strategic freight system investments and community impact, FMSIB developed an interactive mapping tool with a robust set of freight and demographic data that can help users understand the relationship between existing freight infrastructure, potential future freight projects, and nearby communities. This tool, shown below, is publicly accessible from the FMSIB website.

Screenshot from *FMSIB Freight and Community Mapping Tool*

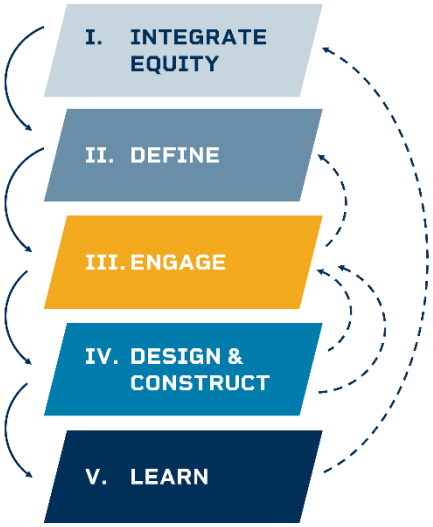


Source: BERK, 2024.

This tool will be of particular use to FMSIB applicants, allowing them to understand the characteristics of communities that may be affected by a proposed project and helping them create a tailored engagement plan for involving those communities in dialogue about the project before, during, and after implementation.

Toolkit and Best Practices

FMSIB recognizes the need to provide applicants and project sponsors with best practices and tools to help them engage affected and overburdened communities and integrate their interests in freight project design. The *Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments* is a practical guide for how jurisdictions can make effective and equitable public works investments. Applicants will find the *Toolkit* particularly useful, as FMSIB-specific considerations are highlighted, and several worksheets may be submitted directly to FMSIB in response to its call for proposals as it develops the Strategic Six-Year Program.

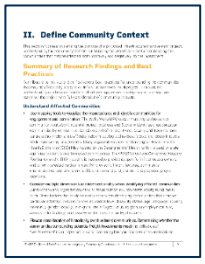


Applicants can apply the structure and guiding questions of the Toolkit to develop engagement plans and design projects that enhance community benefits and minimize negative impacts on overburdened communities. This work is required as a threshold for inclusion in FMSIB's recommended Strategic Six-Year Program.

The *Toolkit* contains best practices, a guided consideration of each step of the infrastructure design and construction process, and downloadable worksheets.

Research Findings and Best Practices

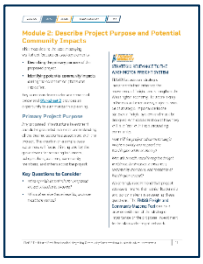
Brief narrative and bulleted description of research findings and best practices


II. Define Community Context

Summary of Research Findings and Best Practices

Narrative Pages

General guidance and questions for all infrastructure owners to consider as well as specific guidance and questions for FMSIB applicants.

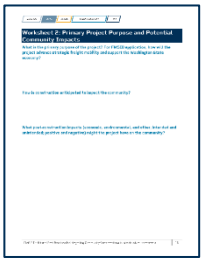

Module 2: Describe Project Purpose and Potential Community Impacts

Primary Project Purpose

Key Questions to Consider

Worksheets

Downloadable worksheets, three of which may be submitted to FMSIB in the funding application process.


Worksheet 2: Primary Project Purpose and Potential Community Impacts

Best practice topics include the following:

Integrate Equity at the Organizational Level. Jurisdictions will typically invest in many improvement projects over time, some with and some without a freight focus. Best practices focus on integrating equity into organizational decision-making and explicitly including an equity dimension to project selection criteria.

Define Project and Community Context. Contributors to this study identified several best practices for understanding the communities that may be affected by a proposed infrastructure investment project. This understanding can be used to inform effective engagement strategies and to design and construct the project with full consideration of community impacts.

Engage Affected Communities. Case studies and interviews contributed many best practices to the challenging and important work of community engagement, including cultivating community interest over time, tailoring engagement approaches to the community needs and priorities, and elevating the voices of overburdened communities.

Design and Construct the Project. Building on what is learned from community engagement efforts, intentional freight infrastructure design and construction can reduce negative impacts and maximize benefits to communities surrounding projects. Best practices focus on incorporating community priorities during the design phase, maintaining communications during construction, and minimizing construction-related harms.

Learn. Post-project community engagement and project outcome monitoring is generally lacking. Best practices include collecting information to verify project outcomes, implement evaluations that are project-specific and co-designed with the community, engaging communities, particularly representatives of overburdened communities, to verify positive project outcomes and learn from any negative experiences during construction and post-project completion, and closing the loop with communities affected by the project and engaged in the project development process.

Contents

I. Study Purpose and Key Findings

Study Purpose

The Freight Mobility Strategic Investment Board (FMSIB) has a longstanding commitment to bringing the benefits of freight to communities across Washington by investing in projects that strengthen the economy, promote mobility, and reduce congestion, road/rail conflicts, and pollution. Recognizing that the negative impacts of freight do not fall equally on all residents of Washington, the Legislature provided direction in 2023 to further refine the focus of FMSIB and its partners' efforts to engage **overburdened communities** (see definition at right) and mitigate these negative impacts in areas of high freight movement.[2] FMSIB was directed to develop threshold criteria regarding community engagement and impact mitigation for projects seeking inclusion in its six-year program of the state's highest priority freight mobility investments. An overburdened communities' representative was added to the Board and FMSIB was directed to:

> *contract for a study of best practices for preventing or mitigating the impacts of investments in and the operation of freight systems in overburdened communities, with a focus on developing common procedures and practices for use by jurisdictions developing freight projects. The study must also make recommendations to the board regarding methods to evaluate the threshold criteria requiring projects to demonstrate a plan for engagement with overburdened communities and mitigation of project impacts in those communities.*
>
> Substitute House Bill 1084 (2023)

Overburdened Communities

An "overburdened community" describes a census tract where vulnerable populations face multiple environmental harms and health impacts, or which includes Tribal lands. To qualify as an overburdened community, a census tract must meet at least one of the following conditions:

- has an overall rank of 9 or 10 on the Environmental Health Disparities (EHD) map created by the Washington State Department of Health. These ranks are calculated from indicators of population characteristics and pollution burden.
- is characterized as "disadvantaged" on the federal Climate and Economic Justice Screening Tool.
- contains Tribal lands.

This definition was developed by an interagency workgroup convened by the Governor's Office in June 2024 for use making and tracking investments under the Healthy Environment for All (HEAL) and Climate Commitment Acts.[1]

Four Key Findings and FMSIB's Focus

Four key findings inform FMSIB's work with overburdened communities. These findings align with the direction established in SHB 1084, now codified in statute as Chapter 47.06A RCW (Appendix A), and in legislator interviews conducted for this study (Appendix C).

1. **The movement of freight contributes significantly to the Washington State economy and the well-being of Washingtonians.**
2. **The benefits of freight can come at a disproportionate cost to members of overburdened communities who live near freight infrastructure.**
3. **Infrastructure investments can be designed with community input to deliver significant benefits to members of overburdened communities while enhancing the freight system.**
4. **Freight system partners will benefit from capacity building and practical tools.**

Each of these findings is described in detail on the following pages, including how FMSIB will advance implementation.

Summary of FMSIB's Focus

Based on the above findings, FMSIB will make contributions in the following areas.

FMSIB will advance forward-looking investments that enhance freight mobility, bring equitable community benefits, and reduce harms to overburdened communities. This focus is consistent with FMSIB's charge to recommend a comprehensive and coordinated strategic state investment program that facilitates freight movement between and among local, national, and international markets. FMSIB will prioritize opportunities that bring benefits and reduce harms to members of overburdened communities when recommending investments to enhance freight mobility and strengthen Washington's economy. To advance this work, FMSIB will integrate environmental justice principles and practices in its two historical responsibilities as described in Chapter II. FMSIB Responsibilities and Approach.

FMSIB will provide tools and recommend best practices to support project applicants, sponsors and others. FMSIB has developed two significant tools in this study:

- The *FMSIB Freight and Community Mapping Tool* helps project applicants and sponsors, as well as infrastructure owners generally, understand the characteristics of communities that may be affected by a proposed project.
- The *Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments* guides infrastructure owners through the process of assessing project context, identifying and engaging affected communities, and designing and constructing a freight project according to best practices.

These are described in Chapter III. Tools and Best Practices for Infrastructure Owners.

A Brief Introduction to FMSIB

History. Created by the Legislature in 1998 as a part of the first program in the country to tackle freight mobility issues, FMSIB works to identify and rank construction projects designed to improve freight movement by reducing traffic conflict.

Role. FMSIB's focus is to create a comprehensive and coordinated state program to facilitate freight movement and thereby enhance trade opportunities, as well as to lessen the impact of freight on local communities.

Accomplishments. As of 2019, FMSIB has contributed over $318 million since its creation. Combined with partner spending, this has resulted in $2.1 billion to freight transportation investments across Washington.

Board Membership. Seventeen Board seats are designated, with the following representation per Chapter 47.06A RCW: two cities, two counties, two ports, the Office of Financial Management, the Washington State Department of Transportation (WSDOT) Secretary or designee, trucking industry, railroads, steamship industry, package delivery industry, freight labor, heavy highway construction industry, environmental protection interests, overburdened communities, and the general public.

Key Partners

- The **Washington State Legislature** establishes the policy and regulatory context in which FMSIB operates. It also makes freight-specific investments informed by FMSIB's strategic thinking and recommended Six-Year Freight Mobility Strategic Investment Program.
- **Applicants** propose projects for inclusion in FMSIB's Six-Year Freight Mobility Strategic Investment Program. If the projects are funded by the Legislature, **project sponsors** are responsible for implementing them. Project sponsors may include Tribes, cities, counties, ports, Metropolitan Planning Organizations (MPOs), Regional Transportation Planning Organizations (RTPOs), and other entities across Washington.
- Most projects supported by FMSIB also receive support from **other funders**, including federal and state entities, who may impose their own guidelines and requirements.
- **WSDOT** provides data for FMSIB to designate strategic freight corridors and manages the State's Freight System Plan. WSDOT manages funding administration and project oversight for capital projects recommended by FMSIB and funded by the Legislature.
- Projects recommended by FMSIB must be on designated strategic freight corridors and be included in a Transportation Improvement Plan developed by an **MPO or RTPO**.

1. The movement of freight contributes significantly to the Washington State economy and the well-being of Washingtonians.

Summary of Research

Whether they are employed in a freight-dependent industry or are consumers of goods imported from elsewhere, all Washingtonians benefit from freight.

Washington handles roughly $707 billion of cargo annually, and in 2022, was the nation's 13th most trade-dependent state per capita.[3, 4] Washington freight-dependent industries made up 35% of the state's gross domestic product (GDP) and generated nearly $213 billion in state GDP in 2019, the last year for which there is reliable data.[5] Freight-dependent industries contributed 45% of jobs statewide, employing 1.5 million workers in Washington communities.[6]

FMSIB's Focus in Implementation

It is critical that the benefits of freight do not come with disproportionate burden to communities. FMSIB's emphasis on strengthening the Washington freight system has the potential to provide benefits for all residents. This is the focus of this study.

2. The benefits of freight often come at a disproportionate cost to members of overburdened communities who live near freight infrastructure.

Summary of Research

Neighborhoods close to freight and industrial activity tend to be more affordable and so are attractive to homebuyers and renters with relatively lower incomes. Populations with low income in Washington state and elsewhere in the country are disproportionately made up of individuals and families of color, immigrants, and refugees.[7,8] Proximity to freight infrastructure exposes these groups to increased air and noise pollution; increased traffic congestion and reduced safety; contaminated stormwater runoff and infiltration; urban heat islands; and neighborhood divisions that can create barriers to access and mobility.[9, 10, 11] This reality contributes to disproportionate health impacts and even lower life expectancies. Increased air pollution has been linked to respiratory illness, asthma, and premature mortality from cardiovascular disease, pulmonary disease, stroke, lung cancer, and diabetes.[12,13,14]

More than two decades of academic research has demonstrated disparities in the negative impacts of freight and industrial infrastructure.

- In 2007, the Environmental Protection Agency (EPA) reported that people with low income (less than $30,000) and people that identify as Black, Indigenous, and People of Color (BIPOC) were overrepresented in areas near U.S. ports and railyards in 2000, compared to the national average.[15]
- Another study of U.S. ports in 2000 showed that households with low incomes are exposed to harmful levels of Diesel Particulate Matter at twice the rate of their prevalence in the general U.S. population. Black individuals were three times more likely to be part of the high-risk population, while Hispanic individuals were twice as likely, compared to their respective proportions in the U.S. population.[16]
- Across the U.S., a larger share of individuals with low incomes and individuals that identify as BIPOC live near more heavily trafficked roadways.[17]
- In 2021, a study of urban areas across the U.S. showed that neighborhoods with higher proportions of households with low incomes and BIPOC households experience an average of 28% more nitrogen dioxide pollution than neighborhoods with higher proportions of households with high incomes or White residents. [18] The disparity was shown to be primarily driven by proximity to trucking routes on major roadways.
- Emissions from freight, including warehouses, account for 11% of global greenhouse gas emissions.[19] The resulting climate change disproportionately harms vulnerable

communities who are least able to prepare for and recover from heat waves, poor air quality, flooding, and other impacts.[20] Black and Hispanic populations are most likely to live in areas that project the highest level of climate change impacts.[21]

- Workers in certain freight-related industries experience adverse health impacts. Truck drivers, who have prolonged exposure to diesel emissions from engine exhaust, have increased lung cancer and respiratory issues.[22] A 2018 study found that long-haul truck drivers have higher risks of cardiovascular and metabolic diseases and elevated BMI and blood pressure.[23] For more information on freight truck drivers, see Appendix F.
- The State of Washington specifically recognizes Tribal lands and Native Americans in their definition of overburdened communities and vulnerable populations. Many Native American people were forcibly displaced or encouraged to relocate to urban areas through various federal policies that sought to assimilate Indigenous people, and the effects of these coercive actions and policies continue to affect communities today. Accordingly, the Environmental Justice Council provides specific guidance and recommendations for engaging both with Tribal governments and with Native American community members who are not affiliated with a Tribal government.[24]

These disparities tend to be self-perpetuating. Due to the lasting negative impacts in these communities, these areas offer more affordable housing for both homeowners and renters, continuing to result in higher proportions of residents with lower income, often people of color. Additionally, the overall shortage of affordable housing creates pressure on municipalities to allow for housing in areas previously designated for manufacturing and industrial uses.[25,26]

In recent years, the state and national approach to developing and supporting freight and other critical infrastructure has increasingly emphasized equity and environmental justice. Freight investment is now more focused on the consideration and mitigation of burdens on overburdened communities. See Appendix B for more information on the state and national policy context.

FMSIB's Focus in Implementation

FMSIB is proud of its long history of investing in Washington and Washington communities. Policy makers have directed FMSIB to identify and integrate best practices in how to engage and respond to the needs of overburdened communities. Research findings support the importance of this focus given Washington's dependency on freight mobility and the inequitable benefits and burdens it creates. FMSIB will address these inequalities by centering environmental justice principles and integrating consideration of impacts to overburdened communities in its work and in its expectations of applicants and project sponsors.

FMSIB recognizes the importance of considering the full range of environmental health and other negative impacts which may be exacerbated by freight activity. The community impacts of freight investments may range from minor to very significant, and these investments may *increase* or *decrease* environmental health impacts on nearby communities – or have mixed effects.

- A capacity enhancement project may add truck traffic and diesel exhaust.
- A corridor improvement project may increase noise while reducing idling, diesel exhaust, and accidents.

The geographic extent of these impacts will vary based on a complex constellation of factors including project type, system effects, population distribution, and environmental factors.

- Communities may place different emphasis on benefits such as freight system jobs and efficiency in the delivery of products to market versus costs such as noise and pollution.
- Freight projects and infrastructure owners are very diverse with a range of goals, from electrification projects at ports, to replacement by regional entities of critical connectors such as bridges, to intersection reconfiguration by cities aimed at decreasing congestion and promoting active transportation options.

FMSIB will engage local workers and drayage truck driver communities. Because local workers and drayage truck drivers were commonly identified as groups that are overburdened and likely to be impacted by projects, it is important to better understand their composition and how to effectively engage them. Some project sponsors conveyed that local workers, particularly those employed in manufacturing and industrial centers, and drayage truck drivers should be considered overburdened. FMSIB will include consideration of the impact to these communities in its work.

FMSIB will employ and disseminate best practices for engaging Tribal and other Native American communities. Tribal lands are specified within the State definition of overburdened communities, and there are known, stark inequities in environmental and community health indicators for Native American people relative to the general population of Washington state. Yet research for this project identified few current or promising practices for engaging Native community members or integrating their feedback into freight infrastructure project planning or implementation. FMSIB will work with the state and other partners to fill this gap in knowledge and practice.

3. Infrastructure investments can be designed with community input to deliver significant benefits to overburdened communities while enhancing the freight system.

Nine freight infrastructure investment projects were examined for this study, including eight FMSIB-funded projects and one non-FMSIB-funded investment. The profiled projects span several decades, from the 1990s to the 2020s, vary by size and type, and represent all three FMSIB regions. Case study findings are summarized here, with detailed storytelling for each studied project presented in Appendix D.

Summary of Case Study Findings

The examination of past FMSIB investments demonstrates that carefully designed and implemented infrastructure improvements have the potential to provide significant benefits to members of overburdened communities. In many case studies, project benefits often extend beyond nearby community members to include other groups like tourists and workers or school children who travel through the project area.

In several case studies, community engagement helped identify the project need and meaningfully changed project design. For example, community members collaborated with King County from the inception of the South Park Bridge replacement project to identify elements of the old bridge which community members valued and new features that were ultimately incorporated into the project. On other projects, community input influenced road alignment and the implementation of noise barriers.

The case studies demonstrate that through meaningful community engagement, well-designed and well-executed investments can:

- **Enhance freight mobility, improve safety, and reduce emergency response times** by reducing congestion and conflicts between freight and non-freight traffic.
- **Support a healthy built environment** by reducing air and noise pollution and improving safety. Grade separation and road improvement projects improve safety by removing conflict points. Road improvements often decrease collisions by reducing vehicle speeds and/or improving traffic flow. Some project sponsors indicated that replacing infrastructure before failure was an important success.
- **Support a healthy natural environment,** including restoring habitats, enhancing stormwater management, and remediating environmental contamination.
- **Support climate goals** by encouraging the use of transportation modes and energy sources that are less harmful to humans and the natural environment. Several projects incorporated

bike lanes and pedestrian routes that improved multi-modal connectivity and safety. Grade separation projects included sidewalks and bike lanes, eliminating delays and improving safety for people walking, biking, and rolling.

- **Strengthen local economies** through facilitating effective movement of goods and people and by creating jobs directly and indirectly dependent on efficient freight movement. While the construction phase can be disruptive of business activity, case studies also demonstrate that area businesses often benefit from the increased reliability of transportation and freight deliveries following project completion.

These benefits may reach both the community immediately surrounding a project and the broader community statewide. However, it is also true that investments in freight mobility may have negative impacts, and when infrastructure investments occur in overburdened communities, they may increase environmental health disparities if not executed with inclusive community engagement and care to incorporate community considerations in project design and construction.

FMSIB's Focus in Implementation

FMSIB will set expectations for applicants seeking FMSIB support to engage representatives of overburdened communities and incorporate their interests in project selection and design. Community members and community organizations are critical partners in shaping freight system investments that channel benefit and mitigate harm to their communities. Engaging these voices is especially important in overburdened communities, which typically face multiple challenges and whose members may have limited ability to track and participate in infrastructure project planning and implementation. FMSIB will prioritize investment opportunities that bring benefits and reduce harms to members of overburdened communities when recommending investments to enhance freight mobility and strengthen Washington's economy.

FMSIB will provide tools and guidance to support community engagement and impact mitigation efforts across jurisdictions that are developing plans for infrastructure investments that will enhance freight mobility. FMSIB's recommendations for prioritization and funding represent a small fraction of the support for transportation infrastructure development that can affect freight mobility, and support or burden communities. As subject matter experts and policy leaders, FMSIB plays a critical role in building knowledge and capacity among local and regional planning agencies and infrastructure owners to include community consideration in their project planning processes and practices.

4. Freight system partners will benefit from capacity building and practical tools.

FMSIB directed research on existing policies and activities statewide to identify best practices for community engagement and impact mitigation:

- Five of the state's Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs) were interviewed and the websites of other MPOs and RTPOs were scanned for policy documents and plans. See Appendix E for more information and detailed findings.
- Sixteen public sector entities and community organizations were examined through interviews and desk research. Additional information about these organizations and a detailed summary of findings are provided in Appendix F.

General findings from this research are summarized below. Best practices for engaging communities and designing and constructing infrastructure projects with community in mind are summarized in Chapter III. Tools and Best Practices for Infrastructure Owners and in the separate *Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments* that FMSIB developed to support infrastructure owners.

Summary of Research

Infrastructure owners struggle with resource constraints and employ a wide variety of community engagement processes, some of which are insufficient and some of which are effective best practices. Jurisdictions and organizations investing in freight mobility would benefit from practical tools and recommended best practices that can be tailored and scaled to their circumstances.

Resource and Capacity Constraints

- **Some jurisdictions and organizations, especially smaller ones, are still learning how to do this work.** Smaller, less populous jurisdictions and organizations with less staff capacity may not be familiar with supporting members of overburdened communities and may need extra capacity or support in learning how to do so, while other jurisdictions are farther along.
- **Many jurisdictions and organizations lack the capacity to thoroughly identify and address impacts to overburdened communities.** Many, particularly those that are small or in rural areas, report that they do not have the financial or staffing resources to complete thorough identification of impacts to members of overburdened communities or to address these impacts.

- **Methods for engaging representatives of overburdened communities and addressing project impacts are often tied to funding sources.** Federal and state funding sources typically come with their own set of requirements on defining overburdened communities, identifying impact, and engaging community members. As these rules evolve and multiply, infrastructure owners struggle to efficiently meet community engagement and impact mitigation requirements to successfully braid funding and implement projects. Projects without funding that expressly require community impact evaluation may not implement any such measures.
- **Organizations can build on their existing work to further enhance efforts to intentionally engage representatives of overburdened communities and remove barriers to participation.** There is an opportunity for infrastructure owners to better understand and address community barriers to participate in engagement. Two important factors that resulted in underrepresentation of members of overburdened communities in project planning and impact mitigation among case study projects were linguistic isolation and poverty. Examples of practices for improving engagement among these groups include using in-language materials for communities that speak a language other than English at home, visiting communities or attending in-community events that are easy to access, and providing compensation for participation.

Use of Existing Tools

- **Many jurisdictions and organizations need education around existing tools.** While there are a variety of tools currently being used by organizations to address project impacts on overburdened communities, many organizations are unaware of these tools or don't know how to fully use them. More education around useful tools could help to mitigate this issue.
- **Many jurisdictions and organizations use existing regional or state resources as a baseline to support their work.** This includes racial justice toolkits, HEAL Act guidelines, guidance from the Washington Environmental Justice Council, the State Environmental Policy Act (SEPA) and the National Environmental Policy Act (NEPA) requirements, Justice40 initiatives, Title VI regulations and statutes, and input from other organizations like FMSIB. Many jurisdictions and organizations additionally use the Washington Environmental Health Disparities (EHD) Map, which is hosted through the Department of Health under the HEAL Act for named agencies to utilize. This resource can help to identify overburdened communities, and then to parse out how these communities will be impacted by project work. Some jurisdictions and organizations noted that awareness of this resource varies, so education around what the EHD map does and how to use it would be helpful.

Community Engagement Approaches

Jurisdictions and organizations, including MPOs and RTPOs, exhibit enormous variation in how they approach community engagement, with widely different levels of success. This topic and related best practices are addressed in Chapter III. Tools and Best Practices for Infrastructure Owners.

FMSIB Implementation

FMSIB will lead and continue to learn. FMSIB is proud of its long history of investing in Washington and Washington communities, and of this work to advance its thinking, tools, and ability to benefit members of overburdened communities. Given the variety of current practices and the need for more, FMSIB is committed to supporting applicants and project sponsors with tools and best practice recommendations to facilitate their work with communities and their ability to engage and effectively respond to the needs of members of overburdened communities. This focus is further described in Chapter III. Tools and Best Practices for Infrastructure Owners.

FMSIB is also committed to continuous improvement to address freight impacts and impacts to members of overburdened communities. This is addressed in Chapter II. FMSIB Responsibilities and Approach.

FMSIB will build on existing tools and information related to overburdened communities, such as the EHD map, to make these resources useful to communities and infrastructure owners considering investments that will advance freight mobility. The *FMSIB Freight and Community Mapping Tool* created as a component of this study overlays freight system information and community characteristics, including information from the EHD map, to make it easy for partners to access up-to-date context for potential projects. The *Toolkit* provides structured guidance for how infrastructure owners can engage communities as they design and construct projects.

FMSIB will continue to work with others in advancing an equitable freight system. This involves consideration of and collaboration with many different parties:

- **Tribes and nongovernmental Native American community organizations and members.** FMSIB will incorporate guidance provided by the Environmental Justice Council, and informed by its Tribal liaisons, into strategies for engaging with sovereign Tribal governments and citizens. This will include engagement with nongovernmental Native American organizations and community members. Many Native American people were forcibly displaced or encouraged to relocate to urban areas through various federal policies that sought to assimilate Indigenous people and may not be affiliated with Tribal governments.

- **Affected communities.** FMSIB centers consideration of community impact in its work, particularly benefits and potential harm to overburdened communities. This focus is embedded in development of the recommended Six-Year Freight Mobility Strategic Investment Program and in FSMIB's contributions as a thought leader and subject matter expert in matters related to freight.
- **Applicants and project sponsors.** FMSIB is proactively sharing tools and resources to help infrastructure owners conceive, design, and implement highly effective freight investment projects that benefit communities and avoid harming overburdened communities in particular. Examples of these tools include the *FMSIB Freight and Community Mapping Tool* and the *Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments*.
- **The Legislature, other funders, and planning entities.** FMSIB will collaborate with others to maximize positive collective impact and to reduce duplicative requirements for applicants and project sponsors.

II. FMSIB Responsibilities and Approach

Since its creation in 1998, FMSIB has played a key role in identifying strategic freight infrastructure investments in Washington. Substitute House Bill 1084 (SHB 1084), passed in 2023 and codified in Chapter 47.06A RCW, affirms and elevates this role, directing FMSIB to be a more strategic and proactive player. This direction applies to both of FMSIB's areas of responsibility: serving as a strategic participant in statewide conversations about freight and recommending projects to the Legislature in the Six-Year Freight Mobility Strategic Investment Program. This chapter describes the following:

- FMSIB Responsibilities.
- Recommended Future Actions to Improve FMSIB's Effectiveness.

FMSIB Responsibilities

As a Thought Leader and Subject Matter Expert

FMSIB can serve as a statewide thought leader and subject matter expert on freight mobility and infrastructure investments. In this role, FMSIB will share its learnings and model strategies to engage representatives of overburdened communities in freight system planning and to maximize benefits and minimize harms from freight investments to those communities. FMSIB may also serve as a subject matter expert and champion for advances in technology and infrastructure that benefit communities. This role supports information-sharing across the wide range of state and regional entities participating in transportation project decision-making and enables FMSIB to make more strategic recommendations in its Strategic Six-Year Program.

Forums and pathways for this leadership include the following:

- **Advising the Legislature.** FMSIB will provide guidance to the Legislature regarding the total investment needed annually, the general distribution among types of projects, geographic distribution, and the inclusion of projects that benefit members of overburdened communities.
- **Providing guidance to the Governor and coordinating with executive branch departments.** FMSIB will participate in and support relevant endeavors advanced by the Environmental Justice Council, the Department of Commerce, the Department of Ecology, and others.
- **Developing freight policy.** FMSIB is charged with collaborating with WSDOT on periodic updates of the State's Freight Mobility Plan.

- **Participating in joint initiatives.** FMSIB anticipates that state leaders will increasingly convene and encourage coordination among Tribes, Washington State County Road Administration Board (CRAB), Transportation Improvement Board (TIB), and other funding and planning entities, such as MPOs or RTPOs, to address overburdened communities. FMSIB's work may provide frameworks for other entities to adopt or adapt, to avoid duplication or misalignment in the various planning and application processes.
- **Coordinating with MPOs and RTPOs.** FMSIB will continue to build relationships with these organizations and participate in review of regional plans as they are developed.
- **Conducting research.** FMSIB will pursue specific investigations as directed by the Legislature or investigations that would help guide freight strategy. Examples of recent research include the current truck parking study (external link) or FMSIB's 2016 study of road-rail conflicts in cities (external link).

As the Steward of a Six-Year Freight Mobility Strategic Investment Program

One of FMSIB's core responsibilities is to recommend and monitor a statewide program of highest-priority freight mobility investments, with a six-year outlook, updated every two years. Called the Six-Year Freight Mobility Strategic Investment Program, this serves as the basis for the Legislature's budgeted investments in the freight system. The annual funding level of approximately $30 million in recent years supports only a fraction of proposed projects, making it critical that FMSIB's recommendations shape a strategic sequence of investments.

Since its inception in 1998, FMSIB has established a consistent focus on addressing the interface between the freight system and surrounding communities. Investments in grade separations, intersection improvements, and other traditional FMSIB projects both preserve and enhance the efficiency of freight mobility and benefit local communities by smoothing traffic flow, reducing idling, improving safety, and other outcomes. The case studies provided in Appendix D provide many such examples.

Substitute House Bill 1084 (2023) enhanced this focus by modifying Chapter RCW 47.06A.001 (4) (external link) and mandated that FMSIB explicitly consider the community impacts of freight, and in particular, impacts of new freight investments to overburdened communities and vulnerable populations:

> *The negative impacts of freight transportation do not fall equally on all residents of Washington, and historically the negative impacts have been concentrated or felt most acutely within overburdened communities. Overburdened communities and vulnerable populations tend to be disproportionately located next to industrial areas and freight facilities such as ports, rail yards,*

highways, and truck stops. As such, the incidence of many health conditions, traffic accidents involving nondrivers, and highways dividing communities are among the highest in these communities. Freight mobility improvement efforts must prevent or minimize community impacts in areas of high freight movements and must encourage the active participation of communities in the early stages of proposed public and private infrastructure investments.

Development of the Strategic Six-Year Program

Exhibit 1 presents a high-level overview of the process of the Strategic Six-Year Program from project solicitation to project implementation. FMSIB, the Legislature, and WSDOT Local Programs all play a role, as do applicants and project sponsors.

Exhibit 1. Strategic Six-Year Program Process Flow

Source: BERK, 2024.

Threshold Requirements for Strategic Six-Year Program Applicants

As outlined by Chapter 47.06A RCW (external link), every project FMSIB recommends for funding in the statewide Strategic Six-Year Program must meet the "threshold" of including an engagement plan and consideration of community impacts and alternatives to reduce harms:

> *(c) For the purposes of developing the six-year program of highest priority freight mobility investments, utilize threshold project eligibility criteria that, at a minimum, includes the following:*
>
> *(i) The project must be on a strategic freight corridor;*
>
> *(ii) The project sponsor must demonstrate a plan for:*
>
> *(A) Sufficient engagement with overburdened communities impacted by the project; and*
>
> *(B) The evaluation of project alternatives and mitigation measures addressing the impacts on these communities to the greatest extent possible.*

Other required criteria include but are not limited to "benefits to the state's freight system, how much funding has already been secured for a project, project readiness for construction, and the regional distribution of projects."

Aligned with these criteria, FMSIB's 2024 Funding Request Form asked for the following information, worth up to five of 26 possible points for each proposal:

- **Engagement with representatives of overburdened communities:** Please describe any equity policies, outreach plans, outreach materials, translation into multiple languages, and/or other engagement work that has been done or that you anticipate to be done. (Up to 3 points).
- **Project alternatives and measures that address impacts, particularly to overburdened communities:** Please describe actions taken to address potential impacts to overburdened communities, including consideration of project alternatives and mitigation measures. (Up to 2 points).

As FMSIB evaluates project proposals for how they address impacts to overburdened communities, freight may not be the sole or even primary source of underlying community burden. In some cases, factors outside of FMSIB's influence, such as lack of sidewalks, transit access, or industrial activity can also substantially impact communities. Nonetheless, minimizing or reducing freight impacts can be an essential component of reducing overall disparities across the state. The *Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments* includes guidance for developing engagement plans and design alternatives to make it easier for applicants to incorporate consideration of community impacts when seeking FMSIB funding support.

Recommended Future Actions to Improve FMSIB's Effectiveness

FMSIB is committed to continuing to strengthen its work for the benefit of Washington communities. Below are recommendations for future action.

FMSIB's Organizational Development

- **Promote Board development and the active engagement of all members.** Work with the Governor's Office and others to fill new Board positions and increase the diversity of representation on the Board as required by Chapter 47.06A RCW.
- **Encourage the State to coordinate efforts to address community impact in investments related to the freight system and other infrastructure.** Greater alignment could be established among MPOs, RTPOs, other funders such as CRAB, TIB, and others, as well as

the work of the Environmental Justice Committee, to ensure effective consideration and support for communities without imposing additional burden on infrastructure owners.

- **Develop research and policy development capacity** for FMSIB to serve as a strategic adviser in issues relates to interaction between the community and freight system.

FMSIB as a Thought Leader and Subject Matter Expert

As funding and staffing allow, and as changes in the freight ecosystem and regulatory framework demand, FMSIB will undertake additional activities to enhance its role as a thought leader:

- **Proactive identification of strategic investment needs statewide relative to community burden and benefit.** This could involve using the *FMSIB Freight and Community Mapping Tool* to identify geographic areas in need of investment based on disproportionate community impacts such as road/rail conflicts, inequitable health impacts, and other factors.
- **Support for regional and sector-wide forums and initiatives about community engagement and support for the freight system of the future.** This could include focusing on decarbonization, system efficiencies, and other factors.

FMSIB as the Steward of the Strategic Six-Year Program

While this report is being written, the first version of FMSIB's Strategic Six-Year Program completed in conformance with Chapter 47.06A RCW (as revised by SHB 1084) is being compiled to meet the Legislature's December 2024 deadline. Future iterations of this process will build and improve upon this first experience. Identified opportunities include the following, some of which would require additional staff capacity and/or funding:

- **Continuing to make improvements and respond to emerging needs.** FMSIB will update the Strategic Six-Year Program every two years. Additional conversation is needed to clarify the mechanics of this update process and to ensure that Program updates respond to emerging freight and community needs.
- **An updated scoring rubric.** The FMSIB Funding Request Application may be revised to integrate guidance provided in the Toolkit. Additional work will be done to continuously update the rubric to reflect the strategic needs of the state.
- **Applicant and project sponsor guidance and support.** The development of this report and the accompanying *FMSIB Freight and Community Mapping Tool* and *Toolkit* are strong first steps in helping project sponsors be successful in incorporating community considerations in project proposals and designs.

With additional resources, there are a variety of ways FMSIB could build on this foundation, including:

- **Advancing the usability of the *Toolkit***, perhaps by directly integrating its use in the funding application process and/or making it a more interactive online tool.
- **Expanded communication and training efforts**, including a speaker's bureau to share how the application process works, how to improve engagement with communities and overburdened communities, and how to use the *FMSIB Freight and Community Mapping Tool* and *Toolkit*. The speaker's bureau could participate in regional and statewide forums held by CRAB, MPOs/RTPOs, TIB, WSDOT, Washington State Association of County Engineers (WSACE), and others.
- **Pre-application review**, potentially targeted for low-resourced and overburdened communities.
- **Feedback** for unsuccessful applicants.
- **Ongoing evaluation and learning from past investments.** Chapter 47.06A RCW requires FMSIB to "monitor the implementation of projects included in the six-year investment program on an ongoing basis." The Case Studies presented in this report are one example of how FMSIB can advance this function. In the future, more can be done to evaluate the results of past investments and drive improvements in the development of future Strategic Six-Year Programs.

III. Tools and Best Practices for Infrastructure Owners

In implementing the direction provided by Chapter 47.06A RCW, part of FMSIB's role is to provide practice tools and guidance so that freight investment applicants and project sponsors can easily develop proposals and focus on serving their communities. Two important resources have been developed in tandem with this report and are described below. While created primarily for use by FMSIB applicants and project sponsors, other infrastructure owners and interested parties will also benefit from these tools. These tools will be integrated in FMSIB's website and future outreach to Legislature, infrastructure owners, and agency partners.

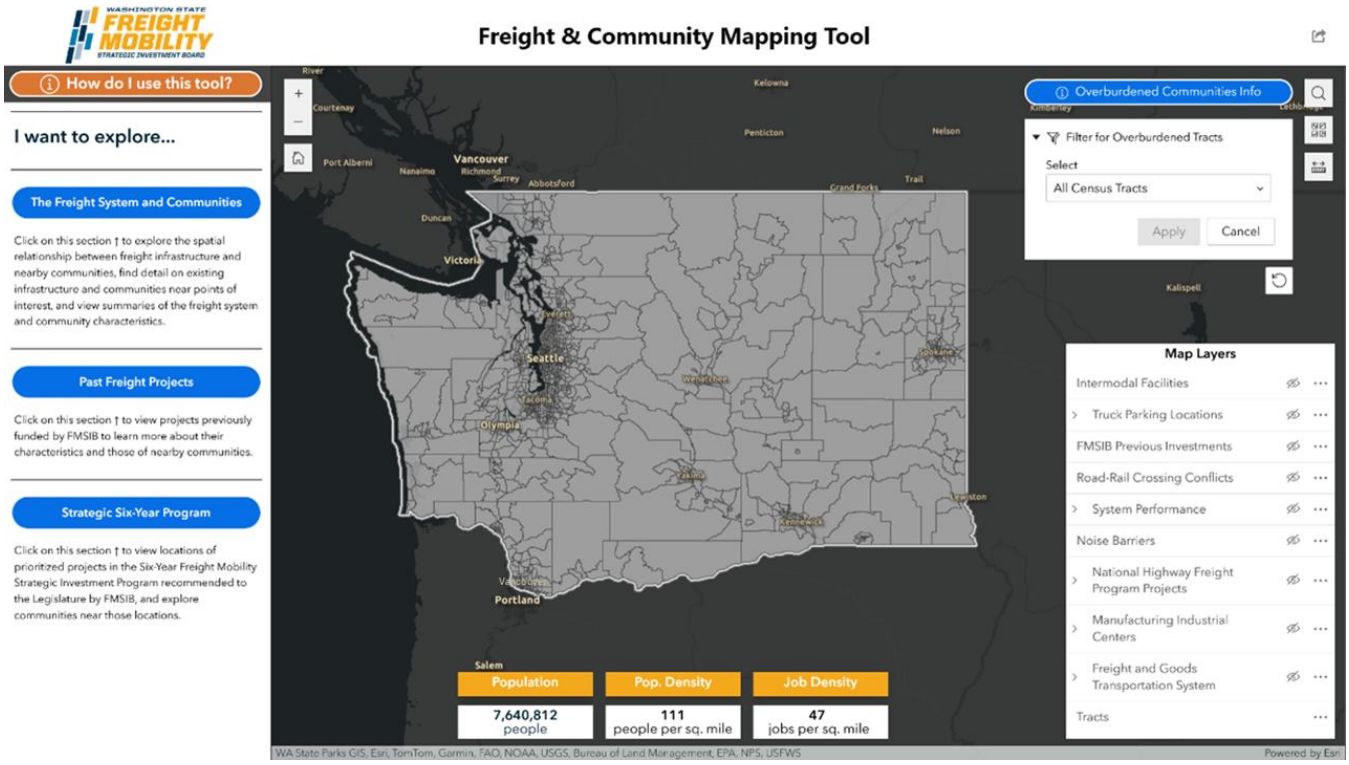
This chapter includes three sections:

- FMSIB Freight and Community Mapping Tool.
- Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments.
- Summary of Research Findings and Promising Practices for Engaging and Addressing the Needs of Overburdened Communities.

FMSIB Freight and Community Mapping Tool

To support the integrated consideration of strategic freight system investments and community impact, FMSIB developed an interactive mapping tool with a robust set of freight and demographic data that can help users understand the relationship between existing freight infrastructure, potential future freight projects, and nearby communities. This tool, shown in **Exhibit 2**, is online and publicly accessible from the FMSIB website.

Exhibit 2. Screenshot from *FMSIB Freight and Community Mapping Tool*



Source: BERK, 2024.

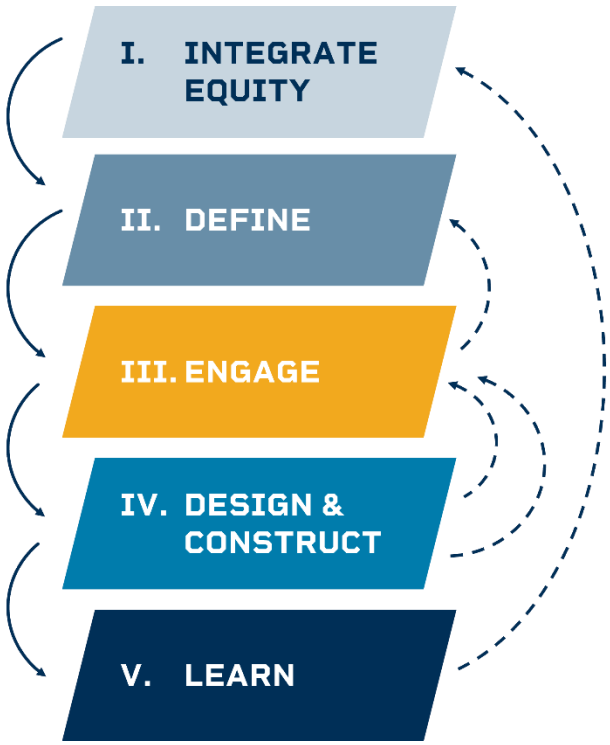
This tool will be of particular use to applicants for FMSIB support, allowing them to understand the characteristics of communities that may be affected by a proposed project and helping them create a tailored engagement plan for involving those communities in dialogue about the project before, during, and after implementation.

The *FMSIB Freight and Community Mapping Tool* relies on data from a variety of state and federal sources, most notably including the U.S. Census Bureau, WSDOT, and Washington State Department of Health (Environmental Health Disparities data). Over time, the data behind the tool will need to be updated periodically, as new data sets and indicators are released by these key providers. FMSIB will delegate this responsibility to staff or contractors to ensure the tool remains useful and relevant.

Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments

FMSIB recognizes the need to provide applicants and project sponsors with best practices and tools to help them engage affected and overburdened communities and integrate their interests in freight project design. The *Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments* is a practical guide for how jurisdictions can make effective and equitable public works investments. Applicants for FMSIB support will find the *Toolkit* particularly useful, as FMSIB-specific considerations are highlighted, and several worksheets may be submitted directly to FMSIB in response to its call for proposals as it develops Strategic Six-Year Program.

Applicants can apply the structure and guiding questions of the Toolkit to develop engagement plans and design projects that enhance community benefits and minimize negative impacts on overburdened communities. This work is required as a threshold for inclusion in FMSIB's recommended Strategic Six-Year Program.



1. Integrate Equity in Decision-Making

2. Project Purpose and Potential Community Impacts
3. Project Context
4. Affected Communities

5. Engagement Plan
6. Summary of Findings

7. Project Design
8. Project Construction

9. Data and Learnings

The *Toolkit* contains best practices, a guided consideration of each step of the infrastructure design and construction process, and downloadable worksheets.

Research Findings and Best Practices

Brief narrative and bulleted description of research findings and best practices

Narrative Pages

General guidance and questions for all infrastructure owners to consider as well as specific guidance and questions for FMSIB applicants.

Worksheets

Downloadable worksheets, three of which may be submitted to FMSIB in the funding application process.


II. Define Community Context

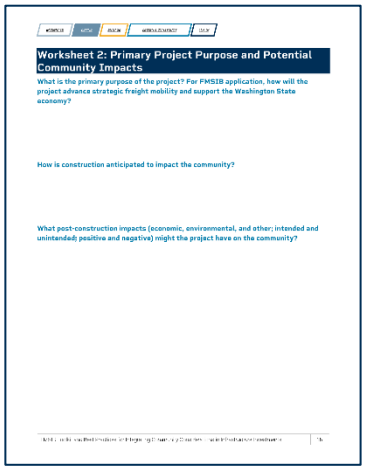
Summary of Research Findings and Best Practices

Understand Affected Communities


Module 2: Describe Project Purpose and Potential Community Impacts

Primary Project Purpose

Key Questions to Consider


Worksheet 2: Primary Project Purpose and Potential Community Impacts

What is the primary purpose of the project? For FMSIB application, how will the project advance strategic freight mobility and support the Washington State economy?

How is construction anticipated to impact the community?

What post-construction impacts (economic, environmental, and other; intended and unintended; positive and negative) might the project have on the community?

The *Toolkit* is built around the best practices identified in the research and interviews conducted for this report. These are summarized both in the *Toolkit* and in the section that begins on the following page. More detailed findings from case studies, interviews, and research are included in the Appendices of this report.

Research Findings and Best Practices for Infrastructure Owners to Engage and Address the Needs of Overburdened Communities

This section synthesizes learnings and best practices for how to engage overburdened communities and integrate their interests in project selection, design, and construction. These ideas come from literature review, case studies, and interviews with project sponsors and others involved in freight investments across Washington. A more detailed summary of methodology and findings can be found in the Appendices.

This section parallels the structure of the *Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments,* which was designed for use by infrastructure owners. Findings and best practices are presented for the following topics:

- Integrate Equity at the Organizational Level.
- Define Project and Community Context.
- Engage Affected Communities.
- Design and Construct the Project.
- Learn.

Integrate Equity at the Organizational Level

Jurisdictions will typically invest in many improvement projects over time, some with and some without a freight focus. Best practices focus on integrating equity into organizational decision-making and explicitly including an equity dimension to project selection criteria.

Institutionalize Equity in Decision-Making Structures

- **Develop an equity framework to guide equity integration across the organization.** For example, the Spokane Regional Transportation Council (SRTC) uses an Equity Framework, developed in 2022, to guide the agency's work.[27] The framework recommends ways to: integrate equity in engagement processes; increase access to opportunities; enhance sustainability, health, and safety; prioritize equity spending and project prioritization; and implement performance evaluation metrics.
- **Form an equity working group to integrate equity in organizational planning and operations.** Spokane RTC formed a Transportation Equity Working Group comprised of local residents to "provide important input related to the scope of SRTC's outreach and engagement strategies, the effectiveness of our methods for identifying transportation projects with positive equity impacts, and potential opportunities to grow or evolve what we do as an agency to better ensure that the benefits (and burdens) of our transportation system are being fairly distributed to all residents in SRTC's planning area."[28] The working group is governed by a charter that includes the purpose, proposed activities, composition, recruitment, and meeting cadence. Such working groups support equitable engagement throughout the planning lifecycle and equity integration within the organization.
- **Form community advisory groups on key topics.** All four MPOs and RTPOs interviewed for this study have a transportation advisory committee, a public transportation/human services advisory committee, or both. These committees are comprised of members of the public with an emphasis on those most impacted by transportation decisions (e.g., those with disabilities, low incomes, transit dependency). They coordinate with the technical advisory committee and MPO/RTPO leadership to inform MPO/RTPO priorities and decisions. Community advisory committees provide a consistent, active avenue for integrating community input and equity considerations in organizational goals, priorities, and decisions.
- **Establish a Community Benefits Agreement, Commitment, or Plan to make the highest commitment to ongoing community engagement and impact mitigation.** These nonbinding agreements are negotiated to outline the benefits provided to a community in exchange for community support, time, and/or services. Community Benefits Plans (CBPs) can include financial contributions to community organizations or individuals; protections

of the community's health and natural resources; targeted hiring; and training and apprenticeship programs.[29] Such agreements are most appropriate for instances with ongoing colocation of freight/industrial activity and communities that have faced significant historical burdens. In Washington, one example is the Port of Seattle's Duwamish Valley Community Benefits Commitment (external link). The U.S. Department of Energy (DOE) is an emerging leader in the use of CBPs, and through the Inflation Reduction Act, requires that a specific framework of CBPs be utilized and scored for all funding opportunities and financing programs.[30]

Include Equity in Project Selection Criteria

Spokane RTC and Walla Walla Valley MPO explicitly integrate equity and/or engagement into their project selection and prioritization criteria.

- Walla Walla Valley MPO gives 5% to 10% weight to community input in project prioritization decisions.
- Projects proposed for Spokane RTC's Unified List are evaluated across seven areas, each worth up to 30 points. Equity is explicitly covered, and public outreach is included in two questions representing up to 20 points.

Define Project and Community Context

Contributors to this study identified several best practices for understanding the communities that may be affected by a proposed infrastructure investment project. This baseline understanding can be used to inform effective engagement strategies and to design and construct the project with full consideration of community impacts.

Understand Affected Communities

- **Use mapping tools to visualize the impacted area and identify communities for engagement and consultation.** The Walla Walla MPO uses a mapping tool to collect community input about potential project locations and Spokane identifies disadvantaged communities by census tract based on a set of criteria. Pierce County and Tacoma have partnered to implement an "Equity Index" mapping tool to identify potential equity impacts while considering new projects. Many organizations use the Washington Environmental Health Disparities (EHD) Map, hosted by the Department of Health, which is used by state agencies to identify overburdened communities. The *FMSIB Freight and Community Mapping Tool* builds on the EHD map and is intended to provide support for infrastructure owners and other interested parties in identifying existing freight features, community characteristics, and environmental factors around past, current, and proposed project locations.

- **Consider multiple dimensions and intersectionality when identifying affected communities.** Jurisdictions and organizations tend to focus first on environmental equity along racial lines. Other factors that could be considered when identifying communities that deserve particular attention include income, education level, disability status, age, language, housing insecurity, gender identity, immigrant and refugee status, religion, unemployment rate, access to technology, and involvement in the criminal legal system.
- **Elevate consideration of historically overburdened communities.** Determining whether the communities surrounding potential freight investments meet the definition of "overburdened" is an important step for assessing the type and level of considerations needed in planning and implementing a project. Overburdened communities typically face the highest barriers to engagement, suggesting the need for structuring engagement through community-based organizations, offering compensation, and other higher levels of effort. As an example, King County staff conducted in-language community outreach and visited individual local businesses near the South Park Bridge replacement site. Beyond engagement efforts, when affected communities are overburdened, infrastructure owners should ensure that project design and implementation integrate community benefits and mitigate potential harm.
- **Consider benefits and potential negative impacts to communities that are not geographically bound or easily identified with statistics.** Case studies and interviews with project sponsors identified many examples of community impacts that extend beyond the residents and businesses in immediate geographic proximity to a project site:
  - Drayage and other truck drivers may benefit from reduced congestion and travel times. These individuals may be members of overburdened community groups. The City and Port of Seattle reported that drayage workers impacted by the Duwamish Truck Mobility Improvements project are often recent immigrants or refugees and often speak English as a second language.
  - Freight system workers often have low incomes and may have been displaced from living in areas in which they work. They may benefit from shortened commute times and improved transportation reliability as the result of freight infrastructure investments.
  - Tourists, workers who commute through the project area, and children who attend school near the project area may also benefit from congestion relief, safety enhancements, and air quality improvements.
- **Consider beneficial and potentially harmful impacts to businesses.** While the construction phase can be disruptive of business activity, case studies profiled in this report also

demonstrate that area businesses often benefit from the increased reliability of transportation and freight deliveries following project completion.

Engage Affected Communities

Case studies and interviews contributed many best practices to the challenging and important work of community engagement.

Cultivate Community Interest Over Time

The MPOs/RTPOs interviewed reported that community attendance at meetings related to long-range planning is generally low, even when there are good relationships with community organizations. Engagement is much higher when specific issues directly affecting individuals or communities arise, such as funding prioritization or specific project impacts. MPOs/RTPOs named several strategies to attract community attention to longer-term planning processes:

- **Build on prior engagement efforts.** Before beginning an engagement process, infrastructure owners should review past engagement efforts to avoid duplication and to develop the community's trust by demonstrating that prior input has been heard.
- **Separate long-range planning work into sub-topics and engage deeply on those sub-topics.** Spokane RTC identifies and engages key community groups and stakeholders around several smaller planning efforts such as the Bicycle Safety Plan, Pedestrian Plan, Regional Safety Action Plan, Climate Resiliency Plan, Smart Mobility Plan, Congestion Management Plan, Commute Trip Reduction, and corridor plans. They find that completing the long-range planning work in smaller, more focused pieces means it is easier for the community and stakeholders to weigh in, and they can give planning the attention it deserves. Spokane RTC then integrates the findings of these smaller planning efforts into their long-range planning update and conducts additional outreach at that time.
- **Leverage topics that garner attention.** Interviewees noted that it is possible to engage people around topics that tend to attract a high level of attention and move their feedback forward into long-range transportation planning. Walla Walla Valley MPO mentioned that truck parking, bicycle and other multimodal infrastructure improvements, and any likely business operational impacts from road closures tend to receive disproportionate community attention that can be leveraged. Yakima Valley MPO noted that even seemingly unrelated topics, such as the ability for people with custody cases to travel to the court, can be avenues to collect and move forward community input around transportation planning issues. Spokane RTC said that the topics that community members typically comment on the most are safety (especially for active transportation), congestion in certain areas, and needed public transit.

- **Emphasize practical and immediate project impacts.** All the interviewed MPOs and RTPOs said that highlighting impacts that people have experienced or will likely experience from transportation system changes helps to increase engagement. Cowlitz-Wahkiakum COG noted that it is crucial to connect long-range topics to potential impacts in people's backyards. Within long-range planning efforts, the Spokane RTC incorporates personal stories and visual elements, such as photos of people affected by transportation incidents, to illustrate the immediate consequences of the issues being addressed.
- **Overcome confusion about long-range planning efforts.** The interviewee from Yakima Valley COG noted that there is sometimes confusion from the community about what topics are included within different planning efforts and how to contribute. In addition to breaking planning up into more manageable pieces, the Spokane RTC found that establishing predictable communication practices (e.g., releasing press releases at specific times) can reduce confusion about participation and create a sense of reliability and structure in outreach efforts.

Tailor Engagement Approaches to the Community Needs and Priorities

- **Tailor engagement efforts to reach specific audiences.** Jurisdictions and organizations are more likely to successfully engage community members by adapting to their needs. Interviewees from the Spokane RTC and Yakima Valley Conference of Governments recommended making information accessible and understandable by simplifying language and translating materials where necessary. They also spoke to conducting direct outreach and relationship-building with communities, especially Limited English Proficiency groups, to overcome distrust in government and make these groups feel more comfortable engaging. This involves using appropriate channels for different demographics, such as attending culturally relevant community events and promoting engagement opportunities in-language via flyers and culturally relevant media. Other best practices include providing stipends for transportation and childcare and partnering with community-based organizations to recruit attendees and facilitate culturally competent engagement.
- **Conduct a blend of broad and targeted engagement, and engaging early, continuously, and substantially.** It is important to allow community members to truly have an opportunity to influence the project outcomes, including aspects not always discussed with community members, such as project selection and options for project location and design. By providing ample notice to community members, infrastructure owners can cultivate a community's understanding of a project's impetus and lifecycle. A combination of intentionally broad and targeted engagement enables an infrastructure owner to offer engagement opportunities that meet the needs of specific community groups. For

members of overburdened communities, it may take multiple opportunities and formats to overcome barriers to participation.

Spokane RTC integrates the following best practices in its work:

- Beginning engagement early, in the "discovery phase" of a new effort, using demographic data to identify and tailor engagement efforts to reach members of disadvantaged communities.
- Conducting general and targeted outreach across the local media, local agencies and governments, community organizations, the private sector, and area residents.
- Using specific planning efforts (e.g., bike safety and pedestrian plans) to engage stakeholders with focused interests.

- **Go beyond legal requirements when circumstances warrant.** Two case studies – the Bigelow Gulch & Forker Road Realignment and Walla Walla Myra Rd Improvements projects – involved right-of-way acquisitions of farmland. Both project sponsor teams heard concerns related to loss of property value and changes to farming operations. Through iterative conversations with property owners, project sponsors were able to build trust and successfully reach agreements to acquire land.
- **Develop and implement a project and community specific engagement plan.** The Spokane RTC develops Public Participation Plans structured around guidance from the International Association for Public Participation (external link).

Elevate the Voices of Overburdened Communities

Contributors to this study emphasized that overburdened communities should have influence throughout the project process. It is important to tailor engagement strategies and participation opportunities to gain input from those who may be most impacted by a project, either positively or negatively. This enables infrastructure owners to focus community benefits and mitigation on the factors that are most important to these community members.

- **Reach overburdened communities through highly tailored engagement opportunities.** As described above, many members of overburdened communities face barriers to participation in broad based community engagement activities. When these communities were effectively engaged by case study project sponsors, they provided feedback to prevent construction-related disruptions and/or advocated for project designs that would keep their communities intact. Successful engagement strategies featured in case studies projects included visiting businesses along the impacted section of the freight corridor, hosting community meetings for adjacent mobile home residents, providing translated materials, and engaging cultural groups through their faith communities.

The Yakima Valley COG places a strong emphasis on engaging Hispanic and Low English Proficiency populations. The organization has made significant efforts to build trusted relationships within these communities using bilingual materials and culturally sensitive approaches.

- **Partner with community-based organizations (CBOs) to reach overburdened communities.** This can create an opportunity to build on trusted relationships and proven expertise. CBOs may have strong existing community connections and know how to best reach community members in a culturally fluent manner. While building on the ongoing work of a CBO, such partnerships should be contracted and compensated to reflect the CBO's contributions and efforts.

  Spokane RTC has increasingly relied on partners to expand its reach and depth of engagement and to make it more efficient for the community to participate in government processes.

- **Provide compensation and other support for focus group participants, steering committee members, or other participants from overburdened communities.** Compensation may include gift cards or stipends, and the provision of childcare, transportation, and food can support and incentivize participation in engagement processes. State guidelines and best practices for implementing meaningful and productive compensation for participation are described in the section titled Guidance for Compensating Participants in the *Toolkit and Best Practices for Integrating Community Considerations in Infrastructure Investments*.

Design and Construct the Project

Building on what is learned from community engagement efforts, intentional freight infrastructure design and construction can reduce negative impacts and maximize benefits to a community's surrounding projects.

Design for Community Benefits

- **Integrate community feedback in project design.** Case studies for this report identified various cases in which community engagement directly influenced project design.

  For the South Park Bridge replacement, King County collaborated with community members from the project's inception to identify a solution to the bridge's deteriorating condition and address community concerns. Community input meaningfully changed the project design, ensuring that the new bridge incorporated many elements of the old bridge and added new features such as a pocket park and rain garden.

- **Consider a wide range of potential community benefits that can result from community-informed and intentionally designed infrastructure improvement projects.** As noted elsewhere in this report, freight system improvement projects can provide a wide range of community benefits to local and regional stakeholders. Potential benefits include reducing congestion, improving vehicular and non-vehicular road safety, enhancing multimodal connectivity and mobility, reducing the likelihood of hazardous materials spills, improving emergency response times, supporting trade and economic development, reducing air and noise pollution, and providing community amenities including parks, green spaces, and art.

  Case studies provided many examples of improving safety and multimodal connectivity. Safety improvements come from the removal of conflict points, reduced vehicle speeds in key areas, and attention to infrastructure in poor condition. Reducing the likelihood of collisions indirectly also decreases the probability of hazardous material spills of freight cargo. Grade separations, such as those in Aberdeen, Kent, and Yakima, specifically sought to remove conflict points and improve safety, and most also included road improvements aimed at safety, such as turn lanes and roundabouts to reduce vehicle speed. The Kent and Bigelow Gulch projects created new underpasses, and the Aberdeen work included a new overpass, which improved pedestrian and bicycle access and mobility. Projects like the South Park Bridge replacement also provided a safety benefit by replacing infrastructure before it failed.

Design to Minimize Negative Impacts

- **Mitigate potential environmental harms to host communities, particularly overburdened communities already experiencing disproportionate health impacts.** Best practices include strategies to reduce air, noise, or water pollution.

  Several projects in the case studies sought to decrease air pollution by reducing congestion and idling, including Lincoln Ave & MLK Jr Blvd Grade Separation (Yakima County) and I-5 / Port of Tacoma Interchange Improvement. The Kent and Myra Road project teams added above-code noise barriers in response to community requests.

- **Evaluate impacts to community mobility.** Due to their linear nature, freight corridors can be highly disruptive of non-freight mobility, including at the neighborhood scale. Community mapping, community engagement, and careful consideration of freight and non-freight travel patterns should inform placement of new freight corridors.

  The alignment of new road infrastructure was shifted based on community feedback in the Longview and Myra Road projects.

- **Evaluate impacts to adjacent and nearby land uses in determining potential impacts and mitigation strategies.** Such considerations may influence site selection, but some impacts

can also be addressed through project design and regulation. For example, infrastructure owners can collaborate with local authorities to set hours of operation for truck operations that are close to incompatible land uses. They should coordinate specialized requirements and training needs such as hazardous materials handling, storage, or transportation with local law enforcement, fire protection districts, and road maintenance departments early in the planning process of freight developments and work with local law enforcement agencies to coordinate enforcement of truck route and weight limits.

- **Consider the impacts to access points and connections for all modes of transportation.** In some cases, this may include parking for freight employees and other vehicles associated with the freight-use area. When considering last-mile freight travel, local jurisdictions have typically focused on local traffic and parking regulations because these tools are clearly within the local authority. However, these regulations can be difficult to enforce if they are too restrictive. Rather than regulation, jurisdictions might instead consider management strategies such as consolidation schemes, which seek to reduce truck traffic by finding ways to combine pick-ups and deliveries of different shippers or receivers. This can include combined pick-up locations, shared logistics spaces, and shipping consolidation centers.[31]

Maintain Communications During Construction

- **Raise awareness of the construction timeline, anticipated disruptions, and measures put in place to mitigate them**. It is also beneficial to describe the desired benefits from the project, particularly those that will benefit community members. This information can provide a sense of the anticipated return on construction-related disruptions. Case studies offer different ways and scales of providing community updates through the construction phase:
  - King County employed three in-house outreach staff and an external public engagement firm to involve the local community in bridge design and provide construction updates.
  - Spokane County held open houses prior to the start of construction of the Bigelow Gulch Corridor Safety and Mobility Project which offered an opportunity for the community to preview the construction schedule and impacts and work with the project team to adjust traffic control plans to reduce impact to property owners and the traveling public. The project team leveraged radio, news channels, billboards, and electronic signs to alert community members to traffic impacts. The County also prepared multilingual newsletters, translated letters, worked with English-speaking family members, and met with the local Light of the Gospel Church to engage Russian and Ukrainian families in the area. As a result of the county's multimethod engagement

throughout the project, a greater proportion of the population was informed and able to provide input on route design, construction plans, and traffic impacts

Minimize Construction-Related Harms

- **Prioritize rapid completion of work that disrupts overburdened communities.** Infrastructure construction can have significant negative impacts on communities by disrupting mobility and access, and generating air, noise, soil, and water pollution that contributes to environmental health impacts. These impacts can be particularly harmful to overburdened communities, including businesses, who are less resilient to street closures and construction related pollution.
- **Implement incentive programs for timely construction delivery.** Mechanisms like increasing late fees for contractors can be a useful tool in reducing construction delays. It is also possible to encourage quicker project delivery. For example, infrastructure owners can implement "lane rentals," which penalize contractors for each day that they close a highway, and "A+B bidding," which requires contractors to bid on both time plus materials, as well as on the number of days to complete a project.
- **Mitigate impacts to businesses located along or around construction areas.** Many case studies featured best practices for minimizing disruption to businesses and helping business owners cope with impacts to their operations. Some examples include:
  - The King County South Park Bridge project team supported patronage of restaurants around the bridge by offering community members coupons to those restaurants. Community amenities, including a temporary dog park, were also provided during construction.
  - The City of Kent worked closely with businesses to support their continued operation during a series of grade separation projects along South 228th Street. With close coordination between businesses and the project team, businesses were able to operate despite nearby construction.
  - The City of Longview's SR 432 project team engaged the business community during each phase of work. They identified opportunities to minimize construction impacts to business operations and select the preferred alternative. The City hosted interviews with representatives of five of the largest nearby cargo generators.
- **Carefully evaluate the costs associated with street closures and alternative options.** It is worth questioning the default assumption that it is better to keep streets open, or partially open, during construction. While this can maintain access to businesses and other destinations along the corridor, it may also extend the construction timeline, leading to

extended disruptions and contributing to project costs. Some jurisdictions have found it more effective to close the street and invest in consultant and construction cost savings in ways that offset the economic impact of business disruptions. A related strategy can be to coordinate days of the week or times of the day for different uses of the corridor during construction.

Learn

This research report found that post-project community engagement and project outcome monitoring is generally lacking. Many organizations noted that once a project has finished, community members are no longer involved, and impact tracking is minimal and informal. While some larger organizations suggested that it would be helpful to create standardized, measurable ways for impact tracking across the state, many organizations, particularly those that are small or in rural areas, indicated that they do not have the financial or staffing resources to execute this kind of tracking and data analysis.

Evaluate Project Outcomes and Close the Loop with Affected Communities

- **Collect information to verify project outcomes, including feedback from communities.** It is important that a realistic approach is taken. Rigorous and defensible project outcome evaluation would require both pre- and post-project data collection. Direct impacts such as congestion relief or accident rates will be more readily available, and more readily attributed to the investment project than indirect impacts to regional mobility, dispersed environmental health exposures, or economic activity. Infrastructure owners should gather and learn from whatever data and qualitative inputs, including community observations, are available to them.
- **Implement evaluations that are project-specific and co-designed with the community**. While it can sound appealing to apply a single set of criteria to assess project impacts, some interviewees suggested instead that community impact should be evaluated uniquely for each project because every project exists in a unique context. By including community members in the evaluation design process, the results can be more meaningful and relevant to the respective community.
- **Engage communities, particularly representatives of overburdened communities, to verify positive project outcomes and learn from any negative experiences during construction and post-project completion.** It is important to verify whether some communities experienced project benefits differently than others and to learn from community engagement successes and failures.

- **Close the loop with communities affected by the project and engaged in the project development process.** This creates an opportunity to report on project completion and to maintain relationships with community-based organizations and community members that will be valuable in future investment projects or other community development activities.

Appendices

A. Key Legislation

This study was directed by Substitute House Bill 1084 (2023), which also modified Chapter 47.06A RCW, regarding the role of FMSIB and its responsibilities.

Section 4 of SHB 1084, as adopted in Session Law, directing this study, is included in full below.

NEW SECTION. **Sec. 4.** The freight mobility strategic investment board must contract for a study of best practices for preventing or mitigating the impacts of investments in and the operation of freight systems in overburdened communities, with a focus on developing common procedures and practices for use by jurisdictions developing freight projects. The study must also make recommendations to the board regarding methods to evaluate the threshold criteria requiring projects to demonstrate a plan for engagement with overburdened communities and mitigation of project impacts in those communities. The recommended methods should not create duplicative burdens on project sponsors. The board must work with the department of enterprise services to ensure that a diverse group of potential consultants are notified of the contracting opportunity. By December 1, 2024, the board must submit a report to the governor and transportation committees of the legislature with its findings and recommendations.

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Chapter 47.06A RCW (Freight Mobility) is linked here in full, and the sections most relevant to this study and to FMSIB's responsibilities with respect to overburdened communities (added or modified by SHB 1084) are excerpted below.

RCW 47.06A.001 Findings (4) on overburdened communities:

(4) The negative impacts of freight transportation do not fall equally on all residents of Washington, and historically the negative impacts have been concentrated or felt most acutely within overburdened communities. Overburdened communities and vulnerable populations tend to be disproportionately located next to industrial areas and freight facilities such as ports, rail yards, highways, and truck stops. As such, the incidence of many health conditions, traffic accidents involving nondrivers, and highways dividing communities are among the highest in these communities. Freight mobility improvement efforts must prevent or minimize community impacts in areas of high freight movements and must encourage the active participation of communities in the early stages of proposed public and private infrastructure investments.

RCW 47.06A.020 Board—Purpose—Duties (4)(c)(ii) on threshold project criteria for inclusion in the six-year program of highest priority freight mobility investments regarding overburdened communities

> *For the purposes of developing the six-year program of highest priority freight mobility investments, utilize threshold project eligibility criteria that, at a minimum, includes the following: (i) The project must be on a strategic freight corridor;* ***(ii) The project sponsor must demonstrate a plan for: (A) Sufficient engagement with overburdened communities impacted by the project; and (B) The evaluation of project alternatives and mitigation measures addressing the impacts on these communities to the greatest extent possible;***

In addition to these two sections, RCW 47.06A.030 Board—Creation—Membership. (2)(j) adds a member representing the interests of overburdened communities to the specified membership of FMSIB.

B. Policy Context

The development and support of freight infrastructure is governed by federal, state, and/or local levels of public policy. Especially in recent years, this has included consideration and mitigation of the impact of freight on the environment and on communities. Several federal and state policies regulate freight system decision-making in Washington with respect to these impacts. This appendix outlines these policies in more detail.

Federal Context

Federal rules and policies impact projects that receive federal funding. Projects funded fully with state or local funding do not need to adhere to federal rules or policies.

Title VI

Title VI of the Civil Rights Act of 1964 and its implementing regulations (collectively Title VI) prohibits discrimination based on race, color, and national origin in any program or activity receiving federal financial assistance. [32] Further, Title VI requires all recipients of federal funds to take reasonable steps to ensure meaningful access by limited English proficient (LEP) persons to the recipient's programs or activities.[33] The Office of Civil Rights specifies that "policies and practices may not deny or have the effect of denying persons with limited English proficiency equal access to federally funded programs for which such persons qualify."[34]

WSDOT extends these Title VI protections and assertions to all WSDOT programs via Executive Order 1087,[35] which asserts that:

> EJ and Title VI of the Civil Rights Act address the distribution of the physical, social, and economic impacts of a proposed project and its potential alternatives. Protection of the community's civil rights and the fair distribution of a project's burdens and benefits lie at the heart of the issue, and WSDOT is required by state and federal law (see Section 458.09 of the Environmental Manual M 31-11 (external link)) to consider equity effects.

National Environmental Policy Act (NEPA)

Since 1970, the National Environmental Policy Act (NEPA) has required federal agencies to assess the environmental effects of their proposed actions prior to decision-making.[36] This environmental assessment includes an evaluation of the social and economic consequences of proposed actions, as well as opportunities for public comment on these evaluations, and result in an Environmental Impact Statement (EIS) or Environmental Assessment (EA). NEPA covers a broad range of actions which, in relation to freight, include land management and highway construction.

As detailed by the President's Council on Environmental Quality in 2021, "the NEPA process begins when an agency develops a proposal to address a need or take an action."[37] That federal agency by default becomes the lead agency, but other federal, state, tribal or local agencies that are implicated in the proposal may be designated a co-lead or cooperating agency with responsibilities for management or contribution of analysis within the NEPA process. This would include state or local government sponsors of infrastructure investments that include federal funding.

The statutory language of NEPA does not address environmental justice.[38] However, Executive Orders (E.O.) 12898 (1994) and 14096 (2023) instruct agencies on how to integrate environmental justice into decision-making, as follows:

- E.O. 12898 (external link), requires federal agencies to integrate environmental justice into their missions and develop strategies in support of environmental justice. It orders coordination of environmental justice assessments and agency actions across agencies. Federal agencies and their partners are required to develop environmental justice strategies that:
  - promote enforcement of all health and environmental statutes in areas with minority and low-income populations;
  - ensure greater public participation;
  - improve research and data collection relating to the health and environment of minority and low-income populations; and
  - identify differential patterns of consumption of natural resources among minority and low-income populations.[39]
- E.O. 14096 (external link), issued in 2023, codifies the existing federal agency practice of requiring public comments on the project alternatives and other information to be considered in an environmental impact statement. It explicitly discusses NEPA reviews and directs agencies to:
  - analyze the direct, indirect, and cumulative effects of federal actions on communities;
  - consider disparate health effects and risks from pollution and other health hazards, such as information related to race, national origin, age, sex, disability, and/or socioeconomic status;
  - provide opportunities for early and meaningful community involvement; and
  - share information on planning and permitting, implementation, regulatory actions, compliance, and enforcement actions related to human health and the environment.[40]

Justice40

The federal government initiated the Justice40 Initiative through Executive Order 14008 (2021) (external link) to direct 40% of the overall benefits of climate investments and other related investments towards communities that are overburdened by pollution and that have historically faced underinvestment.[41] Like NEPA, this order applies to projects with federal funding, with the requirements designated by the federal funding agency to the state or local government sponsor. Justice40 focuses on seven areas of investment:

- Climate change
- Clean energy and energy efficiency
- Clean transit
- Affordable and sustainable housing
- Training and workforce development
- Remediation and reduction of legacy pollution
- The development of critical clean water and wastewater infrastructure

The Justice40 initiative additionally is tied to several related programs, including the following:

- The **Inflation Reduction Act**, which establishes several new environmental justice grant programs.
- The **Bipartisan Infrastructure Law** (BIL), which serves to invest in roads and bridges, promote safety for all road users, help combat the climate crisis, and advance equitable access to transportation.
- The **American Rescue Plan**, which in 2021 directed $100 million towards environmental justice priorities, such as air monitoring, community grants, and efforts to improve children's health.

Justice40 requires federal agencies to identify disadvantaged communities through the Climate and Economic Justice Screening Tool (CEJST), which identifies disadvantaged communities as census tracts meeting more than one burden threshold and meeting the associated socioeconomic threshold. [42]

OMB issued interim guidance in 2021 that includes a set of actions required of agencies that manage covered Justice40 programs.[43] These actions include identifying the benefits of a program, determining how covered programs distribute benefits, conducting meaningful engagement with stakeholders, and calculating and reporting on reaching the 40% goal of the Justice40 Initiative. Besides requiring agencies to use the CEJST to identify disadvantaged

communities and offering examples of benefits of covered programs, the guidance grants agencies flexibility in determining their approach and methodology.

The OMB guidance pilots additional requirements for 21 specific programs, including the direction to develop a stakeholder engagement plan and an implementation plan in addition to calculating benefits and reporting methodology.[44]

Emissions Standards for Freight and Heavy-Duty Vehicles

In March of 2024, the US Environmental Protection Agency (EPA) enacted a new rule, *Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles – Phase 3*. This rule imposes new standards for heavy-duty vehicles sold in the United States, including those used for freight movement. The Seattle Times reported that these vehicles provide an estimated $13 million in net benefits to 72 million people who are overburdened by the impacts of freight.[45]

Similarly, in April of 2024, the Biden-Harris Administration announced the first-ever national goal to transition to a zero-emissions freight sector for truck, rail, aviation, and marine.[46] The National Zero Emission Freight Corridor Strategy includes new funding programs, a new initiative to track and accelerate deployment of charging and refueling infrastructure, and a new program to standardize heavy-duty vehicle charging depots. This strategy has identified the infrastructure deployment phasing and priority freight hubs and areas along the National Highway Freight Network (NHFN), which agencies can use to guide their investment. Factors to decide prioritization included disproportionate environmental and air quality burden from medium and heavy-duty vehicle emissions.

The Strategy's funding programs include the following:

- The **Reduction of Truck Emissions at Port Facilities Grant Program** is eligible for all projects located in areas within or adjacent to ports and intermodal transfer facilities.
- The **Clean Heavy-Duty Vehicles Grant Program** to replace Class 6 and Class 7 heavy duty vehicles, including delivery trucks, prioritizes project applications that meet the following conditions:

    5. Located in a census tract identified as disadvantaged in the Climate and Economic Justice Screening Tool (CEJST), is at or above the 90th percentile for any of EJScreen's Supplemental Indexes compared to the nation or state, and/or is within Tribal lands as delineated in EJScreen; and;
    6. Contains at least one designated nonattainment area or maintenance area for any of the listed National Ambient Air Quality Standards for the nation or state, and/or includes at least one census tract where the modeled ambient diesel PM concentration from the

2019 Air Toxics Screening Assessment exceeds the 80th percentile for census tracts nationwide.

Additionally, the application assesses the extent to which the project addresses community engagement.

Infrastructure Investment and Jobs Act

The 2021 Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), invests in roads and bridges, promotes safety for all road users, combats the climate crisis, and advances equitable access to transportation.[47]

Transportation for America (T4A) is a policy advocacy organization made up of local, regional, and state leaders supporting progressive transportation and land use policy. They have produced a wealth of resources dedicated to explaining the IIJA and its funding and grant sources.[48]

At least two funding programs created by the IIJA specifically allocate funds to infrastructure projects in disadvantaged or persistently poor communities (which are defined within program guidelines), as described below.[49]

The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program[50,51] funds critical freight and passenger transportation infrastructure projects of local or regional significance using the criteria of safety, environmental sustainability, quality of life, mobility and community connectivity, economic competitiveness, and opportunity. Applicants are to consider how their projects can address climate change, ensure racial equity, and remove barriers to opportunity. Half of total funding goes toward projects in rural areas and the other half for urban. One percent of funding is reserved for projects in Areas of Persistent Poverty or Historically Disadvantaged Communities, and these projects can be funded fully through the federal funding share, while other projects can be funded up to 80%.

The Reconnecting Communities and Neighborhoods program[52] aims to reconnect communities divided by transportation infrastructure. The objectives of the program are to prioritize disadvantaged communities; improve access to daily needs such as jobs, education, healthcare, food, and recreation; foster equitable development and restoration; and reconnect communities by removing, retrofitting, or mitigating highways or other transportation facilities that create barriers to community connectivity, including to mobility, access, or economic development. The program combines two separate discretionary grants, the **Reconnecting Community Pilot** and **Neighborhood Access and Equity**. Of these, the Neighborhood Access and Equity Program allocates 40% of its funds specifically for disadvantaged communities.

The Inflation Reduction Act

The **Inflation Reduction Act** establishes several new environmental justice grant programs. One of these, the **Community Change Grant Program53** funds environmental and climate justice projects to benefit disadvantaged communities. These projects include efforts to reduce pollution, increase community climate resilience, or build community capacity. Eligible projects include areas relevant to freight infrastructure investments such as investments in low- and zero-emission and resilient technologies and related infrastructure, and facilitation of the engagement of disadvantaged communities in State and Federal advisory groups, workshops, rulemakings, and other public processes.

There are two tracks for grants under the Community Change Grant Program:

- Track I: Community-Driven Investments for Change will prioritize comprehensive approaches integrating Climate Action and Pollution Reduction Strategies to significantly improve the environmental, climate, and resilience conditions affecting disadvantaged communities.
- Track II: Meaningful Engagement for Equitable Governance will support the engagement of disadvantaged communities in governmental processes to advance environmental and climate justice.

Community Connectors

The Robert Wood Johnson Foundation, Smart Growth America, Equitable Cities, the New Urban Mobility Alliance, and America Walks have created the **Community Connectors program54,** which aims to support the progress of community-driven projects reconnecting neighborhoods separated by transportation infrastructure and leverage existing federal and state funding to assist these initiatives. Fifteen cities were selected to receive grants of up to $130,000 each in the 2023 round of funding.

Tribal Consultation Requirements for MPOs and RTPOs

Consultation requirements for Metropolitan Planning Organizations (MPOs) (external link) who receive funds through the Federal Highway Administration are outlined in 23 CFR 450.316. Key provisions include:

> *When the MPO includes Indian Tribal lands, the MPO shall appropriately involve the Indian Tribal government(s) in the development of the metropolitan transportation plan and the [Transportation Improvement Program].* (23 CFR 450.316(c))

> *MPOs shall, to the extent practicable, develop a documented process(es) that outlines roles, responsibilities, and key decision points for consulting with other governments and agencies, as defined in paragraphs (b), (c), and (d) of this section, which may be included in the agreement(s) developed under §450.314."* (23 CFR 450.316(e))

MPOs shall include in their plans and programs:

> *[A] discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion may focus on policies, programs, or strategies, rather than at the project level. The discussion shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation.* (23 CFR 450.322 (f) (7))

In accordance with state law, Regional Transportation Planning Organization (RTPO) (external link) plans and policies should adhere to the following principle:

> *Encourage partnerships between federal, state, local and tribal governments, special districts, the private sector, the general public, and other interest groups during conception, technical analysis, policy development, and decision processes in developing, updating, and maintaining the regional transportation plan.* (WAC 468-86-090(2))

Washington State Context

HEAL Act

Washington's Healthy Environment for All (HEAL) Act (external link), passed in 2021, requires a subset of state agencies to explicitly address environmental justice in their actions and decisions.[55] The agencies named in the Act are the Departments of Ecology, Health, Agriculture, Commerce, Natural Resources, Transportation, and the Puget Sound Partnership. Named agencies must incorporate environmental justice into their missions by identifying and addressing environmental health disparities. The law additionally establishes an Environmental Justice Council (external link) to advise the state and an Interagency Workgroup to coordinate among participating agencies. State agencies and entities not named in the HEAL Act are encouraged to either "listen and learn" or to opt in to aligning with the Act. While FMSIB is not a named HEAL agency as of 2024, the findings and terminology of SHB 1084, including the requirements regarding overburdened communities, echoes the language of the HEAL Act.

The HEAL Act defines Environmental Justice as follows:

> The fair treatment and meaningful involvement of all people regardless of race, color, *national origin, or income with respect to the development, implementation, and enforcement of environmental laws, rules, and policies. Environmental justice includes addressing disproportionate environmental and health impacts in all laws, rules, and policies with environmental impacts by prioritizing vulnerable populations and overburdened communities, the equitable distribution of resources and benefits, and eliminating harm.*[56]

According to the HEAL Act, "overburdened community" means a geographic area where vulnerable populations face combined, multiple environmental harms and health impacts, and includes, but is not limited to, highly impacted communities as defined in RCW 19.405.020: "'highly impacted community' means a community designated by the department of health based on cumulative impact analyses in RCW 19.405.140 or a community located in census tracts that are fully or partially on 'Indian country' as defined in 18 U.S.C. Sec. 1151."

Pursuant to direction in RCW, the Department of Health developed the Environmental Health Disparities map. An Interagency Workgroup convened by the Governor's Office in June 2024 defined an overburdened community as: any census tract with an overall rank of 9 or 10 on the EHD map, any census tract characterized as "disadvantaged" on the federal Climate and Economic Justice Screening Tool, or any census tract with Tribal lands.[57] EHD ranks are calculated from the following indicators:

- Indicators in population characteristics
  - **Sensitive populations:** cardiovascular disease; low birth weight.
  - **Socioeconomic factors:** low educational attainment; housing burden and transportation expense; linguistic isolation; poverty; race (people of color); unemployment.
- Indicators in pollution burden
  - **Environmental exposures:** diesel emissions; ozone; particulate matter 2.5 (PM2.5); toxic releases from facilities; traffic density.
  - **Environmental effects:** lead risk and exposure; proximity to hazardous waste generators and facilities; proximity to Superfund sites; proximity to facilities with highly toxic substances; wastewater discharge.
  - **Indicators under exploration:** asthma; noise pollution; proximity to state-specific cleanup sites; surface water quality.

The HEAL Act further defines "vulnerable populations" as population groups that are more likely to be at higher risk for poor health outcomes in response to environmental harms, due to: (i) adverse socioeconomic factors, such as unemployment, high housing and transportation costs

relative to income, limited access to nutritious food and adequate health care, linguistic isolation, and other factors that negatively affect health outcomes and increase vulnerability to the effects of environmental harms; and (ii) sensitivity factors, such as low birth weight and higher rates of hospitalization. "Vulnerable populations" includes, but is not limited to:

(i) Racial or ethnic minorities;

(ii) Low-income populations;

(iii) Populations disproportionately impacted by environmental harms; and

(iv) Populations of workers experiencing environmental harms.

Community and Tribal Engagement under the HEAL Act

Agencies implementing the HEAL Act are required to develop and implement a community engagement plan; develop and implement a Tribal consultation framework; and offer Tribal consultation. The Environmental Justice Committee is responsible for approving agency efforts in these areas. Reportedly, the EJC is gearing up for this work, but has not yet fully reviewed agency plans. The 2024 WSDOT Community Engagement Plan Update described in the section WSDOT EJ Requirements, Initiatives, and Resources below is listed as draft.

The EJC has issued a document describing Community Engagement Values and Guidance (external link) approved in August 2023. This document states that "authentic community engagement is the heart of environmental justice. Community engagement is a two-way communication process between government and the public."

Guidance for engaging Tribes on a government-to-government basis, as well Native American community members, is provided by two documents released in draft form in November 2022.[58]

- Tribal Government-to-Government Engagement Guide on the HEAL Act
- Native American Communities Engagement Guide on the HEAL Act, State Agency Tribal Liaisons Draft

These documents, available as attachments to a Tribal Briefing memo published by DOH in October 2023, make distinctions between the obligations of state agencies engaging with Tribal governments versus nongovernmental Native American organizations and community members, recognizing that many Native American people were forcibly displaced or encouraged to relocate to urban areas through various federal policies that sought to assimilate Indigenous people. As a result, some Washington communities include significant numbers of Native Americans who are not represented by Tribal governments. Both documents further articulate principles of engagement for their respective engagement targets. The Tribal

Government-to-Government Engagement Guide recognizes the sovereignty of Tribal governments and provides recommendations for engaging Tribal governments and (always coordinated through Tribal governments) Tribal citizens. The Native American Communities Engagement guide also provides recommended methods of engagement and provides examples of nongovernmental organizations connected to Native American communities in Washington.

Significant Actions

The HEAL Act requires implementing agencies to designate certain agency activities as significant agency actions, for which they must prepare Environmental Justice Assessments. These assessments must identify overburdened communities and vulnerable populations that will be affected by the action; solicit and summarize community input from these communities and populations; and seek to implement options "to reduce, mitigate, or eliminate identified probable impacts on overburdened communities and vulnerable populations, or provide a justification for not reducing, mitigating, or eliminating identified probable impacts" (RCW 70A.02.060 (external link)).

As of 2023, WSDOT identified the following types of actions as "significant" under the HEAL Act:[59]

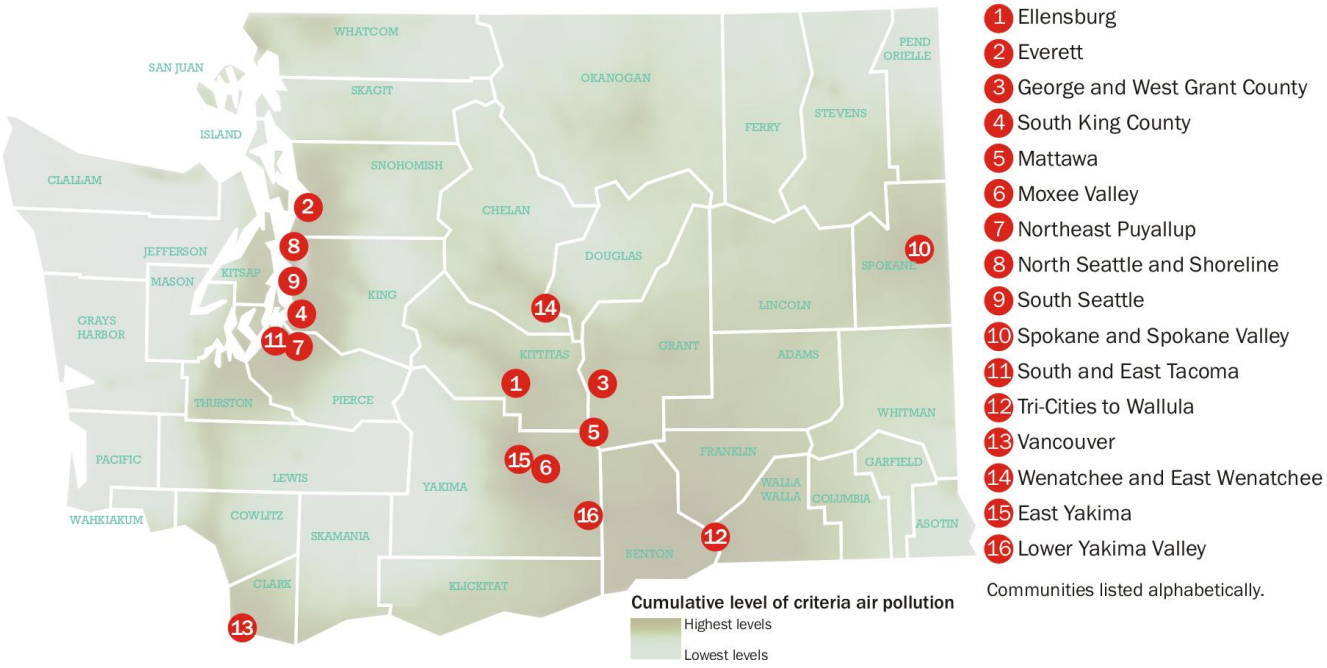
- New individual transportation projects of $15 million or more
- New individual grants or loans of $15 million or more
- Significant legislative rules
- New grant or loan programs
- Developing agency request legislation

Climate Commitment Act

Also passed in 2021, Washington's Climate Commitment Act (CCA) directs the Department of Ecology to implement a program to cap and reduce greenhouse gas emissions from the state's largest emitting sources in an effort to encourage businesses to become more carbon efficient and to work towards achieving Washington's commitment to reduce greenhouse gas emissions by 95% by 2050.[60] This program is described in RCW Chapter 70A.65. The CCA includes provisions to align with the HEAL Act and ensure that communities disproportionately impacted by air pollution and climate change will benefit from the program, including a requirement that 35% of funds be invested in projects that benefit overburdened communities and a minimum of 10% go to projects with tribal support.

The Climate Commitment Act directs the Department of Ecology to improve air quality in overburdened communities. The Department of Ecology has identified 16 areas in Washington that are (1) historically overburdened with health, social, and environmental inequities and (2) highly impacted by air pollution, including pollutants commonly associated with freight infrastructure, as "overburdened communities," as shown in Exhibit 3.[61] These areas vary in size, population and character, and together comprise the residences of more than 1.2 million people, or approximately 16% of Washington's population.

Exhibit 3. Washington Communities Identified by the Department of Ecology as Overburdened in Respect to Air Quality



Source: Department of Ecology (external link), 2024.

The CCA directs the EJC to make recommendations to the Legislature on how revenue from CCA carbon market auctions should be used, and requires agencies using funding from CCA accounts to report their progress toward environmental justice goals to the EJC.

Move Ahead Washington

Move Ahead Washington is a transportation budget package passed by the Washington State Legislature in March of 2022, pursuant to the Climate Commitment Act. Through the package, the State has committed $16 billion from CCA funds to the top transportation priorities identified in over 90 listening sessions held across Washington. These priority areas include one that is specific to freight:

- **Boosting the economy with freight projects.** Move Ahead WA makes significant investments to complete projects that are key to freight connections across the state. This includes funding for the Gateway Project and improvements to SR 520, I-405, and SR 18.

Other priorities may implicate freight policies and investments, including those related to preserving and maintaining infrastructure ($3 billion for preservation and maintenance of existing bridges, roads, sidewalks, and ferries), and addressing harms caused by past transportation policies. With respect to the latter, Move Ahead WA reprioritizes disinvested neighborhoods and commits to renewing moral obligations to address harms caused by past transportation policies, such as displacement, pollution, traffic, insufficient transit service, and unwalkable areas, particularly for BIPOC communities. The package directs 35% of CCA funds into programs serving communities of color and low-income communities.

SEPA

The State Environmental Policy Act (SEPA), enacted in 1971, operates similarly to the National Environmental Policy Act (NEPA). While NEPA applies to Federal agencies, SEPA applies to state agencies, counties, cities, ports, and special districts. Through SEPA, agencies are directed to evaluate the environmental impacts of decisions and actions to determine the probability of any significant impact. If a significant impact is identified, the agency then prepares an Environmental Impact Statement (EIS), which is reviewed by the public.

A project requiring SEPA review will prompt the lead agency to:

- Identify and evaluate probable environmental impacts.
- Issue either a Determination of Nonsignificance (DNS) or a Determination of Significance/Scoping notice that requires an Environmental Impact Statement (EIS) process to follow This EIS will analyze alternatives and mitigation measures to reduce environmental impacts.
- Encourage public involvement in decisions.
- Integrate SEPA with existing planning and licensing procedures.

WSDOT EJ Requirements, Initiatives, and Resources

As an agency named in the HEAL Act, WSDOT has made significant efforts to incorporate equity considerations in community engagement, planning, and project selection and design, which may be especially salient to FMSIB. A few key points are highlighted below.

On its website, WSDOT lists environmental justice requirements (external link) to which it is subject under the HEAL Act.[62] Most relevant items are described below.

Community Engagement Plan

As noted previously, the most recent WSDOT Community Engagement Plan Update (external link) dated 2022 has not yet been reviewed by the EJC and is labelled as DRAFT. Staff reported that the agency will continue to develop this document, intending to make it a more tactically oriented how-to guide. Currently, the Plan is organized as follows:

- **Reaching out to communities.** Reviews federal and state requirements for community engagement and overviews WSDOT's Community Engagement Guiding Principles and Community Engagement Policy.
- **Resident's guide.** Provides an overview of how WSDOT works and how residents may influence WSDOT decisions.
- **Engagement strategies.** Summarizes best practices to identify, prioritize, and engage overburdened communities.
- **Assessing effective engagement.** Suggests ways to solicit community feedback on community engagement efforts.

Additional engagement with WSDOT staff is anticipated to highlight successes and lessons learned in conducting freight- and transportation-related community engagement efforts, including some that are for statewide plans and others that are for location-specific infrastructure projects.

Environmental Justice Assessments and Integration of Environmental Justice Principles in Decision Processes for Budget Development and Expenditures

WSDOT's environment justice assessment process is stated to align with the HEAL Interagency Work Group's shared common practices. The most recent update shows that four environmental justice assessments are currently ongoing.

As of July of 2023, WSDOT plans to implement environmental justice principles into decision-making on the following processes:

- Development of comprehensive planning.
- Funding allocations to MPO/RTPOs.
- Decisions that may impact health or environment such as types of materials utilized on construction projects, noise abatement, vibration abatement, use of chemical treatments, fleet conversion to lower GHG emissions, and programs and projects for transit and active transportation.

C. Legislator and Governor's Office Interviews

Interviews were conducted with legislators, legislative staff, and staff of the Governor's Office to inform the study focus and execution. Policymakers were selected based on their contributions to Substitute House Bill 1084 or because of their participation on the Joint Transportation Committee. Interviews focused on legislative intent, desired outcomes from the study, pitfalls to avoid, and opportunities to learn from or align with other efforts.

INTERVIEWEES

Titles are listed per the time of interview.

- Representative Fey, Chair, House Transportation Committee
- Representative Barkis, Ranking Member
- Representative Ramos
- Senator Liias, Chair, Senate Transportation Committee
- Senator King, Ranking Member
- Lauren Othón, House Democratic Caucus Staff
- Beth Redfield, House Transportation Committee, Fiscal Analyst
- Debbie Driver, Senior Policy Advisor for Transportation, Governor's Office
- Jerry Rivero, Environmental Justice & HEAL Implementation Coordinator, Governor's Office

Interview Themes

The following themes summarize the major learnings from these interviews. This input was fundamental in shaping FMSIB's response to SHB 1084 and how FMSIB will integrate consideration for overburdened communities. These findings therefore parallel the four key findings presented in Chapter I: Study Purpose and Key Findings.

While the Washington economy and local communities benefit from freight mobility, lower-income communities and communities of color often live near industrial land uses and are impacted by industrial and freight activity.

These communities disproportionately experience negative health and quality-of-life impacts generated by nearby freight and industrial infrastructure.

Future investments in the freight system can prevent or offset harm to overburdened communities.

Mitigating negative impacts on overburdened communities in freight movement aligns with the statewide prioritization of environmental justice.

FMSIB can continue to invest in enhancing freight mobility and Washington's economic competitiveness. Investments can advance freight mobility while reducing past or future harms to overburdened communities and contributing to jobs and economic opportunities for those

same communities. There is a need to consider whether freight investments are having a positive impact on communities that have traditionally been far from opportunity, or whether we are making infrastructure investments in communities that already have a strong economic base.

When freight and residential uses coexist, the goal is not to remove freight infrastructure, but to take into account the reality of this co-location and impact on resident communities when new investments are considered. The intent is also not to invest in mitigation around existing infrastructure unless the project advances FMSIB's charge of enhancing the freight system.

> SENATOR MARKO LIIAS
>
> "A lot of environmental harm has been quietly happening without conversation. [House Bill 1084 will be successful if it] raises these issues and helps embed environmental justice principles in freight projects, addresses air pollution that leads to asthma, brings economic opportunity to low-income communities, and so on. We need to consider whether investments we're making are having an impact on communities that have been traditionally far from opportunity."

Substitute House Bill 1084 directs FMSIB to be more strategic and proactive in shaping freight investments across the state.

SHB 1084 directs FMSIB to integrate the environmental justice principles explicit in the HEAL Act, specifically relating to overburdened communities, ensuring that these priorities are embedded in the projects that FMSIB recommends. FMSIB's process of collaborating with applicants and project sponsors creates an opportunity to extend the application of these principles and related best practices throughout the network of organizations implementing infrastructure projects that support freight mobility across Washington.

Part of the intent behind the bill was to shift FMSIB from passively accepting applications from around the state to taking a more proactive, strategic role in recommending strategic investments and in addressing harm to overburdened communities. FMSIB will be expected to recommend a prioritized list of projects (the Strategic Six-Year Program) and explain why they are ordered as they are in this context. Legislators will be interested to hear how applicants engaged their communities and incorporated their input.

FMSIB may need to increase its capacity and processes to advance this vision, including the ability to:

- Assess the statewide freight system and identify geographies where investment may be needed.

- Provide technical assistance to less-resourced communities so they can develop project proposals and compete on an equitable basis.
- Provide a transparent and equitable application and scoring process.
- Track, evaluate, and learn from past investments.

Because FMSIB is not a sole funder, and many other organizations invest in and influence freight system projects, FMSIB can best lead through strategic alignment with partners.

Funding and requirements can come from multiple layers of government, including:

- Federal policies and programs such as NEPA and Justice 40.
- State policies and programs such as SEPA, HEAL, TIB, CRAB, and others.
- Local entities including counties, cities, and ports.

FMSIB should seek ways to enhance or overlay practices and policies with these partner entities without causing excessive duplication of effort for infrastructure owners.

FMSIB's organizational development will be as important as tools and criteria.

Historically marginalized communities could be more included in decision-making, including representation on the FMSIB Board, via an overburdened communities seat to be filled by the Governor.

REPRESENTATIVE JAKE FEY

"[As a state,] we're trying to get people to understand the impact that projects can have on communities, and how to work with communities to still get the same or a similar outcome… This is new territory. The FMSIB work could be a template for how to do this right… a new prototype for how to do projects from a process standpoint with overburdened communities."

D. Case Studies and Summary of Key Findings

The project team profiled eight FMSIB-funded projects and one additional, non-FMSIB-funded freight investment around the state as case studies to illustrate the community benefits of freight investments and to offer insights on best practices for maximizing community benefits and minimizing any harms. The profiled projects span several decades, from the 1990s to the 2020s, vary by size and type, and represent all three FMSIB regions. **Exhibit 4** presents a high-level summary of the projects.

Exhibit 4. Summary of Case Study Projects

Lead Sponsor	Project Name	FMSIB-funded?	Project Type	Year Completed	FMSIB Region	Total Investment	Community Overall EHD Score
City of Fife	I-5 - Port of Tacoma Interchange Improvement, Phases 1-2	Yes	Road	2026 (est.)	Puget Sound	$125 million	9.1
City of Kent	S. 228th St. Grade Separation, Phases 1-3	Yes	Grade separation	2021	Puget Sound	$80 million	9.9
King County	South Park Bridge Replacement	Yes	Bridge replacement	2014	Puget Sound	$177 million	10.0
City of Longview	SR 432 Improvements, Phases 1-3	Yes	Road	2021	East	$8 million	8.0
City of Seattle	Duwamish Truck Mobility Improvements	Yes	Road	2018	Puget Sound	$16 million	9.1
Spokane County	Bigelow Gulch/Forker Rd. Realignment, Phases 3-6	Yes	Road	2024	East	$72 million	6.5
City of Walla Walla	Myra Road US 12/SR 125 Interconnect	Yes	Road	2014	East	$5 million	5.4
City of Yakima	Lincoln Ave. and MLK/BNSF Grade Separation	Yes	Grade separation	2014	East	$44 million	9.9
City of Aberdeen	US 12 Highway Rail Separation	No	Grade separation	2028 (est.)	West	$74 million	6.8

Sources: Cascadia, 2024; BERK, 2024.

Projects were selected using the following criteria:

- Does at least one census tract near the project location have an overall EHD ranking between 8 and 10?[63]
- Does the case study provide geographic, community size, and project type diversity to the full set?
- Is there a rich set of data/knowledge to draw from?

Case studies were developed based on a combination of interviews with project sponsors and key partners and document review.

Each case study includes selected estimated demographic data and EHD rankings for the project area. To do this, the project area was defined as the area within a 1-mile radius of the specified project location. Since EHD scores and demographic data are assigned at the census tract level, which do not neatly overlap with a given project area, weighted EHD map scores and demographic statistics were calculated based on the percentage of each census tract that falls within the project area.

The project team selected which demographic data and EHD indicators to present based on the Government Alliance on Race and Equity (GARE) framework (external link). The team considered criteria that 1) describe the drivers of disparities most closely related to highways and freight corridors; 2) describe opportunities to expand engagement to effectively reach communities; and/or 3) describe the potential equity benefits of freight investment projects. Further detail is provided below, under Approach to Selecting Demographic and Environmental Health Disparities Data.

Approach to Selecting Demographic and Environmental Health Disparities Data

The project team presents demographic data and environmental health disparities criteria for each case study that 1) describe the drivers of disparities related to highways and freight corridors, 2) describe opportunities to expand engagement to effectively reach communities, and/or 3) describe the potential equity benefits of freight investment projects. These three categories were selected for the following reasons:

1. **Drivers of disparities**. Investments in highway infrastructure, as well as disinvestment in transportation access and safety improvements in the United States and in Washington state, disproportionately harms (external link) BIPOC and low-income communities.
    - Freight infrastructure in the United States has historically been constructed in a way that disrupts and harms (external link) BIPOC communities. Projects to improve safety

and access to transportation broadly in the United States have been prioritized in predominantly white communities (external link), resulting in safety, health, and economic disparities. As a result, highway infrastructure, including freight corridors, disproportionately harms BIPOC and low-income communities. This infrastructure disproportionately brings air, water, and noise pollution (external link) to BIPOC communities and low-income communities in WA, putting them at higher risk of health issues (external link) including asthma, lung disease, and heart disease.

- Traffic collisions also disproportionately affect BIPOC communities and low-income communities nationwide and in Washington state. Nationwide, crash analyses show that American Indian and Alaska Native (AIAN), Black, and Latinx Americans face higher rates of (external link) traffic injuries and fatalities. In Washington, AIANs die in traffic collisions at a rate that is three times higher than any other race or ethnicity (external link), including in most counties where we have profiled projects as case studies.

2. **Opportunities to expand engagement to effectively reach communities.** Understanding communities and creating effective engagement strategies to reach them is important to enable them to provide input into projects. Two important factors that resulted in underrepresentation of members of overburdened communities in project planning and impact mitigation among case study projects are linguistic isolation and poverty, although specific community characteristics and opportunities to maximize participation will vary.
    - To effectively engage communities that speak a language other than English at home, in-language outreach is needed. The project areas included in the case studies encompass communities where 10-57% of people speak a language other than English at home.
    - To enable community members experiencing poverty to participate in public processes, it is important to identify and remove barriers for them to participate and compensate them for providing input.
3. **Potential equity benefits of projects.** The case studies have shown that freight investment projects have the potential to improve transportation reliability, safety, and resulting benefits, including air quality and economic benefits**,** to communities that live and work nearby.

Based on this research, the project team selected the EHD score categories shown in **Exhibit 5**.

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Exhibit 5. Rationale for EHD Categories Included in Case Studies

EHD category	EHD factor	Rationale
Environmental exposure	Diesel	**Equity benefits:** Freight investments that reduce congestion or support a transition to EVs are likely to reduce diesel air pollution, although it is worth specific investigation into whether projects change where pollution is generated.
Environmental exposure	Ozone	**Equity benefits:** Freight investments that reduce congestion or support a transition to EVs are likely to reduce ozone air pollution, although it is worth specific investigation into whether projects change where pollution is generated.
Environmental exposure	PM 2.5	**Equity benefits:** Freight investments that reduce congestion or support a transition to EVs are likely to reduce PM2.5 air pollution, although it is worth specific investigation into whether projects change where pollution is generated.
Environmental exposure	Traffic	**Equity benefits:** Freight investments often reduce traffic/congestion.
Socioeconomic	LEP	**Participation barrier:** This factor is critical to consider when designing community engagement around projects; effective implementation improves equitable access to engagement touchpoints.
Socioeconomic	POC	**Driver of inequity**: Freight infrastructure and a lack of investment in safety and access projects disproportionately impacts BIPOC communities.
Socioeconomic	Poverty	**Driver of inequity:** Freight infrastructure and a lack of investment in safety and access projects disproportionately impacts communities with low incomes. **Participation barrier:** This factor is critical to consider when designing community engagement around projects; effective implementation improves equitable access to engagement touchpoints.

Sources: Cascadia, 2024; BERK, 2024.

Case Study Findings

The findings below are organized by type of finding and reflect themes across all nine case studies.

Engagement

In many cases, community engagement informed project selection and design. Where it occurred, early engagement enabled the community to raise their concerns about current infrastructure and their priorities for improvements. Community members gave input into the design or design alternative phase for the King County South Park Bridge Replacement, Longview SR 432 Improvements, Walla Walla Myra Rd US 12/SR 125 Interconnect, and Kent 228th St Grade Separations projects.

- **In two cases, community input helped identify the project need.** For example, for the King County South Park Bridge replacement, King County collaborated with community members from the project's inception to identify a solution to the bridge's deteriorating condition and address community concerns. The County established a Community Advisory Committee in 2001 with the intention to address known environmental justice issues associated with the bridge's condition and impacts on the community.
- **Community input often meaningfully changed project design.** In two case studies (Longview SR 432 Improvements and Walla Walla Myra Rd US 12/SR 125 Interconnect), the alignment of new road infrastructure was shifted based on community feedback. In the Walla Walla Myra Rd project and in the Kent 228th St Grade Separations project, the project teams added above-code noise barriers in response to community input. For the King County South Park Bridge Replacement, the community's input led to a new bridge that incorporated many elements of the old bridge, as well as new features such as a pocket park and rain garden.

Some project sponsors conducted specific outreach to overburdened communities. Engagement of nearby impacted communities sometimes included specific outreach to communities that speak languages other than English, have low incomes, or are otherwise overburdened. When these communities were engaged, they provided feedback to prevent construction-related disruptions and/or advocated for project designs that would keep their communities intact; however, no project sponsors noted that community members were compensated for their participation. Examples include:

- **King County outreach staff traveled to the community to conduct engagement for the South Park Bridge Replacement.** Starting with the alternative development and selection phase of the project, the project team regularly visited the businesses along 14th Ave S to identify community concerns, including business-related and environmental concerns;

gather input on bridge design; communicate construction impacts; and identify ways to reduce construction impacts on businesses. The project team also conducted in-person outreach to individual households at key points in the project and offered multiple ways to participate in the languages spoken in those households.

- **For the Walla Walla Myra Rd US 12/SR 125 Interconnect improvements, nearby mobile home residents attended community meetings** and identified themselves as a community that would be harmed by the originally proposed alignment.
- **The City of Fife engaged the Puyallup Tribe of Indians and nearby vulnerable groups,** including BIPOC communities, communities with low incomes, and linguistically isolated groups in the I-5 / Port of Tacoma Interchange Improvements project.

Some project sponsors conducted in-language outreach. While within all case study project areas, over 10% of residents have limited English proficiency, five project sponsors reported translating materials or using other methods to reach communities with limited English proficiency, while four did not. In some cases, approaches to reach communities with limited English proficiency were innovative: for the Bigelow Gulch/Forker Rd Realignment, Spokane County leveraged multilingual notices, worked with English-speaking family members, and met with the local Slavic church to engage Russian and Ukrainian families in the area. Projects for which in-language outreach was not conducted was not typically due to a lack of need, as an estimated 10-44% of residents in these project areas have limited English proficiency.

Right-of-way acquisitions benefit from engagement beyond legal requirements – and there are specific challenges for farmland. Two case studies – the Spokane County Bigelow Gulch/Forker Rd. Realignment and Walla Walla Myra Rd US 12/SR 125 Interconnect improvements projects – involved right-of-way acquisitions of farmland from property owners who were initially strongly opposed to the projects. Both project sponsor teams heard concerns related to loss of property value and changes to farming operations. Through iterative conversations with property owners, project sponsors were able to build trust and successfully reach agreements to acquire land. Some property owners still opposed the Bigelow Gulch & Forker Road Realignment project at completion, but others felt their concerns had been adequately addressed and had a better understanding of the need for the project.

Overburdened and impacted communities

Communities besides project area residents often directly benefit from freight investment. Nearby property owners, residents, and businesses are not the only people who have benefited from this set of freight investment projects; other groups that have benefitted include tourists, local workers who commute through the project area, and schoolchildren who attend school near the project area. Some examples include:

- **In Aberdeen, residents, workers, and tourists alike are expected to benefit from the US 12 Highway Rail Separation project,** which will improve access to the commercial area south of the railway and improve access to the coast. The project sponsor noted that people with low and moderate incomes who access the Walmart store in the project area for affordable goods would benefit from the improved access as well.
- **Workers and drayage truck drivers will benefit from the Seattle Duwamish Truck Mobility Improvements project**'s safety and environmental improvements to roadways, including local workers who do not live in the project area.
- **The Spokane County Bigelow Gulch/Forker Rd. Realignment project improved safety for students** who attend the East Valley Middle and High Schools, who now use the new pedestrian underpass near Wellesley Ave when walking between them.

Local businesses are often a key impacted group. While the construction phase can be disruptive of business activity, case studies also demonstrate that area businesses often benefit from the increased reliability of transportation and freight deliveries following project completion.

- **Several project sponsors engaged local businesses to minimize construction-related impacts** (Kent 228th St Grade Separation, King County South Park Bridge Replacement, Longview SR 432 Improvements). Each one expected that improved freight mobility and reduced congestion would benefit businesses after project completion.
- **In Aberdeen, local delivery drivers and business owners on the US 12 corridor are expected to benefit** from the US 12 Highway Rail Separation project, which will improve access to the commercial corridor south of the railway.

Some key overburdened communities are not geographically bound or easily identified with statistics. Communities that project sponsors mentioned as overburdened, but could not provide data to describe, include local workers and drayage truck drivers.

- **Project sponsors for projects in manufacturing and industrial centers (Longview 432 Improvements, Kent S 228th St Grade Separation, and Seattle Duwamish Truck Mobility Improvements) said that workers in these areas are an overburdened community**; they often have low incomes and experience benefits from improved transportation reliability after freight investment projects. The City of Seattle interviewee noted that sometimes, those who work in the Duwamish area do not live there because they have been displaced.
- **Some project sponsors mentioned drayage truck drivers as an overburdened and impacted community.** The City of Seattle and Port of Seattle interviewees said that drivers are often recent immigrants or refugees and often speak English as a second language.

They were not able to send data describing these communities, nor engagement tactics to successfully collect input from these groups.

Project outcomes

Project teams report that project intents match impacts. All project sponsors noted that they believe the goals of each project were met – whether to improve freight mobility, to benefit community safety, or another goal. In some cases, as with grade separation projects, the infrastructure investment removed the cause of congestion and delays; in other cases, project teams provided anecdotal evidence of improvements. However, only one project team reported measuring post-project collision data (Spokane County Bigelow Gulch/Forker Rd Realignment).

Many projects reduce congestion. Project sponsors noted that congestion has positive impacts related to transportation system reliability, access to essential services, local and regional economies, improved emergency response times, and air quality.

- **Some projects are estimated to drastically improve delays from congestion.** For example, the City of Longview's analysis prior to the SR 432 Improvements project start projected that the improvements would reduce intersection delays by 30-60%. As another example, before the City of Aberdeen's US 12 Highway Rail Separation project, traffic delays regularly added up to 30 minutes to travel through the US 12 corridor. The in-progress grade separation will provide a pathway to the southern area of town that would not be impacted by trains passing through, which will improve convenience to locals commuting and traveling around town.
- **There are regional economic benefits of reduced congestion and improved freight mobility.** Improved freight mobility along high-volume truck corridors benefits regional employees, importers and exporters to ports, and local truck drivers who benefit from more efficient trips. For example, project sponsors for the Fife I-5 Tacoma Interchange Improvement noted that the Port of Tacoma supports several international terminals and numerous jobs; other project sponsors noted that their local ports are regional gateways and major employers (City of Aberdeen US 12 Highway Rail Separation, Longview 432 Improvements).

Improved safety is a common outcome. Safety improvements come from removal of conflict points, reduced vehicle speeds in key areas, and attention to infrastructure in poor condition. Reducing likelihood of collisions indirectly decreases the probability of hazardous material spills of freight cargo.

- **Grade separation and road improvement projects improve safety by removing conflict points.** Grade separations, like the Aberdeen US 12 Highway Rail Separation, Kent S 228th St Grade Separations, and Yakima Grade Separations, improve safety by removing

locations where it is possible for vehicles and trains to collide. The Fife I-5 Port of Tacoma Interchange Improvement project was expected to decrease collisions by about 15% by removing conflict points as well.

- **Road improvements often decrease collisions by reducing vehicle speeds and/or improving traffic flow.** The Longview SR 432 Improvements decreased crash frequency at the SR 432 eastbound on-ramp due to reduced travel speeds and improved roadway geometry. The Spokane County Bigelow Gulch/Forker Rd Realignment improved safety by adding traffic lanes, which decreased incidences of unsafe passing into oncoming traffic lanes; collisions in the area have decreased by about 50% since the project was completed in 2019. Most profiled grade separation projects included road improvements that project sponsors expected would increase safety, such as roundabouts (Aberdeen US 12 Highway Rail Separation) or additional turn lanes (Kent S 228th St Grade Separation).
- **Some project sponsors indicated that replacing infrastructure before failure was an important success.** The King County South Park Bridge Replacement project was identified because of the poor condition of the bridge. Some spot improvements included in the Duwamish Truck Mobility Improvements were selected to harden road surfaces before they became unsafe to travel on.

Projects included improvements to multimodal connectivity. Several projects incorporated bike lanes and pedestrian routes that improved multi-modal connectivity and safety. Grade separation projects (Kent 228th St Grade Separation, Aberdeen US 12 Highway Rail Separation, Yakima Lincoln Ave. and MLK/BNSF Grade Separation) included sidewalks and bike lanes, eliminating delays and improving safety for people walking, biking, and rolling. The Spokane County Bigelow Gulch/Forker Rd Realignment project included a new pedestrian underpass near Wellesley Ave for students walking between East Valley Middle and High Schools. The Walla Walla Myra Rd US 12/SR 125 Interconnect improvements included updates to the trail system and a multi-use path.

Opportunities

Opportunities to better integrate community considerations into freight investment projects based on case study findings include the following.

Better understand and engage local worker and drayage truck driver communities. Because local workers and drayage truck drivers were commonly identified as groups that are overburdened and likely to be impacted by projects, it is important to better understand their composition and how to effectively engage them. Some project sponsors conveyed that local workers, particularly those employed in manufacturing and industrial centers, and drayage truck drivers can be considered overburdened and impacted communities. These project sponsors

were not able to send data about the composition of these groups and did not successfully engage them in outreach, noting that navigating multiple languages among drayage truck drivers and finding appropriate channels to engage both groups are challenges.

Intentionally engage overburdened communities and remove barriers to participate. There is an opportunity for project sponsors to better understand and address community barriers to participate. Examples of best practices include using in-language materials for communities that speak a language other than English at home, visiting communities or attending in-community events that are easy to access, and providing compensation for participation.

Collect information to verify project outcomes, including feedback from communities. Post-project data collection is needed to confirm project outcomes. Data is not available to verify key intended project outcomes related to reduced congestion and improved safety for most projects. Additional data collection would also support claims that projects benefit access to essential services, local and regional economies, emergency response times, and air quality. Infrastructure owners should also engage communities, particularly overburdened communities, to verify positive project outcomes and learn from any negative experiences during construction and post-project completion. It is important to verify whether some communities experienced project benefits differently from others and to learn from community engagement successes and failures to benefit future projects.

I-5 / PORT OF TACOMA INTERCHANGE IMPROVEMENT

Case Study: Integrating Community Considerations in Freight Investments

AT A GLANCE

PROJECT SPONSOR: City of Fife

COMMUNITY POPULATION: 10,887 (citywide)

LOCATION: Puget Sound Region, King County

PROJECT TYPE: Road

KEY PARTNERS: Northwest Seaport Alliance, Port of Tacoma, Washington State Department of Transportation (WSDOT)

TIMELINE

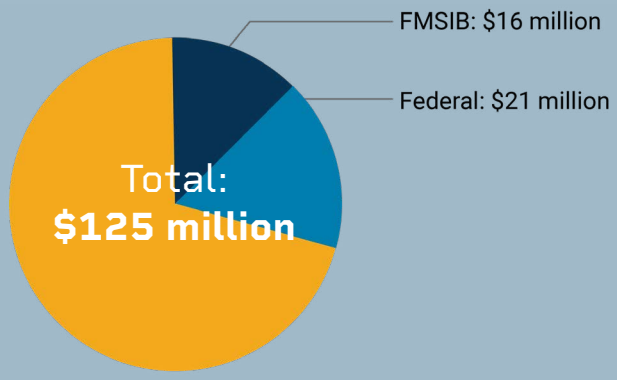
PHASE I DESIGN: 2016-2017

PHASE I COMPLETION: 2018-2020

PHASE II DESIGN: 2021-2024

PHASE II ESTIMATED COMPLETION: 2024-2026

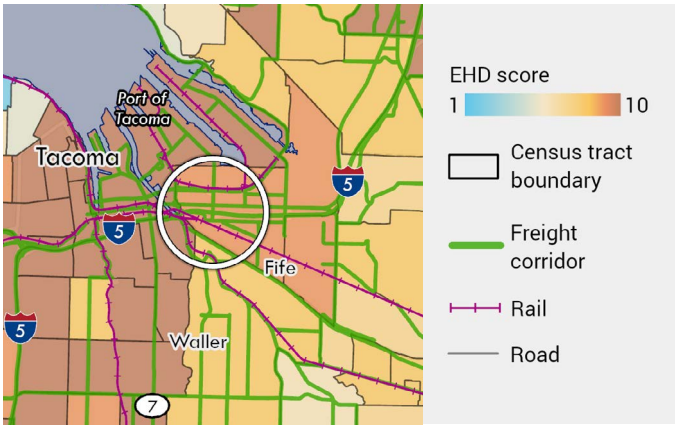
FUNDING

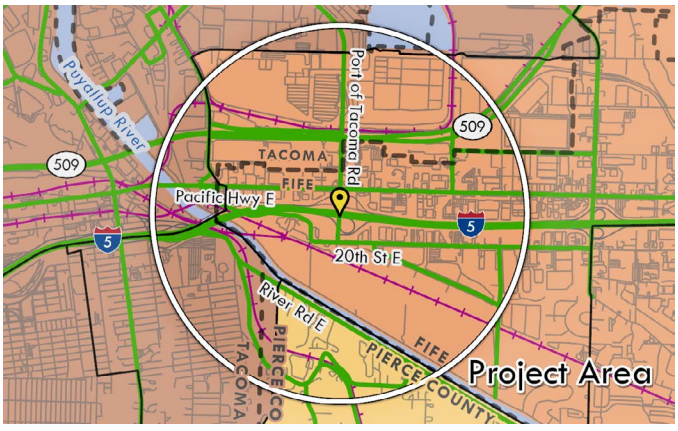


OTHER FUNDING PARTNERS: Federal Highway Administration, Port of Tacoma, Puget Sound Regional Council, Washington State Connecting Washington Program, Washington State Move Ahead Washington Program, Washington State Transportation Improvement Board

ABOUT THE PROJECT

The in-progress Interstate 5 (I-5)/Port of Tacoma Interchange Improvement project funded by the Washington Freight Mobility Strategic Investment Board (FMSIB) is part of an ongoing series of efforts to enhance road, intersection, sidewalk, and interchange infrastructure near Exit 136 of I-5 leading to the Port of Tacoma. The project aims to improve access to the industrial area, improve air quality and safety. The City of Fife worked alongside local partners to build a coalition of support, secure funding, and address community concerns, including reducing construction-related impacts to nearby businesses.





See the next page for more information about EHD scores.
Sources: DOH, 2024; BERK, 2024.

COMMUNITY OVERVIEW

The project area is on reservation land of the Puyallup Tribe of Indians and has more industrial and commercial buildings than residences. According to 2022 Census estimates, the median income of the 3,492 residents in the project area was $82,093, compared to $115,409 citywide, and 55% of residents in the project area identified as Black, Indigenous, or People of Color (BIPOC).[1][2]

In addition to the project area residents, truck drivers are part of the impacted community. Data tracked by the Port of Tacoma indicates that the affected trucking community mainly consists of small operators with between one and five trucks. Many of these operators are recent immigrants and/or BIPOC.

PROJECT PURPOSE

The Port of Tacoma is one of the largest ports on the west coast, supporting 42,100 jobs and $3 billion in economic activity in Pierce County. This in-progress project addresses substantial daytime congestion near the Port that, without improvement, was forecast to be in gridlock by 2040. Key updates include converting the I-5 Exit 136 interchange into four one-way intersections with simplified signal sequences and constructing a new bridge over I-5 to improve traffic flow and reduce congestion.

These improvements are expected to increase freight mobility, improve cargo delivery efficiencies to the Port, decrease trip times for truck drivers, reduce local air pollution from idling vehicles, and create a safer interchange for all users. Additionally, the project includes community transit enhancements such as an ADA-compliant sidewalk and bicycle lane across I-5 that provides a safe connection to existing and future transit routes.

Selected Project Area Environmental Health Disparities Scores

The Washington Environmental Health Disparities (EHD) Map compares communities across the state in terms of their exposure and vulnerability to environmental hazards. It combines 19 indicators to arrive at an overall score of community environmental health risk. Scores are between 1 and 10, with a score of 10 meaning the highest exposure, vulnerability, or risk. EHD scores are calculated at the census tract level, so weighted scores are calculated for the project area based on the percentage of each census tract that falls within the project area.

Overall EHD Score	**9.1**
Environmental Exposures	**10.0**
Diesel	10.0
Ozone	5.4
$PM_{2.5}$	9.1
Heavy Traffic	10.0
Socioeconomic Factors	**7.2**
Limited English Proficiency	8.0
People of Color	7.9
Poverty	5.8

Sources: DOH, 2024; BERK, 2024.

Aerial Photo of Completed Phase I. Image: WSDOT.

1 The project area is defined as the area within a one-mile radius of the specified project location. Demographic data is measured at the census tract level, so demographic statistics in this section are calculated based on the percentage of each census tract that falls within the project area.

2 BIPOC is defined as a racial identity other than White alone or an ethnic identity of Hispanic or Latino.

ENGAGEMENT OVERVIEW

Ongoing community engagement influenced both the impetus and design of the project, helped to build a coalition of support, and enabled the City to respond to community concerns and address impacts to nearby businesses.

- **The project was identified and selected based on community input and advocacy.** Prior to project initiation, the City heard concerns about the congestion of the interchange from residents and the trucking community. The Northwest Seaport Alliance (NWSA) and the Port of Tacoma held regular quarterly meetings with the trucking community, allowing truck drivers to voice concerns about known choke points. Further, the Regional Access Mobility Partnership (RAMP), a public-private partnership, advocated for the project within Pierce County. RAMP's monthly meetings allowed for discussion that addressed concerns from diverse sectors including transit, labor, public services, and others. RAMP ensured that the project received the necessary attention and backing from influential leaders, including the Executive Director of the Port of Tacoma, the Pierce County Executive, and the Executive Director of the Tacoma-Pierce County Chamber of Commerce.
- **The City engaged the Puyallup Tribe of Indians and nearby marginalized groups, including BIPOC communities, communities with low incomes, and linguistically isolated groups.** The project team consulted the Puyallup Tribe of Indians, which supports the project, as it aligns with their Climate Change Impact Assessment and Adaptation Options and improves access to the Salish Cancer Center. A City Environmental Justice Memorandum (August 2016) identified communities of color and communities with low incomes, informed them about the project, and encouraged their engagement. Public notices were provided in Korean, Spanish, and Tagalog to enhance access to project information and encourage input. Additional outreach is planned in collaboration with the WSDOT for the upcoming construction phases, particularly with communities near the interchange.
- **The Port and the City worked together to connect with the working waterfront and larger business community.** Organizations including the Pacific Merchants Shipping Association and the International Longshore and Warehouse Union were consulted and supportive of the project. According to the City's Public Works Director, issues with driveway access and other construction-related concerns during Phase I impacted some nearby businesses and were ultimately resolved.

GROUPS ENGAGED

- Business community, including the Pacific Merchants Shipping Association and the International Longshore and Warehouse Union
- Neighboring residents
- Puyallup Tribe of Indians
- Regional Access Mobility Partnership
- Trucking community

OUTCOMES

A community-centered design and construction approach helped reduce construction impacts and risk of displacement.

- **Preliminary outcomes from Phase 1 indicate reduced congestion around and on I-5, with positive implications for air quality and truck drivers' incomes.** While Phase 1 has shown anecdotal evidence of reduced congestion, quantitative data will be assessed after the project's completion. Estimates suggest that by 2045 the project will reduce total vehicle hours of delay by 30-35% and drop average delays by over 30% on I-5. This reduction benefits both those using the interchange and other freeway users, improving overall traffic flow and reducing congestion. These benefits are anticipated to in turn improve air quality. For truck drivers, who are commonly owner/operators and are typically paid per delivery, reduced intersection congestion means more trips completed and better financial outcomes.
- **Safety and access to transit is enhanced through removal of conflict points (areas where paths of vehicles, cyclists, and/or pedestrians intersect) and addition of accessible sidewalks and crossings.** By reducing the number of conflict points at the intersection, improving signal phasing, and changing the design geometry and alignments of the roadway, incidents are expected to decrease by approximately 15%. Additionally, the project will add a new ADA-compliant crossing over I-5 and sidewalks that will safely connect transit-dependent communities to Pierce Transit routes.
- **The intersection supports several international terminals and numerous jobs, with a broader economic impact.** The cargo flowing through this intersection is vital for at least two international container terminals and an auto processing facility, and partially supports two other marine cargo facilities. Port of Tacoma staff noted that this network supports approximately 12,000-13,000 marine cargo jobs, not including the additional jobs in related industries like manufacturing.
- **Effective funding partnerships have been critical to the project's success.** The small City of Fife has successfully undertaken an ambitious transportation project similar to those typically managed by larger entities like the Washington State Department of Transportation. Port staff noted that securing funding was challenging, and that FMSIB's early support for aspects like right-of-way acquisition and design enabled the City to leverage these investments and secure larger state appropriations and additional support from the Puget Sound Regional Council.

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S 228TH ST GRADE SEPARATION

Case Study: Integrating Community Considerations in Freight Investments

AT A GLANCE

PROJECT SPONSOR: City of Kent

COMMUNITY POPULATION: 133,378 (citywide)

LOCATION: Puget Sound Region, King County

PROJECT TYPE: Grade separation

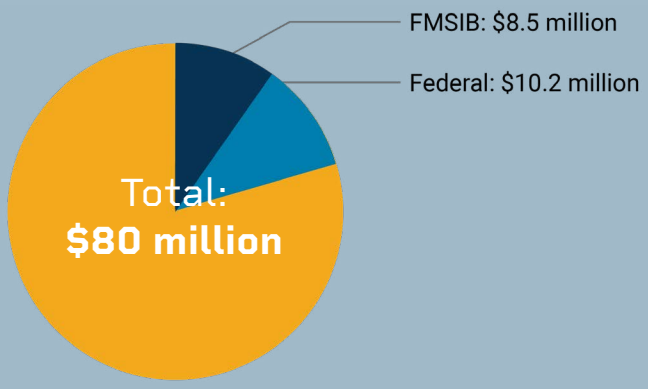
TIMELINE

PROJECT INITIATION: Late 1990s

DESIGN: Early 2000s - 2017

COMPLETION: 2006 (phase 1), 2009 (phase 2), 2021 (phase 3)

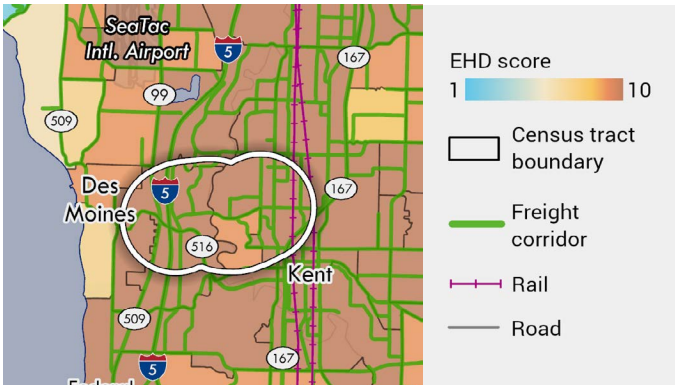
FUNDING

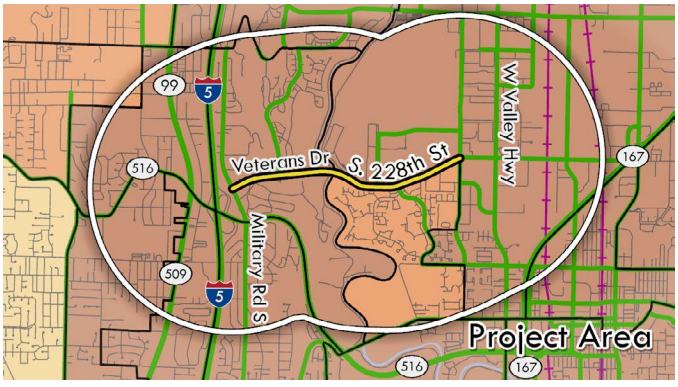


OTHER FUNDING PARTNERS: Burlington Northern and Santa Fe (BNSF) Railway, Port of Seattle, Puget Sound Regional Council, Union Pacific Southern Pacific Railroad, Washington State Department of Transportation, Washington State Transportation Improvement Board

ABOUT THE PROJECT

S 228th St is a primary east-west corridor through Kent that connects Interstate 5 (I-5) with the manufacturing/industrial center (MIC) located in the Kent Valley. A series of grade separation projects funded by the Washington Freight Mobility Strategic Investment Board (FMSIB) were designed and implemented between 2004 and 2021 and created a direct connection from Veterans Drive to SR 509 and I-5. The projects improved safety for vehicles, pedestrians, and cyclists; ensured access for emergency vehicles; and opened the corridor to higher truck volumes. The City of Kent engaged the community early and in multiple ways throughout the projects, giving opportunities for neighboring residents, businesses, and the broader community to voice their priorities and concerns.





See the next page for more information about EHD scores.
Sources: DOH, 2024; BERK, 2024.

COMMUNITY OVERVIEW

The City of Kent has high rates of racial and linguistic diversity that are reflected in the project surroundings. According to 2022 Census estimates, of the 23,203 residents in the project area, 70% identified as Black, Indigenous, or People of Color (BIPOC),[1] compared to 63% citywide.[2] The percentage of residents in this area who speak a language other than English at home was 44% in 2022, slightly higher than the citywide rate of 42%.

In addition to residents, the impacted community includes businesses, local workers, and truck drivers. Businesses in the Kent Valley MIC rely on freight deliveries, and truck drivers and workers benefit from reliable and efficient routes through the area. According to the City, workers and truck drivers are more likely to be BIPOC, more likely to have low incomes, and less likely to have college degrees than the citywide average – three characteristics that increase vulnerability to environmental health risks.

PROJECT PURPOSE

Before this grade separation project, S 228th St carried traffic to and from I-5 and the future SR 509 connection to the Kent Valley MIC via an at-grade crossing with the Union Pacific Southern Pacific Railroad. This crossing created a bottleneck and conflict points for vehicles, pedestrians, and trains. The City initially identified the need for this project in the 1980s and renewed project planning in the late 1990s.

Selected Project Area Environmental Health Disparities Scores

The Washington Environmental Health Disparities (EHD) Map compares communities across the state in terms of their exposure and vulnerability to environmental hazards. It combines 19 indicators to arrive at an overall score of community environmental health risk. Scores are between 1 and 10, with a score of 10 meaning the highest exposure, vulnerability, or risk. EHD scores are calculated at the census tract level, so weighted scores are calculated for the project area based on the percentage of each census tract that falls within the project area.

Overall EHD Score	**9.9**
Environmental Exposures	**9.4**
Diesel	8.6
Ozone	5.1
PM2.5	5.4
Heavy Traffic	9.9
Socioeconomic Factors	**9.4**
Limited English Proficiency	9.7
People of Color	9.9
Poverty	8.1

Sources: DOH, 2024; BERK, 2024.

The grade separation project at S 228th St while it was under construction. Image: Kent Reporter.

1 BIPOC is defined as a racial identity other than White alone or an ethnic identity of Hispanic or Latino.

2 The project area is defined as the area within a one-mile radius of the specified project location. Demographic data is measured at the census tract level, so demographic statistics in this section are calculated based on the percentage of each census tract that falls within the project area.

ENGAGEMENT OVERVIEW

The project team engaged the broad community, residents, and businesses. Through engagement, the project team worked to understand and address concerns about the project funding mechanism, construction-related impacts, and long-term impacts.

The City's project team took a multipronged approach to engagement by conducting broad outreach and direct engagement, going to three primary audiences:

- **Broad community.** The project team offered broad engagement opportunities for each phase of the project, particularly before and during design phases. For example, the City conducted polls to learn about top concerns and held community meetings at City Hall. The project team also communicated throughout the process about key project details to maintain public trust, particularly around the inclusion of local improvement districts as a project funding mechanism, which resulted in some housing developers passing on funding obligations to new homeowners. The City saw the most interest in Phase 1 because of the potential impacts to nearby residences and businesses such as increased noise, emergency response times, or commuter traffic.
- **Neighbors.** Phase 1 of the project extended S 228th St from 64th Ave S to Military Road, connecting the valley with I-5 and the future I-509. This phase included construction in residential areas characterized primarily by owner-occupied homes. The project team engaged community members in surrounding neighborhoods for localized context and perspective.
- **Impacted businesses.** Phases 2 and 3 impacted businesses in industrial areas, particularly during construction. The project team worked closely with businesses to support their continued operation during construction.

The project team emphasized the importance of engaging the community early and often throughout the design process to address community goals and concerns. The project team found that the community was focused on alleviating congestion and improving safety, which was a core goal shared by the City. The project team addressed community concerns through the following measures:

- **Sharing information about funding.** Early in the process, clear communication about the formation of a public-private partnership helped alleviate frustration from homeowners within the local improvement district.
- **Above-code sound mitigation.** Although potential noise pollution was exempt from noise mitigation measures, the project team felt it was important to address the community's feedback.
- **Supporting operational continuity of businesses during construction.** Due to the close coordination between businesses and the project team, businesses were able to operate despite nearby construction.

OUTCOMES

Advance planning and thorough community engagement helped this multi-phased project deliver outcomes that met the needs of the transportation system, community, and neighborhood.

- **According to the project team, the most significant project outcome was the overall improved reliability of the transportation system** due to the complete resolution of crossing delays. The increased stability that the project created supports reliable commute times for tens of thousands of people working in the valley, reduces emergency response times, and offers more predictable transportation logistics for warehouses.
- **The City avoided negative impacts to housing and neighborhood continuity.** The project team was aware that other road infrastructure projects in the region had removed housing, negatively impacting neighborhood continuity. To avoid this, the City conducted advance planning around existing infrastructure to design and build the project without removing any existing housing.
- **The project incorporated bike lanes.** This has improved multimodal connectivity in the community.
- **Project staff have received compliments from community members who were initially unsupportive of the project,** signaling that the team's responsiveness to community feedback was successful.
- **Funding partnerships made the project possible** throughout economic downturns. The City stated that FMSIB's early support for the project continued through two economic downturns, even as those downturns extended the project timeline, and enabled the City to collect additional financial support.

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SOUTH PARK BRIDGE REPLACEMENT

Case Study: Integrating Community Considerations in Freight Investments

AT A GLANCE

PROJECT SPONSOR: King County

COMMUNITY POPULATION: 749,267 (citywide)

LOCATION: Puget Sound Region, King County

PROJECT TYPE: Bridge replacement

KEY PARTNERS: City of Seattle, South Park Neighborhood Association US Senator Patty Murray, US Representative Jim McDermott

TIMELINE

INITIATION: 1997

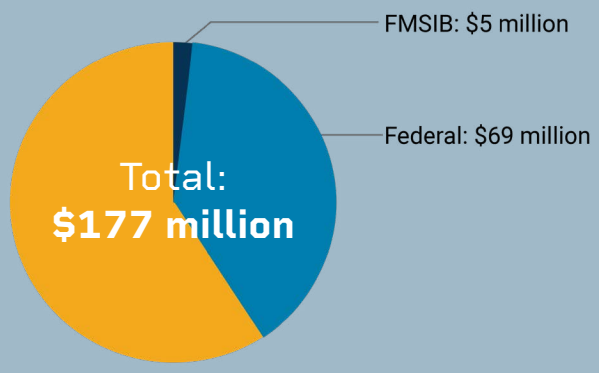
ALTERNATIVE DEVELOPMENT & SELECTION: 1999-2006

COMMUNITY ENGAGEMENT: 2001-2014

DESIGN: 2006-2010

CONSTRUCTION: 2010-2014

FUNDING

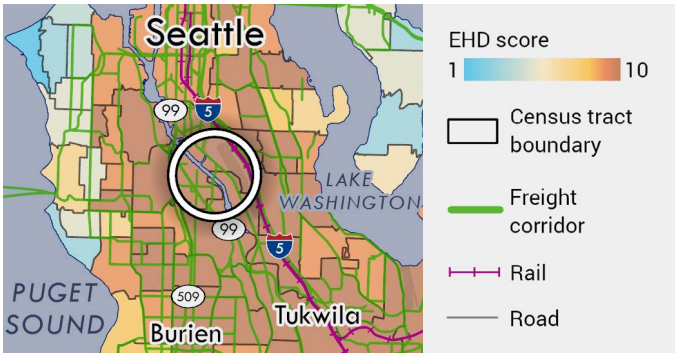


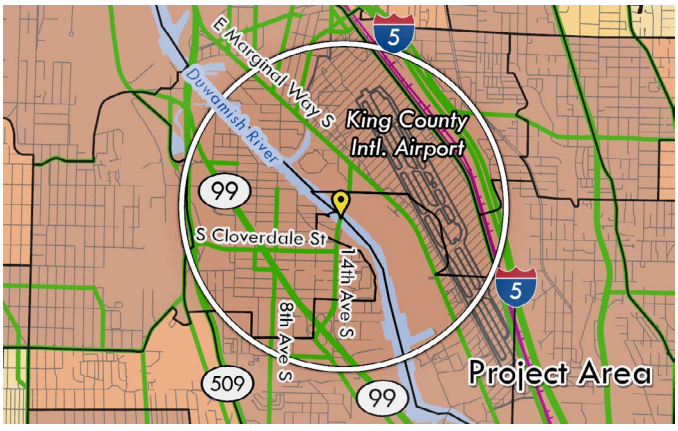
OTHER FUNDING PARTNERS: Boeing, City of Seattle, City of Tukwila, King County, Port of Seattle, Washington State Transportation Improvement Board

ABOUT THE PROJECT

The South Park Bridge connects freight travel from the Port of Seattle to industrial areas south of Seattle and the South Park community to broader Seattle. It was closed in 2010 due to seismic risk. Funding from the Washington Freight Mobility Strategic Investment Board (FMSIB) and other agencies supported its replacement and the bridge reopened in 2014.

For more than a decade prior to the bridge closure and throughout construction of the new bridge, King County conducted extensive engagement with the community, business owners, and adjacent property owners to inform bridge and roadway design, mitigate construction impacts, and install high-priority community amenities.





See the next page for more information about EHD scores.
Sources: DOH, 2024; BERK, 2024.

COMMUNITY OVERVIEW

The South Park community is among the most diverse in Seattle and has faced historic redlining and disruption, including the construction of State Route 99 through the area in the mid-20th century. According to 2022 Census data, out of 7,839 estimated project area[1] residents, over half (60%) identified as Black, Indigenous, or People of Color (BIPOC)[2] compared to 41% of residents citywide. Over one third (36%) of project area residents spoke a language other than English at home in 2022, compared to 24% of residents citywide.

PROJECT PURPOSE

The South Park Bridge has long been critically important to the region: before the old bridge closed in 2010, it was used by 20,000 vehicles each day, including 2,800 trucks. Pre-closure, the County conducted an intensive origin and destination study and found that users included those traveling to and from SODO, Boeing, Delta Marine, Sea Mar Community Health Centers, and nearby manufacturing and industry centers.

Although the County focused efforts on plans to replace the bridge while minimizing negative impacts of the bridge closure, the importance of the bridge is perhaps best demonstrated by some of the negative impacts that occurred during its closure. These impacts included worsened commute times and freight mobility, removal of bike and pedestrian access from the crossing, reduced travel routes across the Duwamish River, lengthened emergency response times, reduced revenue at local businesses reliant on commuters, and decreased resident access to services, including health services, across the river.

Selected Project Area Environmental Health Disparities Scores

The Washington Environmental Health Disparities (EHD) Map compares communities across the state in terms of their exposure and vulnerability to environmental hazards. It combines 19 indicators to arrive at an overall score of community environmental health risk. Scores are between 1 and 10, with a score of 10 meaning the highest exposure, vulnerability, or risk. EHD scores are calculated at the census tract level, so weighted scores are calculated for the project area based on the percentage of each census tract that falls within the project area.

Overall EHD Score	**10.0**
Environmental Exposures	**10.0**
Diesel	10.0
Ozone	2.4
PM2.5	10.0
Heavy Traffic	9.7
Socioeconomic Factors	**8.5**
Limited English Proficiency	8.7
People of Color	9.3
Poverty	7.5

Sources: DOH, 2024; BERK, 2024.

Pieces of the original bridge are incorporated into the design of the new bridge. Image: 4Culture.

1 The project area is defined as the area within a one-mile radius of the specified project location. Demographic data is measured at the census tract level, so demographic statistics in this section are calculated based on the percentage of each census tract that falls within the project area.

2 BIPOC is defined as a racial identity other than White alone or an ethnic identity of Hispanic or Latino.

ENGAGEMENT OVERVIEW

The County worked closely with community groups and businesses to develop the project concept, collect design input, and understand likely impacts of the bridge closure.

- **The County collaborated with community members from project inception** to identify a solution to the deteriorating condition of the bridge and address community concerns. The County established a Community Advisory Committee in 2001 to address impacts on the community, including known environmental justice issues associated with the bridge condition.
- **The County thoroughly investigated community concerns.** In 2002, community members raised concerns about the impacts of bridge closure. The County worked to understand potential impacts in 2002 and 2003 through in-person surveys of local businesses, translated and interpreted into Spanish and Vietnamese. Throughout project design and construction, the County employed three in-house outreach staff and an external public engagement firm to involve the local community in bridge design and provide construction updates.
- **The County's outreach staff traveled to the community and offered multiple ways to participate in multiple languages.** For example, starting with the alternative development and selection phase of the project and continuing through construction, the project team regularly visited the businesses along 14th Ave S to identify community concerns, including business-related and environmental concerns; gather input on bridge design; communicate construction impacts; and identify ways to reduce construction impacts on businesses. The project team also conducted in-person outreach to individual households at key points in the project.

GROUPS ENGAGED

- Delridge District Council
- Environmental Coalition of South Seattle
- Georgetown Community Council
- Georgetown Merchants Association
- Greater Duwamish District Council
- Sea Mar Community Health Center
- South Park Bridge Committee
- South Park Business Association
- South Park Information Center
- South Park Neighborhood Association
- Southwest District Council
- White Center Community Development Association

A rain garden cleans stormwater from the bridge before it enters the Duwamish River. Image: King County.

OUTCOMES

A community-centered design and construction approach helped reduce construction impacts and risk of displacement.

- **The bridge continues to serve the community and freight interests.** By 2015, 3,000 heavy duty trucks crossed the bridge each day, carrying an estimated 10 million tons of freight each year. By 2017, 26,000 vehicles used the bridge each day—an increase of nearly 30% over the pre-closure total vehicle count. Despite difficult soil conditions, the bridge is built to handle a 975-year earthquake (i.e., an earthquake with 5% probability of exceedance over a 50-year period).
- **The bridge design and surroundings reflect community priorities.** It was important to the community that the new bridge preserve the history and aesthetic of the old bridge. The project team worked closely with an artist, a design consultant, and the community to design the new bridge, which is similar in appearance and design to the original bridge and incorporates physical remnants of the old bridge. They then coordinated closely with the construction consultant to ensure the community's vision for the bridge came to life. Interpretive signage on the history of the area and pieces of the old bridge were also integrated into a pocket park near the bridge, which includes a rain garden that cleans stormwater before it enters the Duwamish River.
- **The South Park community is still in place.** The closure of the bridge carried a risk of community displacement and closure of local businesses, but the combined efforts of the project team, community advocates, and partners helped prevent this outcome. For example, during construction and the bridge closure, the project team supported visitation to restaurants across the bridge by offering community members coupons to those restaurants. The project team also offered amenities, including a temporary dog park
- **Environmental cleanup removed pollution from the area because the bridge location was a Superfund site.** This included the removal of creosote piles, contaminated soils, an oil tank, and old tires and installation of engineered snags for salmon habitat.
- **The bridge has received several awards, many of them national.** This includes the American Public Works Association's 2015 Project of the Year Award in the "Transportation More than $75 Million" category. According to the project team, it is uncommon for a drawbridge to receive such acclaim.

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SR 432 IMPROVEMENTS

Case Study: Integrating Community Considerations in Freight Investments

AT A GLANCE

PROJECT SPONSOR: City of Longview

COMMUNITY POPULATION: 37,782 (citywide)

LOCATION: West Region, Cowlitz County

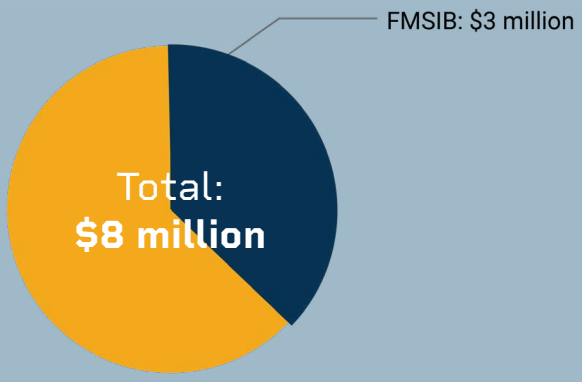
PROJECT TYPE: Road

TIMELINE

DESIGN: 2000 - 2019

CONSTRUCTION: 2001 (Phase 1), 2008 (Phase 2), 2021 (Phase 3)

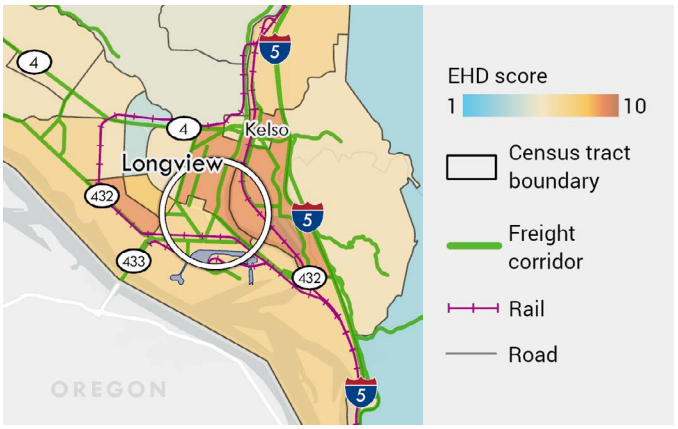
FUNDING

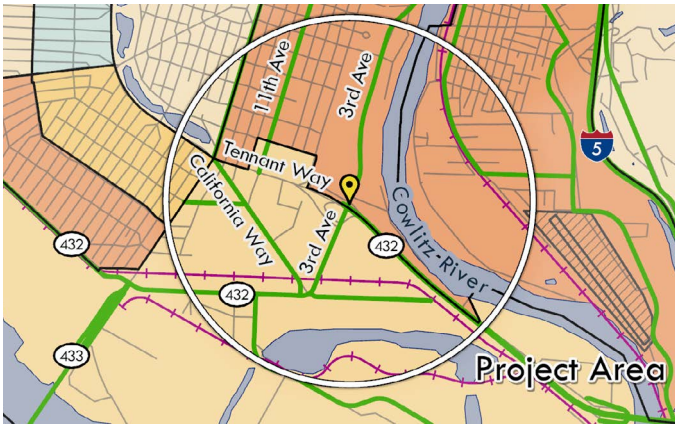


OTHER FUNDING PARTNERS: Cowlitz County, Washington State Department of Transportation

ABOUT THE PROJECT

The City of Longview's (City) SR 432 roadway improvements funded by the Washington Freight Mobility Strategic Investment Board (FMSIB) upgraded on and offramps and constructed a two-way left turn lane on SR 432 near the Port of Longview, which is a state and regional freight hub and large employment center. This project improved freight movement and travel times into the area; reduced truck roll-over collisions; improved traffic queues and air quality by reducing idling; and created better response times for emergency and police vehicles.





See the next page for more information about EHD scores.
Sources: DOH, 2024; BERK, 2024.

COMMUNITY OVERVIEW

The project is in an industrial and commercial area near the Port of Longview and low-income housing communities. According to 2022 Census estimates, out of 9,330 residents in the project area, 23% identified as Black, Indigenous, or People of Color (BIPOC),[1] similar to the citywide rate of 21%. The majority of BIPOC residents in both the project area and citywide were Hispanic in 2022.[2] The median household income in the project area was $41,705, 28% lower than the citywide median of $57,920.

PROJECT PURPOSE

The SR 432 corridor provides access to the Port of Longview. It is a high-volume truck corridor, carrying more than 10 million tons per year. In 2007, FMSIB noted that 24% of traffic through the corridor consisted of freight. Further, the SR 432 corridor is also a major commuting route to I-5 and a major interstate route between Oregon and Washington. It is heavily traveled year-round by commuters as well as those seeking recreational opportunities along the Columbia River and Pacific Coastline.

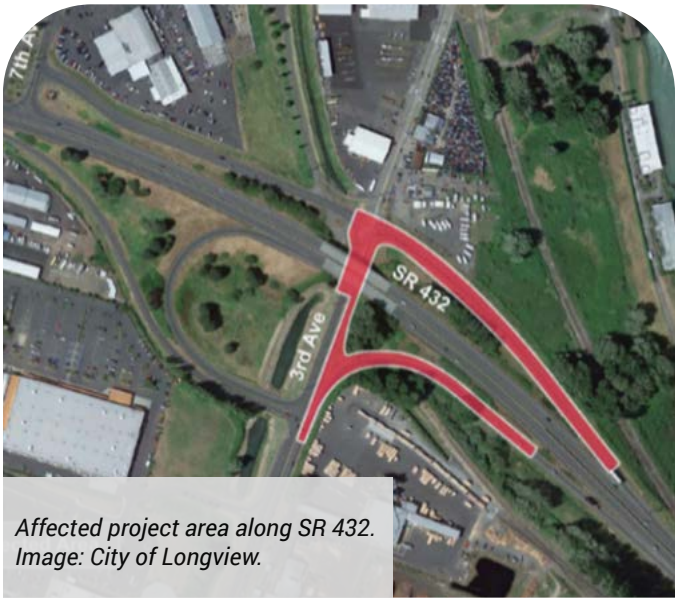
The project aimed to improve freight mobility on this critical corridor and directly benefit the neighboring community by improving queue lengths, delays, air quality, and noise levels. Additionally, the project aimed to reduce collisions and rollovers to improve the safety of the intersection and decrease the likelihood of hazardous material spills from freight collisions.

Selected Project Area Environmental Health Disparities Scores

The Washington Environmental Health Disparities (EHD) Map compares communities across the state in terms of their exposure and vulnerability to environmental hazards. It combines 19 indicators to arrive at an overall score of community environmental health risk. Scores are between 1 and 10, with a score of 10 meaning the highest exposure, vulnerability, or risk. EHD scores are calculated at the census tract level, so weighted scores are calculated for the project area based on the percentage of each census tract that falls within the project area.

Overall EHD Score	**8.0**
Environmental Exposures	**4.0**
Diesel	5.0
Ozone	3.0
PM2.5	4.0
Heavy Traffic	5.5
Socioeconomic Factors	**9.4**
Limited English Proficiency	6.2
People of Color	5.8
Poverty	9.9

Sources: DOH, 2024; BERK, 2024.



Affected project area along SR 432. Image: City of Longview.

1 BIPOC is defined as a racial identity other than White alone or an ethnic identity of Hispanic or Latino.

2 The project area is defined as the area within a one-mile radius of the specified project location. Demographic data is measured at the census tract level, so demographic statistics in this section are calculated based on the percentage of each census tract that falls within the project area.

ENGAGEMENT OVERVIEW

The City engaged with local businesses and freight companies throughout the project. During the second and third project phases, the City also held open houses to collect broad public feedback on design alternatives.

- **The project team engaged the business community during each phase to understand opportunities to minimize construction impacts to their operations and select a preferred alternative.** During Phase 3, the City hosted stakeholder interviews with representatives of five of the largest nearby cargo generators.
- **The City organized open houses during Phases 2 and 3 in partnership with Washington State Department of Transportation** to collect input from the community and other stakeholders on a set of design alternatives. The City chose its preferred alternative based on this input along with other engagement and traffic analysis.

OUTCOMES

The project benefited freight and neighboring businesses and residents by reducing congestion, queueing, and crashes on SR 432 and its onramps.

- **The project improved mobility for freight, residents, and commuters by reducing congestion.** The improvements shortened vehicle queues at the SR 432 westbound off-ramp/SR 411 intersection, minimizing spillbacks onto the main SR 432 corridor. Project team members have anecdotally observed that queuing has decreased. The City's analysis prior to the project's initiation projected that the project would reduce intersection delays by 30-60% during peak travel periods.
- **The project anecdotally decreased crash frequency at the SR 432 eastbound onramp due to reduced travel speeds and improved roadway geometry.** This reduced likelihood of collisions also decreases the probability of hazardous material spills from freight moving to or from the Port of Longview.
- **Nearby workers have experienced economic benefits, such as more efficient trips for truck drivers, consistent commutes for Port employees, and greater Port area economic improvements.** Improved freight mobility along the high-volume truck corridor benefits the employees of the region as well as the importers and exporters to the Port of Longview.
- **Improved mobility has led to decreased emergency response times, enhanced air quality, and improved driver safety** throughout the SR 432 corridor.

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DUWAMISH TRUCK MOBILITY IMPROVEMENTS

Case Study: Integrating Community Considerations in Freight Investments

AT A GLANCE

PROJECT SPONSOR: City of Seattle

COMMUNITY POPULATION: 749,267 (citywide)

LOCATION: Puget Sound Region, King County

PROJECT TYPE: Road

KEY PARTNERS: Seattle Freight Mobility Advisory Committee, Port of Seattle

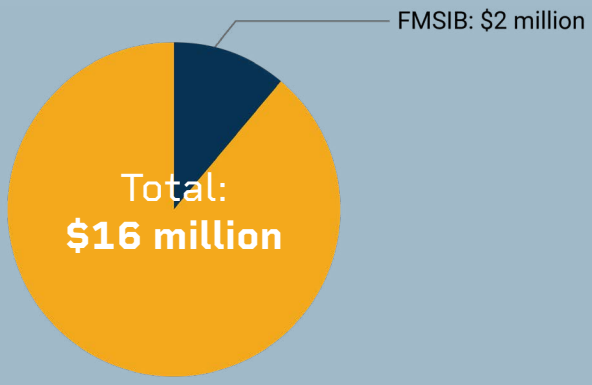
TIMELINE

FIRST FUNDS SECURED: 2006

PLANNING: 2009 - 2016

CONSTRUCTION: 2016 - 2018

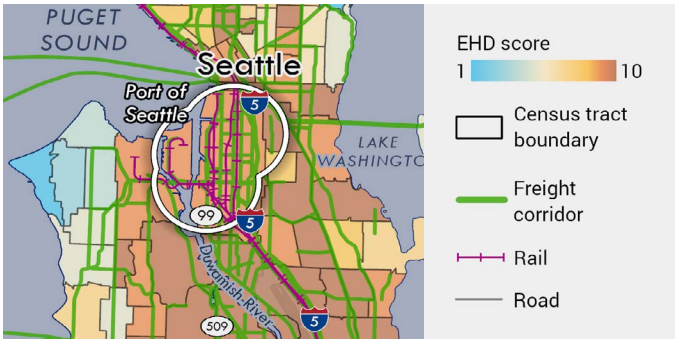
FUNDING

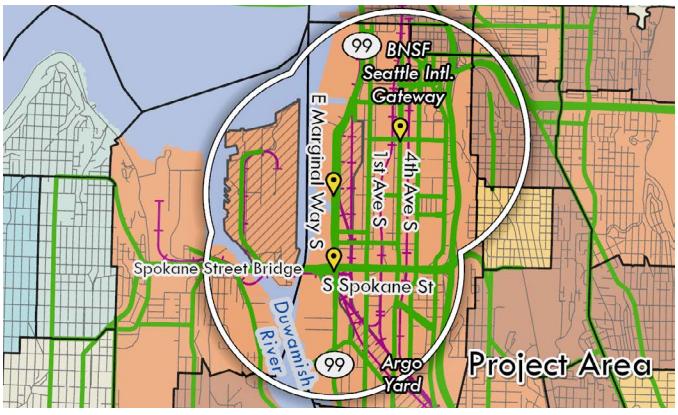


OTHER FUNDING PARTNERS: Private funding

ABOUT THE PROJECT

The City of Seattle piloted a freight mobility spot improvement program funded by the Washington Freight Mobility Strategic Investment Board (FMSIB). It included several small-scale projects to improve connectivity between the Port of Seattle, railroad intermodal yards, industrial businesses, and the regional highway system. Based on the success of the spot improvements, the flexible funding mechanism used, and the Freight Mobility Advisory Committee that provided guidance, the City has since formalized the spot improvement program and converted the ad hoc Committee into a permanent Freight Advisory Board. The City has also expanded its efforts to engage residents, workers, and truck drivers in the Duwamish/SODO neighborhood.





See the next page for more information about EHD scores.
Sources: DOH, 2024; BERK, 2024.

COMMUNITY OVERVIEW

The project area is in the Duwamish/SODO neighborhood and is home to one of two manufacturing/industrial centers (MICs), or areas with a high concentration of industrial activity, in Seattle. According to 2022 Census estimates, out of 13,155 residents in the project area, 55% indentified as Black, Indigenous, or People of Color (BIPOC)[1], compared to 41% of residents citywide.[2] The median income in 2022 was $85,387, compared to $115,409 citywide.

In addition to the area's residents, workers and truck drivers are part of the impacted community. This includes local workers who do not live in the project area, possibly due to displacement, but benefit from the project's safety and environmental improvements. One key group of workers are drayage truck drivers, many of whom the City and Port note are recent immigrants, often refugees, who speak English as a second language.

PROJECT PURPOSE

This project encompassed work at the S v St/SW Spokane St railroad crossing, E Marginal Way railroad access, and 4th Avenue S to improve freight travel by repairing and upgrading road surfaces, signage, and crossings. The work at each location was conducted as a separate phase, which the City of Seattle iteratively identified and implemented in collaboration with the Port of Seattle and a Freight Mobility Advisory Committee. The work included work on rail infrastructure, improvements to the street surface, installation of traffic signal controllers, traffic signal interconnects, CCTV cameras, variable, limited and fixed message signs, and installation of interconnects for railroad crossings and bridge openings.

Selected Project Area Environmental Health Disparities Scores

The Washington Environmental Health Disparities (EHD) Map compares communities across the state in terms of their exposure and vulnerability to environmental hazards. It combines 19 indicators to arrive at an overall score of community environmental health risk. Scores are between 1 and 10, with a score of 10 meaning the highest exposure, vulnerability, or risk. EHD scores are calculated at the census tract level, so weighted scores are calculated for the project area based on the percentage of each census tract that falls within the project area.

Overall EHD Score	**9.0**
Environmental Exposures	**10.0**
Diesel	10.0
Ozone	2.1
PM2.5	10.0
Heavy Traffic	9.7
Socioeconomic Factors	**5.5**
Limited English Proficiency	7.7
People of Color	9.5
Poverty	5.0

Sources: DOH, 2024; BERK, 2024.

The Spokane Street Bridge.

1 BIPOC is defined as a racial identity other than White alone or an ethnic identity of Hispanic or Latino.

2 The project area is defined as the area within a one-mile radius of the specified project location. Demographic data is measured at the census tract level, so demographic statistics in this section are calculated based on the percentage of each census tract that falls within the project area.

ENGAGEMENT OVERVIEW

During planning for the spot improvements, the City engaged the Freight Mobility Advisory Committee, a group established in 2002 and co-sponsored by the Seattle Department of Transportation and the Seattle Manufacturing Industrial Council, and conversed with local freight and business stakeholders.

- **Due to the industrial setting and challenges of engaging impacted workers, the City mainly engaged with local employers, freight operators, and Port and business representatives to identify desired improvements.**
- **The work was guided by the Freight Mobility Advisory Committee,** which included landowners, business owners, and others in the MIC, which met regularly to advocate for specific improvements. The City formalized the Committee in 2010 as an appointed, 12-member Freight Advisory Board.

GROUPS ENGAGED

- Freight Mobility Advisory Committee
- Port of Seattle
- Port terminal tenants
- International Longshore Workers Union
- Burlington Northern and Santa Fe Railway
- Union Pacific Southern Pacific Railway
- SODO Business Improvement Area

OUTCOMES

The success of the project not only addressed infrastructure needs but also led the City to formalize the Freight Spot Improvement Program, create a permanent Freight Advisory Board, and expand its efforts to engage residents, workers, and truck drivers in the Duwamish/SODO neighborhood.

- **The City and Port noted that the most significant outcome was a proof-of-concept of making funding available for freight mobility spot improvements.** The City and Port noted that the spot improvement approach balanced robust criteria for selecting projects with flexible funding, enabling meaningful improvements to be made quickly and efficiently. The project led to a formalized Freight Spot Improvement Program at the City, guided by a formalized Freight Advisory Board. The success of the program enabled the City to seek ongoing funding for this new Program and leverage early FMSIB funding in larger, more strategic projects.
- **In most cases, the project enabled the City to maintain or improve infrastructure before failure.** The project team used a needs-based identification system for spot improvements.
- **The project has led to efforts to expand engagement of communities, including workers, in the Duwamish/SODO area.** Since this project ended, there have been further efforts to connect with the Duwamish/SODO community, such as through the Port of Seattle's Port Community Action Team, which is a standing advisory group of Duwamish Valley residents. The Port recognizes issues of historical and institutional racism and is working to build capacity and give these communities more decision-making power over Port activities. The Port of Seattle and City of Seattle have also engaged the African American Chamber of Commerce, Business Improvement Areas, and the Seattle Planning Commission more frequently. Future efforts will also include better engagement with truck drivers, as established sustainability goals will require a transition from diesel-powered trucks to more sustainable, but also more expensive, electric vehicles.

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BIGELOW GULCH & FORKER ROAD REALIGNMENT

Case Study: Integrating Community Considerations in Freight Investments

AT A GLANCE

PROJECT SPONSOR: Spokane County

COMMUNITY POPULATION: 231,133 (citywide)

LOCATION: East Region, Spokane County

PROJECT TYPE: Road

KEY PARTNERS: Spokane Inland Empire Distribution Systems, Spokane Northeast Public Development Authority, Spokane Regional Transportation Council, Sullivan Industrial Business District, Washington State Department of Transportation

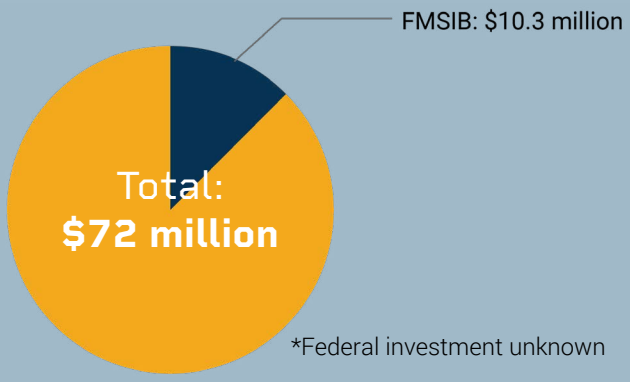
TIMELINE

INITIATION: 1997 - 1998

DESIGN: 1999 - 2022

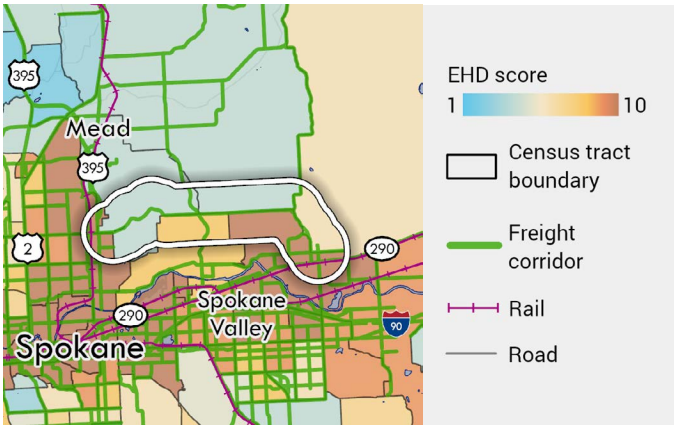
CONSTRUCTION: 2005 - 2024

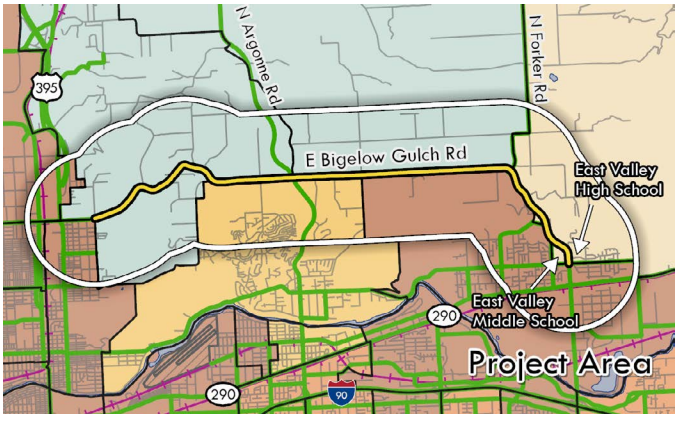
FUNDING



ABOUT THE PROJECT

The Bigelow Gulch Corridor Safety & Mobility Project funded by the Washington Freight Mobility Strategic Investment Board (FMSIB) expanded Bigelow Gulch Road to a four-lane road with wide shoulders, turn lanes, and a median; constructed an interchange; and built a pedestrian tunnel to connect the East Valley High and Middle Schools. The project is expected to reduce collisions, travel time, and emissions. It is expected to improve overall freight mobility and connectivity to jobs in rural communities.





See the next page for more information about EHD scores.
Sources: DOH, 2024; BERK, 2024.

COMMUNITY OVERVIEW

According to 2022 Census estimates, the 10,603 residents in the project area had a median annual income of $76,491, which was higher than the countywide average of $70,394.[1] Data shows that 8% of residents spoke a language other than English at home in 2022, compared to 7% countywide.

PROJECT PURPOSE

The Bigelow Gulch Corridor Safety & Mobility Project is a two-decades-long effort to address several issues on the corridor, including a high rate of serious and fatal collisions, road closures due to collisions, seasonal freight restrictions, and high traffic counts. The project replaced the existing two-lane road—which was in poor condition and had narrow lanes, no shoulders, and alignment issues—with a four-lane road with eight-foot shoulders and space for either a 12-foot turn lane or median depending on the location. The project has also added an interchange at Forker Rd and a pedestrian tunnel near Wellesley Ave to connect the East Valley High and Middle Schools. Altogether, the project is anticipated to reduce anticipated collisions by 29%; save 5.4 million person-hours of travel time; reduce emissions by 30,987 tons; and improve overall freight mobility and connectivity to jobs in rural communities.[2]

Selected Project Area Environmental Health Disparities Scores

The Washington Environmental Health Disparities (EHD) Map compares communities across the state in terms of their exposure and vulnerability to environmental hazards. It combines 19 indicators to arrive at an overall score of community environmental health risk. Scores are between 1 and 10, with a score of 10 meaning the highest exposure, vulnerability, or risk. EHD scores are calculated at the census tract level, so weighted scores are calculated for the project area based on the percentage of each census tract that falls within the project area.

Overall EHD Score	**6.5**
Environmental Exposures	**6.8**
Diesel	4.7
Ozone	9.2
PM2.5	9.2
Heavy Traffic	4.5
Socioeconomic Factors	**4.4**
Limited English Proficiency	3.0
People of Color	1.6
Poverty	6.3

Sources: DOH, 2024; BERK, 2024.

Bigelow Gulch Road prior to construction. Image: Spokane County.

1 The project area is defined as the area within a one-mile radius of the specified project location. Demographic data is measured at the census tract level, so demographic statistics in this section are calculated based on the percentage of each census tract that falls within the project area.

2 Benefits are calculated over a 20-year period following U.S. Department of Transportation guidance.

ENGAGEMENT OVERVIEW

The County conducted both broad community and stakeholder engagement and more tailored outreach to the nearby residents and property owners affected by the county's right-of-way acquisition of 178 parcels. This dual approach sought to collect feedback, communicate project impacts, help community members plan routes around construction areas, and ensure regular contact with affected property owners.

- **The project team used consistent, broad engagement tactics to help community members, including those primarily speaking a language other than English, understand and provide input throughout the project, resulting in some changes to route design and traffic control.** Community input gathered during the design phase supported many existing elements of design and refined elements of the Forker Road interchange. Open houses held prior to the start of construction in phases three through six offered an opportunity for the community to preview the construction schedule and impacts and work with the project team to adjust traffic control plans to reduce impact to property owners and the traveling public. The project team leveraged radio, news channels, billboards, and electronic signs to alert community members to traffic impacts. The County also prepared multilingual newsletters, translated letters, worked with English-speaking family members, and met with the local Light of the Gospel Church to engage Russian and Ukrainian families in the area. As a result of the county's multi-method engagement throughout the project, a greater proportion of the population was informed and able to provide input on route design, construction plans, and traffic impacts.
- **Several key stakeholders were engaged in corridor design and mitigation of construction impacts, leading to support from the business community, preservation of fire station emergency access, and school safety improvements.** Business and freight stakeholders, for example, were supportive of the conversion to a wider, all-weather road that could accommodate the weight of freight vehicles year-round. The project team also engaged area emergency services throughout the project, including close coordination with a county fire station on Bigelow Gulch Road to preserve emergency access during and following construction. Engagement with East Valley Middle and High Schools resulted in improved traffic flow at school pick-up and drop-off, as well as eliminating the need for students to cross a busy road. Specifically, the project team removed a four-way stop and constructed a new pedestrian tunnel between the two schools. While these were significant changes in the vicinity of the schools that occurred on the same timeline as school infrastructure projects, all entities worked closely together to mitigate construction impacts, coordinate timing, and conduct a legal review to ensure the district assets would not be negatively impacted.

ENGAGEMENT OVERVIEW (CONT.)

- **The project team tailored engagement to support affected property owners and residents through the right-of-way acquisition process.** Altogether, 178 parcels required some level of right-of-way acquisition. Affected property owners expressed concerns about the acquisitions, including a loss of property value, loss of historical and heritage features, and changes to farming operations. The project team worked closely with property owners and residents to build understanding of the project and offer accommodations within legal bounds. The Federal Highway Administration found that early right-of-way acquisition efforts of the project were noncompliant with federal funding requirements. The State and County thoroughly implemented a series of remedial actions, which along with outreach outside the formal right-of-way process, helped build support for the project and ensure future phases of the project were still eligible for federal funding. Outside of the formal right-of-way process, the project team engaged every affected property owner during design and construction. They heard similar concerns as those expressed during the formal right-of-way process and additional concerns about construction impacts, including driveway access, preservation of monuments and gates, and continuity of farming operations. To the extent possible, the project team addressed concerns, for example by providing local access during construction, protecting monuments and gates, facilitating relocation of mailboxes with the U.S. Postal Service, and adding gravel crossing points for farming equipment.
- **Environmental assessment engaged key stakeholders and concerned residents and resulted in the completion of required stream and wetland restoration.** The County conducted significant outreach to understand land impacts (e.g., to a migratory elk herd in the area) and researched possible impacts to springs and shallow wells in the area. During the mandatory federal Environmental Assessment (EA) process, the County received 557 comments, primarily from nearby residents who were also engaged in the ROW process. While a Finding of No Significant Impact was made and upheld throughout the project, environmental mitigation was still needed, including stream restoration (e.g., installing large culverts to reduce fish barriers) and wetland mitigation. Wetland mitigation included restoring wetlands on the route when feasible, and additional off-site mitigation to fully meet EA mitigation requirements (e.g., Fish Lake Watershed project; West Plains project). Off-site wetland mitigation enabled the county to move forward projects of interest that had previously lacked sufficient funding to pursue.

OUTCOMES

The project has mitigated traffic back-ups and improved safety. The community at large and many partners and business representatives have noted improvements. Affected property owners experienced the project differently, with some continuing to report concerns despite close engagement and others communicating an increased project understanding or support for the project.

- **Road safety has improved.** Prior to the road-widening, collisions often occurred due to unsafe passing on the two-lane road or turning without sufficient space to do so. Along the entire Bigelow Gulch project corridor, there were five fatal collisions and 283 injury collisions from 1997 to 2017. At Bigelow Gulch Road and Forker Road intersection for example, between 2008 and 2018, there were 20 crashes, whereas there have been only three since 2019. Notably, collisions due to failing to grant right-of-way to the proper vehicle and following too closely have not been observed since 2019.
- **Safety has increased for school-age children.** Children use the new pedestrian underpass when walking between East Valley Middle and High Schools. The corridor is gated and can be blocked off during non-school hours to avoid unwanted use or damage.
- **Freight companies leverage the new route year-round.** Prior to the project, some freight companies avoided Bigelow Gulch and freight access was seasonally restricted due to the weight of vehicles. The road improvements have addressed these issues.
- **There is broad community support for the project, including from some formerly unsupportive property owners.** The project team reported hearing highly favorable input about the project overall due to the safety and traffic improvements anticipated from a multilane highway with median and/or turn lanes. Despite some community concerns about delays and closures, the team has heard excitement that the project is nearing completion. The project team also shared anecdotally that while some nearby property owners have continued to express concerns about project impacts, such as high speeds and the visual impact of the road, others now say they understand why the project was done, noting it is now easier to access and use the road. The team also reports anecdotally that impacted property owners generally feel the County staff have been accountable to their concerns.
- **Both farm equipment and vehicles have adequate room to maneuver, leading to fewer slowdowns for all traffic.** The project preserves traffic flow and accommodates farm equipment through wider shoulders and a gravel median for crossing at specific access points. Wider shoulders also improve safety for all road users.

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- Map: BERK, 2024.

MYRA ROAD: SR 125 TO DALLES-MILITARY RD/12TH ST

Case Study: Integrating Community Considerations in Freight Investments

AT A GLANCE

PROJECT SPONSOR: City of Walla Walla

COMMUNITY POPULATION: 34,060 (citywide)

LOCATION: East Region, Walla Walla County

PROJECT TYPE: Road

KEY PARTNERS: City of College Place, TEA 21 (Valley Transit), Walla Walla County, Washington State Department Of Transportation

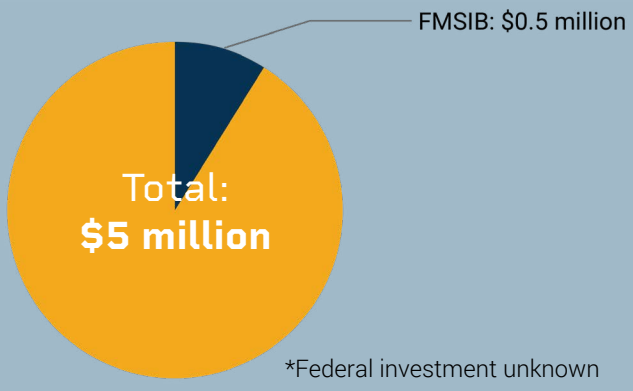
TIMELINE

DESIGN: 2010

CONSTRUCTION: 2013 - 2014

COMPLETION: 2014

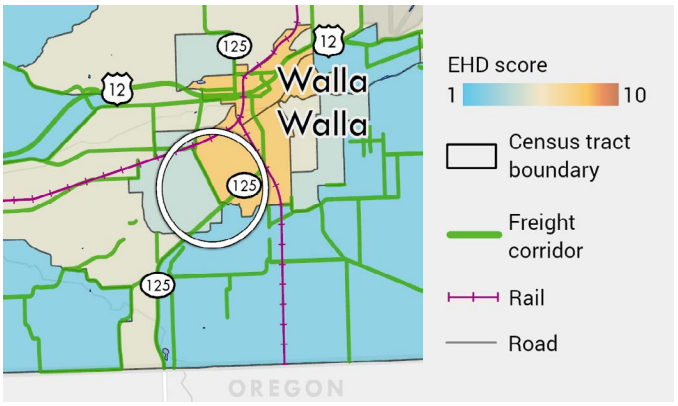
FUNDING

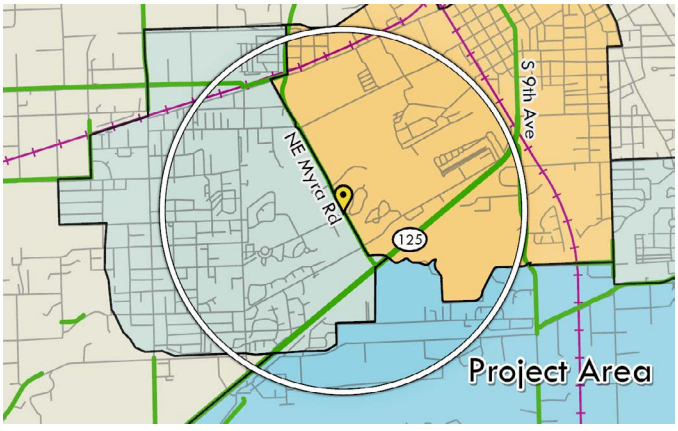


OTHER FUNDING PARTNERS: Federal Surface Transportation Program

ABOUT THE PROJECT

This project funded by the Washington Freight Mobility Strategic Investment Board (FMSIB) expanded Myra Road to a five-lane road, extended it to connect US 12 and SR-125, and installed a sidewalk and multiuse path. To make these improvements, the City of Walla Walla acquired about 40 properties. Early plans also included acquiring homes in a mobile home park, but based partly on community feedback, the project team determined mobile home park residents were not easily able to relocate due to income constraints. As a result, the project team adjusted the project alignment to avoid relocating this community and installed a noise wall along the new road.





See the next page for more information about EHD scores.
Sources: DOH, 2024; BERK, 2024.

COMMUNITY OVERVIEW

According to 2022 Census data, out of 8,202 residents in the project area, 29% identified as Black, Indigenous, or People of Color (BIPOC)[1], roughly matching the citywide rate of 33%.[2] The median income was $72,911, compared to $58,179 citywide.

During the project design phase, the City discovered that nearby residents in a mobile home community would be impacted by this project, as one of the design alternatives would have passed through the community and required some residents to move. The City also determined that these residents were less able to relocate than others in the city.

PROJECT PURPOSE

Myra Road is one of the city's busiest roads, currently serving more than 20,000 vehicles per day. This project extended the road service life and helped actualize the long-term vision for it to serve as a key freight route through the city. It also relieved congestion and safety concerns associated with freight travel on a parallel route on 9th Ave, which had previously been used as a freight route despite passing through residential neighborhoods.

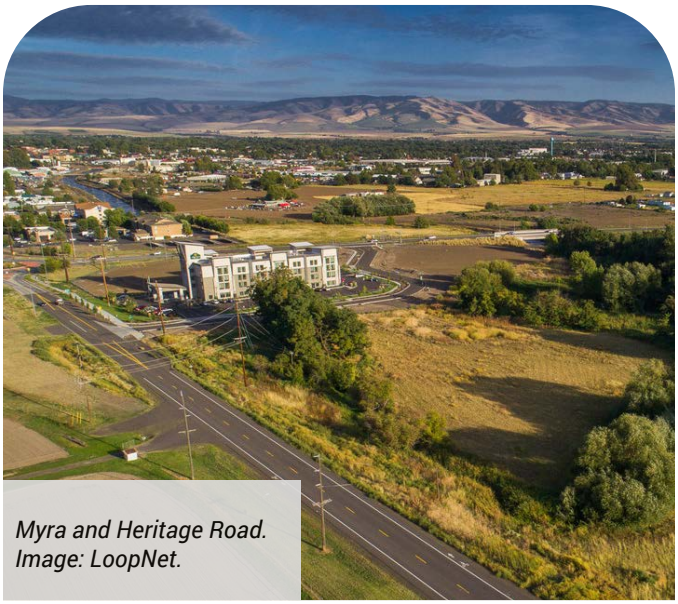
Myra Road is a shorter, more direct route between US 12 and SR 125 than nearby 9th Ave, but required wider roads and turning radii and additional lanes to accommodate freight travel. The City's analysis suggested the Myra Road improvements would cut over 3.5 minutes of travel time between US 12 and SR 125.

Selected Project Area Environmental Health Disparities Scores

The Washington Environmental Health Disparities (EHD) Map compares communities across the state in terms of their exposure and vulnerability to environmental hazards. It combines 19 indicators to arrive at an overall score of community environmental health risk. Scores are between 1 and 10, with a score of 10 meaning the highest exposure, vulnerability, or risk. EHD scores are calculated at the census tract level, so weighted scores are calculated for the project area based on the percentage of each census tract that falls within the project area.

Overall EHD Score	**5.4**
Environmental Exposures	**2.6**
Diesel	3.7
Ozone	10.0
PM2.5	4.0
Heavy Traffic	2.0
Socioeconomic Factors	**7.4**
Limited English Proficiency	7.2
People of Color	6.4
Poverty	6.8

Sources: DOH, 2024; BERK, 2024.



Myra and Heritage Road. Image: LoopNet.

1 BIPOC is defined as a racial identity other than White alone or an ethnic identity of Hispanic or Latino.

2 The project area is defined as the area within a one-mile radius of the specified project location. Demographic data is measured at the census tract level, so demographic statistics in this section are calculated based on the percentage of each census tract that falls within the project area.

ENGAGEMENT OVERVIEW

Information about community engagement was limited, as many project team members are no longer with the City and County. Community engagement included meetings with mobile home park residents and engagement with commercial and private property owners for right-of-way acquisition.

- **Residents of the mobile home park expressed their opinions about where the road would be constructed at community meetings.** After discussions with community, it was decided the road would run adjacent to the mobile home park, rather than through it, to prevent displacing those who could not afford to relocate.
- **The City successfully reached an agreement with farmers to acquire private farmland for the project.** The project team found that much of the farmland they hoped to acquire had been held by families for generations and owners had a deep attachment to the land. This, in combination with appraisers who were not familiar with appraising farmland, made private farmland the most challenging type of property acquisition for the project. The City and appraiser held iterative conversations with farmers during the process to build trust and understand the value associated with land topography and infrastructure, such as irrigation lines.

OUTCOMES

The project serves freight and community needs by increasing safety and multimodal connectivity and by reducing congestion on a key corridor. In addition, the City successfully navigated hurdles to build trust with local landowners and neighboring local governments.

- **Myra Road now serves as a key freight route through Walla Walla, relieving congestion on parallel 9th Ave.** The new road diverts freight from 9th Ave residential areas, which had created safety, congestion, and air quality concerns for local residents. Residents, especially those living on the east side of the city, now experience shorter travel times to US 12 and SR 125.
- **The City installed sewer and water infrastructure to support future development in the area as part of negotiations to facilitate the land acquisition.** This responded to community priorities and the City received positive feedback on this action.
- **The sidewalk and multiuse path filled gaps in the city's broader trail system.** Construction of the sidewalk and multiuse path completed much of the north-south gap in the area's trail system, increasing the accessibility of the area. Once the connection from Myra Road to Taumarson Road is completed, the Myra Road multiuse path will be connected to a multiuse path on the south end of the city, providing a safe option for travel by walking, biking, or rolling. Community members have expressed support for this feature of the project.
- **The project will enable more development across Walla Walla and College Place.** Myra Road is heavily used by College Place residents and the City expected that residents would see a financial benefit.

SOURCES

- Transportation Improvement Board. (n.d.). Myra Rd, SR-125 to Dalles-Military Rd/12th St. Retrieved August 15, 2024, from http://www.tib.wa.gov/projects/ProjectDetail.cfm?pid=8-4-176(021)-1
- City of Walla Walla. (2014). Myra Rd, SR-125 to Dalles-Military Rd/12th St FMSIB Funding Application.

LINCOLN AVE & MLK JR BLVD GRADE SEPARATION

Case Study: Integrating Community Considerations in Freight Investments

AT A GLANCE

PROJECT SPONSOR: City of Yakima

COMMUNITY POPULATION: 96,750 (citywide)

LOCATION: East Region, Yakima County

PROJECT TYPE: Grade separation

KEY PARTNERS: Burlington Northern and Santa Fe (BNSF) Railway, Federal Highway Administration, Yakima Transit

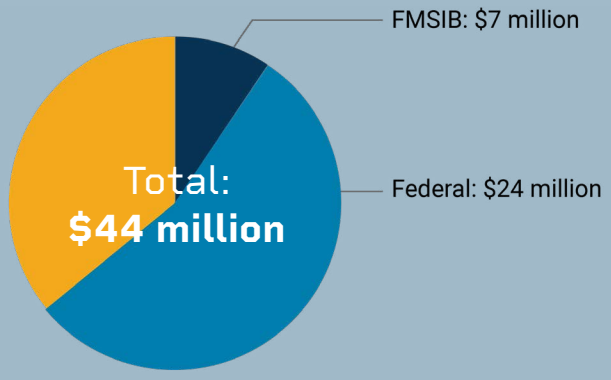
TIMELINE

IDENTIFICATION: 1997

CONSTRUCTION: 2010-2014

COMPLETION: 2012 (Lincoln Ave) and 2014 (Martin Luther King Jr Blvd)

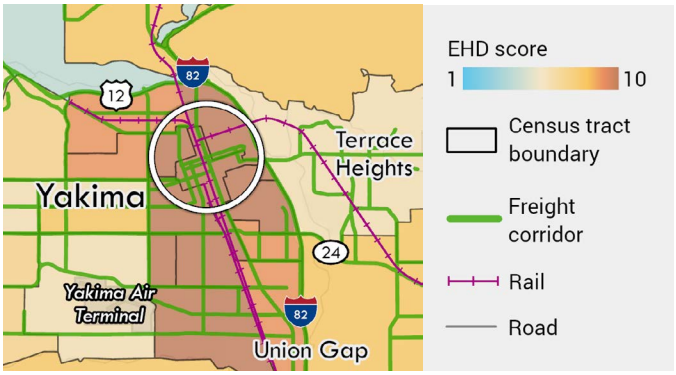
FUNDING

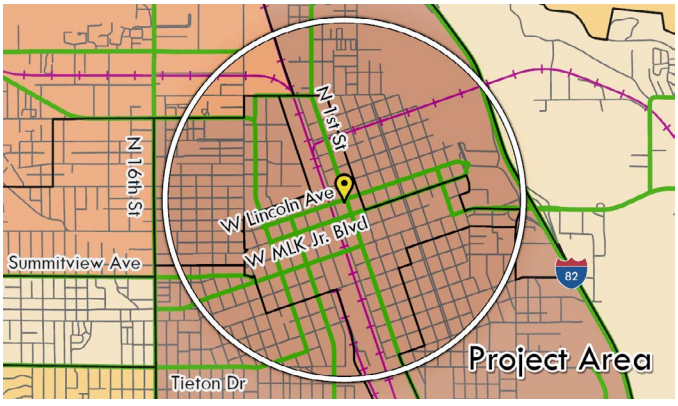


OTHER FUNDING PARTNERS: BNSF Railway, Public Works Trust Fund, Washington State Department of Ecology, Washington State Transportation Improvement Board

ABOUT THE PROJECT

The Lincoln Ave & Martin Luther King (MLK) Jr Blvd project funded by the Washington Freight Mobility Strategic Investment Board (FMSIB) built two underpasses beneath the BNSF railroad tracks to eliminate at-grade crossings at two major roadways in the City of Yakima. The projects were designed to reduce delays for emergency vehicles, freight, and other vehicles; improve safety for those driving, biking, and walking; and improve access to the city's central business district. Consistent engagement in project design and construction through public open houses, newsletters, and a business questionnaire helped address business and community concerns and improve project outcomes.





See the next page for more information about EHD scores.
Sources: DOH, 2024; BERK, 2024.

COMMUNITY OVERVIEW

Residents in the project area are disproportionately Black, Indigenous, or People of Color (BIPOC)[1] residents and residents with low incomes. According to 2022 Census estimates, out of 17,345 project area residents, BIPOC residents represented 77%, compared to 56% citywide. These BIPOC populations were predominantly Hispanic. The median household income within the project area was $36,352 in 2022 compared to $55,734 citywide.[2]

PROJECT PURPOSE

The project built two underpasses at Lincoln Ave and on Martin Luther King Jr Blvd (MLK Jr Blvd), which serve as a one-way couplet for traffic flowing east-west through the city. The project enhanced mobility for freight, transit, emergency vehicles, pedestrians, and bicyclists by eliminating train-induced delays at these two crossings.

In the 2000s, approximately 17 million tons of truck freight and 13 million tons of rail freight passed through the city. With a BNSF expansion that more than doubled the amount of daily trains, and a projected 44% increase in traffic, average delays at the intersections were expected to be 10 minutes by 2030, underscoring the importance of these improvements.

Additionally, the project sought to stimulate economic development in the central business district by easing congestion and improving customer access to businesses. Given that most of the city's population lives on the west side of the tracks and most services are located on the east side, the project better connected the community and ensured efficient access to services.

Selected Project Area Environmental Health Disparities Scores

The Washington Environmental Health Disparities (EHD) Map compares communities across the state in terms of their exposure and vulnerability to environmental hazards. It combines 19 indicators to arrive at an overall score of community environmental health risk. Scores are between 1 and 10, with a score of 10 meaning the highest exposure, vulnerability, or risk. EHD scores are calculated at the census tract level, so weighted scores are calculated for the project area based on the percentage of each census tract that falls within the project area.

Overall EHD Score	**9.9**
Environmental Exposures	**5.7**
Diesel	4.0
Ozone	8.0
PM2.5	10.0
Heavy Traffic	4.6
Socioeconomic Factors	**10.0**
Limited English Proficiency	10.0
People of Color	9.9
Poverty	10.0

Sources: DOH, 2024; BERK, 2024.

Completed Lincoln Ave railroad crossing. Image: Concrete Construction Magazine

1 BIPOC is defined as a racial identity other than White alone or an ethnic identity of Hispanic or Latino.

2 The project area is defined as the area within a one-mile radius of the specified project location. Demographic data is measured at the census tract level, so demographic statistics in this section are calculated based on the percentage of each census tract that falls within the project area.

ENGAGEMENT OVERVIEW

The project design team engaged with local business owners, officials, and the community through regular meetings, public open houses, and questionnaires to gather feedback and address concerns about project impact.[1]

- **The project design team engaged businesses via bimonthly meetings, a survey, and individual meetings.** Bimonthly meetings included local business owners, the City's Community Relations Manager and Mayor, and officials from groups like BNSF, WSDOT, TIB, Yakima County, Yakima City Council, and Greater Yakima Chamber of Commerce. A business questionnaire was distributed in English and Spanish to 309 businesses most directly impacted by the project and posted in the Yakima Herald to determine what impacts, if any, the project may have on businesses. The survey gathered feedback from a high proportion of businesses owned by BIPOC or that cater to BIPOC customers; businesses that cater to customers with low incomes; and businesses that employ workers who are BIPOC or speak languages other than English.
- **Prior to construction, two public open houses were held to gather community input on the project.** Attendees included property and business owners, representatives from resource and regulatory agencies, and the broader public. At the first open house, during the design alternatives selection phase of the project, attendees expressed concerns about how the project may affect businesses and the historic district. The second open house focused on the proposed preferred alternative. Public comments at this meeting raised concerns about potential impacts to business access and parking and more broadly questioned the need for the project.
- **Quarterly community update meetings were held to present progress and answer public questions**. The project team advertised these meetings in local media and special invitations were mailed to the most affected businesses. Newsletters, prepared in both English and Spanish, were distributed to business owners and operators in the immediate vicinity of the project.
- **There was formal consultation with the Confederated Tribes and Bands of the Yakama Indian Nation (Yakama Nation),** who indicated they would like to be involved in a cultural resource assessment. During construction, archaeological materials were discovered. Since a subsurface survey wasn't practical, the Environmental Assessment stated that protocols would be developed in consultation with the Yakama Nation.

GROUPS ENGAGED

- Business community (at least 29 businesses engaged via meetings)
- Burlington Northern and Santa Fe Railway (BNSF)
- General public
- Greater Yakima Chamber of Commerce
- Transportation Improvement Board (TIB)
- Washington State Department of Transportation (WSDOT)
- Yakima County
- Yakima City Council
- Yakima City Mayor

1 Available information about community engagement was limited to a public involvement plan and Environmental Assessment (EA) for the project, as many staff who were involved have retired or changed jobs since project completion. Most available information focused on the Lincoln Ave phase of the project.

Image: Michael S. Shannon, Creative Commons license

OUTCOMES

The project was successfully completed with several significant outcomes, including improved multimodal and freight mobility, lower emergency response times, better air quality, and better customer access to the central business district.

- **The new underpasses improved mobility for those walking, biking, rolling, and taking transit.** They eliminated delays from train crossings and incorporated a five-foot-wide sidewalk and bike lane in the underpasses to improve safety.
- **The project reduced emergency response time, congestion and delays related to train traffic, and train-vehicle collisions.** The project grade-separated two major east-west roads that serve over 20,000 vehicles per day, eliminating traffic delays. This also improved delivery of many transportation-related public services including emergency services, school buses, and mail delivery. Notably, Fire Station No. 1, the central emergency response service for the central business district, no longer needs to reroute vehicles during train crossings, saving valuable minutes in emergency response time.
- **Freight mobility increased, with especially notable results for local fruit companies.** In addition to the broader economic impacts of improved mobility, the project benefited Yakima's critical fruit distribution warehouses located west of the crossings. By streamlining truck traffic that must cross the tracks, the project improved efficiency for local traffic and supported increased train speeds for local freight operations.
- **The project contributed to better air quality by reducing emissions from idling vehicles,** particularly in congested areas near the downtown crossings.
- **The project stimulated economic development in the central business district.** By alleviating congestion caused by at-grade crossings, which had deterred residents and travelers from visiting the historic downtown and central business district, the project increased customer access to businesses in the project area and central business district. Anecdotal evidence suggests that the increased customer access has contributed to increased economic activity in the City.

SOURCES

- City of Yakima. (2004). B Street and Lincoln Avenue Railroad Grade Separations. Public Involvement Plan.
- City of Yakima. (2006). Executive Summary for Signature Briefing for Yakima Grade Separation: Lincoln Avenue and B Street Environmental Assessment.
- City of Yakima. (2006). Grade Separation Project: Lincoln Avenue and B Street Environmental Assessment
- City of Yakima. (2013). MLK, Jr. Blvd. Underpass Project About to Begin. Issues Brief.
- U.S. Census Bureau. (n.d.). U.S. Census Bureau QuickFacts: Yakima city, Washington. Retrieved from: https://www.census.gov/quickfacts/fact/table/yakimacitywashington,yakimacountywashington/VET605222

US 12 HIGHWAY RAIL SEPARATION

Case Study: Integrating Community Considerations in Freight Investments

AT A GLANCE

PROJECT LEAD: City of Aberdeen

COMMUNITY POPULATION: 17,000 (citywide)

LOCATION: Grays Harbor County

PROJECT TYPE: Grade separation

KEY PARTNERS: Grays Harbor Council of Governments, Port of Grays Harbor

TIMELINE

INITIATION: 2016

ALTERNATIVE DEVELOPMENT & SELECTION: 2013 - 2014

COMMUNITY ENGAGEMENT: 2013 - 2014; 2019; 2024 - Ongoing

DESIGN: 1999 - 2022

CONSTRUCTION: 2025 - 2028 (estimated)

COMPLETION: 2028 (estimated)

FUNDING

Total:
$74 million

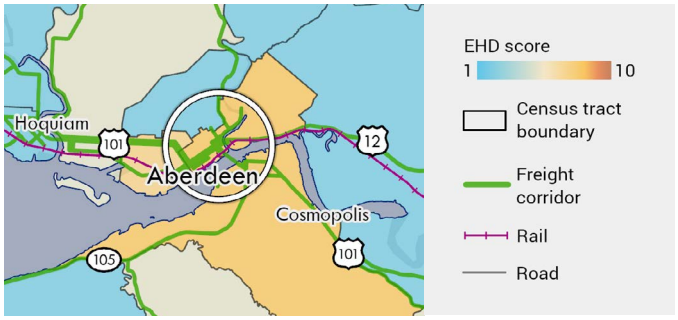
*Federal and FMSIB investment: $0

FUNDING PARTNERS: Grays Harbor County, Port of Grays Harbor, Washington State Connecting Washington Program, Washington State Department of Transportation

ABOUT THE PROJECT

The Washington Freight Mobility Strategic Investment Board (FMSIB) elected to profile this project, although it was not funded by FMSIB, to contribute geographic diversity across the collection of case studies profiled in this report.

This project removes one of seven at-grade railway crossings along the US 12 corridor in East Aberdeen to address long-term traffic challenges. Since the early 2000s, increased train activity to the Port of Grays Harbor has resulted in congestion and long wait times to access homes, beaches, and the busiest commercial area in East Aberdeen. The City of Aberdeen, Grays Harbor Council of Governments (COG), and Port of Gray's Harbor have collaborated on this project to address these issues for the community, businesses, and tourists. Community and stakeholder input across two separate design phases supported selection and refinement of the project's preferred alternative.



See the next page for more information about EHD scores.
Sources: DOH, 2024; BERK, 2024.

COMMUNITY OVERVIEW

According to 2022 Census estimates, of the 4,802 residents in the project area, 33% of residents identified as Black, Indigenous and People of Color (BIPOC),[1] similar to the citywide rate of 31%.[2] The median income of residents in the project area was $50,613, roughly equal to the citywide median of $50,008. One sixth (16%) of residents spoke a language other than English at home, equal to the citywide proportion.

One impacted community is nearby households with low-to-moderate incomes, many of whom access the Walmart in the project area. Other local communities who will likely benefit from the project include local delivery drivers and property and business owners on the US 12 corridor.

PROJECT PURPOSE

This in-progress project intends to increase access to East Aberdeen commercial area and the Washington coast by adding an overpass and a nearby roundabout to improve the flow of traffic on US 12. US 12 is the arterial roadway for residents and businesses in the area and is designated as a Critical Rural Freight Corridor because it provides vehicle freight access to the Port of Grays Harbor and the Westport Marina. Prior to the project, trains passing through the corridor would cause road traffic delays of up to 30 minutes, including for emergency vehicles waiting to cross the tracks. The City and the Grays Harbor COG expect that the project will create improvements including uninterrupted access for vehicles, bicyclists, and pedestrians to the commercial area south of US 12 and the railroad; reduce delays and improve traffic flow on US 12; and enhance safety for vehicles in the commercial areas. This improved access and safety will benefit tourists, local commuters, and residents and will enable growth in the rural regional economy.

Selected Project Area Environmental Health Disparities Scores

The Washington Environmental Health Disparities (EHD) Map compares communities across the state in terms of their exposure and vulnerability to environmental hazards. It combines 19 indicators to arrive at an overall score of community environmental health risk. Scores are between 1 and 10, with a score of 10 meaning the highest exposure, vulnerability, or risk. EHD scores are calculated at the census tract level, so weighted scores are calculated for the project area based on the percentage of each census tract that falls within the project area.

Overall EHD Score	**6.8**
Environmental Exposures	**1.8**
Diesel	4.3
Ozone	4.0
PM2.5	1.8
Heavy Traffic	3.0
Socioeconomic Factors	**9.5**
Limited English Proficiency	7.7
People of Color	6.6
Poverty	9.3

Sources: DOH, 2024; BERK, 2024.

Conceptual Design for Chehalis Street Overcrossing. Image: Grays Harbor Council of Governments.

1 BIPOC is defined as a racial identity other than White alone or an ethnic identity of Hispanic or Latino.

2 The project area is defined as the area within a one-mile radius of the specified project location. Demographic data is measured at the census tract level, so demographic statistics in this section are calculated based on the percentage of each census tract that falls within the project area.

ENGAGEMENT OVERVIEW

The Grays Harbor COG and the City collected input from the broad public and neighboring business and property owners during the design phase. Ongoing engagement consists of notifications to the public and impacted properties.

- **Community feedback provided across multiple years and settings informed selection and refinement of the preferred design alternative.** During the alternatives selection phase in 2013-2014, the Grays Harbor COG deployed an online survey, hosted two open houses, sent mailers, and met with nearby property owners to discuss project alternatives. Survey responses and other recorded community priorities supported the design alternative that was ultimately chosen as the preferred alternative. After the project lead role shifted from Grays Harbor COG to the City, the project team hosted an online open house in 2019 to update the community with project details and further refine the preferred alternative.
- **The City has provided public notices in English and Spanish since selecting the preferred alternative.** The City's outreach in 2024 includes updates through the project website and social media accounts.
- **The City is currently leading outreach to local businesses and property owners** to evaluate impacts to local stakeholders and has developed a communication plan to guide this work.

Image: Every Students via AberdeenLive

OUTCOMES

The project is widely supported by local and regional stakeholders and is expected to improve mobility and convenience, bolster the local economy, and improve safety.

- **The City has received verbal support and letters of support for the project from a local level to a regional and state level.** The project team noted that the County, Port of Grays Harbor, U.S. Department of Transportation, WSDOT Rail Office, and Washington State Legislature are supportive.
- **The improvements will eliminate delays and reduce vehicle congestion caused by trains.** The project team reports that many locals have historically planned their trips to the commercial area around the possibility of extended train delays, sometimes avoiding the area altogether. The grade separation will allow locals to accurately plan their trips to visit these areas. Reduced congestion will lead to improved vehicle freight mobility, better air quality, lower greenhouse gas emissions, and reduced emergency response times along the corridor.
- **The improvements for mobility will bolster the local economy by enabling more freight shipments and jobs at the Port and improving tourist access along the corridor.** This will support local jobs.
- **The new overpass will improve bicycle and pedestrian access across the railway** due to the inclusion of sidewalks and bicycle lanes.
- **The project will improve safety** for vehicles in the area, as the grade separation will reduce vehicle-train conflicts and the roundabout component of the project will improve safety for vehicles entering the commercial area.

SOURCES

- Grays Harbor Council of Governments. (2020, May 5). Support for Aberdeen US 12 Highway-Rail Separation Project. City of Aberdeen. Retrieved from: https://aberdeenwa.gov/DocumentCenter/View/1018/Letter-of-Support-GHCOG
- Aberdeen US 12 Highway-Rail Separation Project. (n.d.). About the project. Retrieved from: https://us12highwayrailseparation.participate.online/#about
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E. Key Findings from MPO/RTPO Research

To inform FMSIB's consideration of best practices for community engagement and impact mitigation, five of the state's Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs) (external link) were interviewed and the other MPO and RTPO websites scanned for policy documents and plans. Key findings described below cover best practices for project prioritization and community engagement.

Background

Washington's 12 MPOs and 17 RTPOs provide a regional venue for long-range planning and project prioritization, including for regional transportation priorities.[64] Similar to FMSIB, MPOs and RTPOs are most influential in the project sourcing and prioritization phases of the project lifecycle. Both MPOs and RTPOs prepare long-range transportation plans, typically in the 20-40-year range. Based largely on the long-range plan, MPOs and RTPOs then prepare shorter-term transportation improvement plans (TIPs) in the two- to six-year range and a Unified Planning Work Program (Unified List) of priorities for the next one to two years. Once a project is being implemented and evaluated following project completion, it largely is led by the project sponsor.

MPOs and RTPOs allocate few to no funds for transportation investment in the state and/or because the implementation of state regulations limits their influence.

- MPOs allocate only a small portion of their funding, typically for surface transportation block grants, active transportation alternatives, carbon reduction, congestion mitigation, and air quality improvements. Administrative decisions have also altered how state regulations are implemented, limiting MPOs to a coordination and communication role.
- RTPOs allocate none of their funding. Moreover, if they are in the state TIP, projects in RTPO regions need not be in the RTPO TIP, to be candidates for funding. Some participants indicated that those two factors constrain RTPO influence—and therefore rural project prioritization—in the state.

However, MPOs and RTPOs seek to aggregate and elevate the voice of local participants to the extent possible in developing regional transportation priorities and play a key role in qualifying projects to apply for state funding through inclusion in regional and state TIPs. MPOs are required by Title VI of the Civil Rights Act to conduct community engagement and address income, age, and race. MPOs are also required to have public participation plans (PPPs) and are encouraged to conduct environmental justice assessments.

Methodology

Recognizing the diverse approaches MPOs and RTPOs take to long-range planning, the Cascadia Consulting Group research team met with WSDOT's Tribal and Regional Integrated Planning team to share the FMSIB project engagement goals and request guidance for how best to engage with MPOs and RTPOs around the state. Based on the goals of the engagement and topics to be covered, WSDOT recommended interviews as the engagement method. Cascadia subsequently interviewed five of these regional planning entities, as noted in Exhibit 6.

Exhibit 6. MPO and RTPO Interviews

Organization	MPO, RTPO, Both
Cowlitz-Wahkiakum COG	MPO
Southwest WA RTPO	Both
Spokane RTC	Both
Walla Walla Valley MPO	MPO (also performs RTPO duties for Walla Walla County)
Yakima Valley COG	Both

Sources: Cascadia, 2024; BERK, 2024.

Interviews were focused on understanding current practices and identifying best practices for community engagement throughout the long-range planning lifecycle, including how engagement and equity are represented in project selection and prioritization criteria. Cascadia also reviewed PPPs and any materials provided by interviewees.

The BERK team further reviewed websites for all MPOs and RTPOs statewide and identified PPPs and other documents related to community outreach, engagement and impact consideration. These documents were scanned for notable material to expand and add detail to the overall picture of MPO and RTPO policies and practices.

Findings and Best Practices

Most MPOs and RTPOs apply a range of strategies to prioritize projects and engage community members to best support overburdened communities. See **Exhibit 7** at the end of this section for a summary of strategies organized by MPO and RTPO. However, some MPOs and RTPOs struggle with capacity constraints, both within their organizations and in the communities they serve, and aspire to improve cooperation and coordination with FMSIB and other statewide entities. The following subsections highlight key findings and related best practices collected from this research.

Finding 1. MPOs and RTPOs include input from locally affected participants in decision-making around transportation funding priorities. They have adopted a variety of structures and standing bodies to integrate equity in these processes.

MPOs and RTPOs play a key role in identifying and prioritizing regional transportation projects through their long-range, Transportation Improvement Plan, and Unified List planning efforts. These planning efforts involve community engagement, including engagement of overburdened communities. In some parts of the state, interested community organizations and members also consistently shape regional transportation priorities through MPO/RTPO processes.

MPOs/RTPOs also improve communication efficiency and effectiveness, serving as a critical communication and coordination hub between state agencies, local jurisdictions, and transportation stakeholders and ensuring that community input reaches transportation funding decision-makers. Interviewees noted that MPOs/RTPOs have strong relationships with diverse interests and can therefore connect interested parties efficiently. This role can extend beyond transportation, as many of these organizations also support broader regional planning efforts (e.g., economic development). They also observed that MPOs and RTPOs provide synthesized input to state agencies that represent the diverse perspectives of local jurisdictions and stakeholders on strategic freight and other transportation priorities.

The following best practices were identified for institutionalizing consideration of equity in these processes.

- **Develop an equity framework to guide equity integration across the organization.** Spokane RTC uses an Equity Framework, developed in 2022, to guide the agency's work.[65] The framework recommends ways to: integrate equity in engagement processes; increasing access to opportunities; sustainability, health, and safety; equity spending and project prioritization; and performance evaluation metrics.
- **Form an equity working group to integrate equity in organizational planning and operations.** Spokane RTC formed a Transportation Equity Working Group comprised of local residents to "provide important input related to the scope of SRTC's outreach and engagement strategies, the effectiveness of our methods for identifying transportation projects with positive equity impacts, and potential opportunities to grow or evolve what we do as an agency to better ensure that the benefits (and burdens) of our transportation system are being fairly distributed to all residents in SRTC's planning area."[66] The working group is governed by a charter that includes the purpose, proposed activities, composition, recruitment, and meeting cadence. Such working groups support equitable engagement throughout the planning lifecycle as well as equity integration within the organization.

- **Form community advisory groups on key topics.** All four MPOs and RTPOs interviewed have a transportation advisory committee, a public transportation/human services advisory committee, or both. These committees are comprised of members of the public with an emphasis on those most impacted by transportation decisions (e.g., those with disabilities, low incomes, transit dependency). They coordinate with the technical advisory committee and MPO/RTPO leadership to inform MPO/RTPO priorities and decisions. Community advisory committees provide a consistent, active avenue for integrating community input and equity considerations in organizational goals, priorities, and decisions.
- **Include criteria to evaluate for equity and community engagement in project selection and prioritization criteria.** Spokane RTC and Walla Walla Valley MPO both explicitly integrate equity and/or engagement into their project selection and prioritization criteria.
  - Walla Walla Valley MPO gave a five percent to 10% weight to community input in project prioritization decisions.
  - Projects proposed for Spokane RTC's Unified List were evaluated across seven areas, each worth up to 30 points. Equity is explicitly covered and public outreach is included in two questions representing up to 20 points.

  Spokane RTC's 300-point evaluation criteria for the 2024-2026 TIP took a similar approach, explicitly integrating freight in two questions (up to 15 points), community engagement in one question (up to 15 points), equity in one question (up to 5 points), and multi-modal, public transportation, and environmental benefits in multiple questions (up to 50 points). The criteria pre-dated Spokane RTC's Equity Framework and Equity Working Group, so demonstrate the evolution in the integration of equity and community engagement in the evaluation process. Finally, in a recent call for projects for maintenance and preservation, Spokane RTC also mapped road condition and disadvantaged community data together to help determine potential community impact and inform project prioritization.

Finding 2. Equitable community engagement practices vary among MPOs/RTPOs, including a number of best practices.

Specific engagement approaches vary across organizations:

- **Walla Walla Valley MPO and Spokane RTC both leverage mapping tools** – Walla Walla to collect community input about potential project locations, and Spokane to identify disadvantaged communities by census tract based on a set of criteria.
- **Spokane RTC conducts thoughtful and intentional broad and targeted engagement.** This RTC emphasizes being deliberate and strategic in its engagement efforts, conducting both general and targeted outreach across the local media, local agencies and governments,

community organizations, the private sector, and Spokane-area residents. They begin engagement early, in the "discovery phase" of a new effort, use demographic data to identify disadvantaged communities and integrate these considerations into their planning and engagement strategies. They also use specific planning efforts (e.g., bike safety, pedestrian plans) to engage stakeholders with focused interests.

- **Walla Walla Valley MPO conducts traditional strategic planning.** Walla Walla Valley MPO follows a conventional model by first engaging the public to establish regional goals and visions. They use this input to define objectives and metrics, balancing community input with feasibility and budget constraints.
- **Cowlitz-Wahkiakum COG conducts freight-focused engagement.** With limited staff capacity, this organization focuses more on engaging with freight and business stakeholders rather than broad community outreach. They hold specialized meetings and use surveys to gather input from this group. Surveys are also used to gather input from the broad public.
- **Yakima Valley COG conducts localized, inclusive engagement following the needs of jurisdictions.** In addition to their broad engagement and work to connect with transportation-related groups, Yakima Valley COG places a strong emphasis on engaging Hispanic and LEP populations. They have made significant efforts to build relationships and trust within these communities, using bilingual materials and culturally sensitive approaches.

The MPOs/RTPOs interviewed demonstrate the following best practices:

- **Develop and implement a Public Participation Plan (PPP) that is based on current best practices.** PPPs can take many forms and vary in quality; MPOs are required to have a PPP. A PPP based on the International Association for Public Participation (IAP2) best practices, such as that developed and implemented by Spokane RTC, provides a comprehensive foundation from which to engage the community throughout planning and prioritization processes. These plans should be updated prior to the next planning cycle.
- **Leverage partnerships to increase outreach capacity.** Spokane RTC has also increasingly relied on partners to expand their reach and depth of engagement, and to make it more efficient for the community to participate in government processes. For example, Spokane RTC recently participated in an event hosted and marketed by Spokane Transit Authority. Spokane RTC outreach staff also partner internally, supporting planners to devote a small portion of their time to outreach. This approach helps spread the outreach workload and cultivate a two-way conversation between planning staff and the community.

- **Measure project impact and outreach outcomes.** Yakima Valley COG may gather project impact information following the completion of the next Regional Safety Action Plan; Spokane RTC and Yakima Valley COG have begun to measure outreach outcomes. Spokane RTC has begun to measure the quantity, audience, and method for engagement, and their PPP includes proposed outputs, measurement, and indicators for engagement. Yakima Valley COG will update four-factor analysis for their next Title VI plan. The four factors are demographics of key groups (e.g., limited English proficiency), participation from key groups, the nature or importance of the program for which outreach is conducted, and the funding and resources available to Yakima Valley COG.

Finding 3. It can be difficult to attract community attention in long-term planning processes. MPOs and RTPOs have developed a number of best practice strategies to overcome this barrier.

The MPOs/RTPOs interviewed reported that community attendance at meetings related to long-range planning is generally low, even when there are good relationships with community organizations. Engagement is much higher when specific issues directly affecting individuals or communities arise, such as funding prioritization or specific project impacts.

The following related best practice strategies were identified:

- **Separate long-range planning work into sub-topics and engage deeply on those sub-topics.** Spokane RTC identifies and engages key community groups and stakeholders around several smaller planning efforts such as the Bicycle Safety Plan, Pedestrian Plan, Regional Safety Action Plan, Climate Resiliency Plan, Smart Mobility Plan, Congestion Management Plan, Commute Trip Reduction, and corridor plans. They find that completing the long-range planning work in smaller, more focused pieces means it is easier for the community and stakeholders to weigh in, and they can give the planning the attention it deserves. Spokane RTC then integrates the findings of these smaller planning efforts into their long-range planning update and conducts additional outreach at that time.
- **Leverage topics that typically garner attention.** Interviewees noted that it is possible to engage people around topics that tend to attract a high level of attention and move their feedback forward into long-range transportation planning. Walla Walla Valley MPO mentioned that truck parking, bicycle and other multimodal infrastructure improvements, and any likely business operational impacts from road closures tend to receive disproportionate community attention that can be leveraged. Yakima Valley MPO noted that even seemingly unrelated topics, such as the accessibility of the court for people with custody cases, can be avenues to collect and move forward community input around transportation planning issues. Spokane RTC said that the topics that community members

typically comment on the most are safety (esp. active transportation), congestion in certain areas, and needed public transit.

- **Target communication to specific audiences.** Beyond tailoring communication around specific topic areas, which enables MPOs/RTPOs to reach interest groups, interviewees from the Spokane RTC and Yakima Valley COG recommended making information accessible and understandable. Best practices include simplifying language and translating materials where necessary. They also spoke to conducting direct outreach and relationship-building with communities, especially Limited English Proficiency (LEP) groups, to overcome distrust in government and make these groups feel more comfortable engaging. This involves using appropriate channels for different demographics, such as attending community events, distributing flyers, and using Spanish-language radio.
- **Emphasize practical and immediate project impacts.** All of the interviewed MPOs/RTPOs said that highlighting impacts that people have experienced or will likely experience from transportation system changes helps to increase engagement. Cowlitz-Wahkiakum COG noted that it is crucial to connect long-range topics to potential impacts in people's backyards. Within long-range planning efforts, the Spokane RTC incorporates personal stories and visual elements, such as photos of people affected by transportation incidents, to illustrate the immediate consequences of the issues being addressed.
- **Overcome confusion about long-range planning efforts.** The interviewee from Yakima Valley COG noted that there is sometimes confusion from the community about what topics are included within different planning efforts and how to contribute. In addition to breaking planning up into more manageable pieces, the Spokane RTC found that a way to reduce confusion about participation is to establish predictable communication practices, such as distributing press releases at specific times, to create a sense of reliability and structure in outreach efforts.

Summary of RTPO and MPO Engagement Practices

Exhibit 7 presents a summary of published engagement practices from each RTPO and MPO to engage community members and consider community impacts of transportation projects.

Exhibit 7. MPO and RTPO Engagement Document Scan & Interviews (external links)

Organization	Type	Document	Summary
BFCOG - Benton-Franklin Council of Governments	MPO and RTPO	Public Engagement Plan (2023)	▪ The PEP "establishes consistent procedures to ensure people have reasonable opportunities to be involved in the regional planning process" ▪ Purpose is to "be a guide for community involvement, public outreach, and a 'one-stop shop' for the public to learn how to engage in the regional planning process" ▪ Outlines guiding principles and goals of public engagement plan ▪ Includes a public engagement toolbox with public engagement methods (pg. 20)
CDTC - Chelan-Douglas Transportation Council	MPO and RTPO	Public Participation Plan (2014)	▪ CDTC states that "early and ongoing involvement of all interested and affected citizens and businesses improves the outcome of the transportation decision making process, and therefore will maintain a consistent process for involving the general public and all stakeholders in the development of transportation plans and programs." ▪ CDTC under Title VI public outreach "will include special populations within the community such as: Minority and Low Income, Non-English Speaking, Disabled and Elderly populations" ▪ Tools to gather public input include: direct contact, public surveys, website, and social media.
CWCOG - Cowlitz-Wahkiakum Council of Governments	MPO	Public Participation Plan (2017)	▪ The PPP is CWCOG's "official policy for involving the public in any federal, state, and local planning process they may undertake" ▪ Purpose is to "provide a documented public involvement method that address opportunities for the public to review and comment at key decision points within the planning process" ▪ Outlines objectives for public involvement ▪ Lists opportunities/types of public involvement, timelines (pg. 5)

Organization	Type	Document	Summary
IRTPO - Island Regional Transportation Planning Organization	RTPO	Public Participation Plan (2023)	▪ The Plan aims to "Ensure broad participation, solicit input from diverse stakeholders, and ensure that no single group or interest dominates the process." ▪ Provide equitable opportunities for public participation in each of the four Island County planning areas (North Whidbey, Central Whidbey, South Whidbey, and Camano Island).
LCVMPO - Lewis Clark Valley Metropolitan Planning Organization	MPO	Community Voice (n.d.)	▪ The MPO has a "Community Voice" webpage that welcomes ideas and initiatives from residents. Topics include economic development, housing and neighborhood enhancements, and infrastructure and environment, and others.
NEW RTPO - Northeast Washington Regional Transportation Planning Organization	RTPO	Public Participation Plan (2021)	▪ NEW RTPO aims to “create opportunities for all segments of the community to learn about and engage in issues under consideration by NEW RTPO, particularly those segments that may be directly impacted by the outcomes of specific recommendations and decisions.” ▪ NEW RTPO plans to “inform and educate the public about regional issues using a variety of means, including, but not limited to: regular and special meetings, printed materials, electronic communication.”
OCOG - Okanogan Council of Governments	RTPO	Public Engagement (2022)	▪ When the Council updated its Human Services Transportation Plan in 2022, they implemented a regional survey, public open houses (4), and invited the public to the OCOG public meetings.
PRTPO - Palouse Regional Transportation Planning Organization	RTPO	n/a	▪ No Public Participation Plan published as of September 23, 2024.

Organization	Type	Document	Summary
PRTPO - Peninsula Regional Transportation Planning Organization	RTPO	Public Participation Protocols (2021)	▪ PRTPO relies on electronic communications and technology as much as possible and works to support virtual engagement opportunities that enable participation without necessitating travel ▪ Public Information Protocols include posting on the PRTPO website, distributing email to Listserv, inviting the public through newspaper media, and posts videos on the organization's YouTube channel
PSRC - Puget Sound Regional Council	MPO and RTPO	Public Participation Plan (2023); Transportation Visualization Tool (undated); Tribal Consultation Guide (2015)	▪ The PPP aims to "[articulate] how the agency approaches public engagement" and "increase overall awareness of regional planning activities, paying specific attention to communities that have been adversely impacted by past planning decisions." ▪ The Transportation Visualization Tool displays data on various aspects of the transportation system in the context of other regional information, such as demographics and regional centers, for public reference. ▪ The Tribal Consultation Guide is a statewide resource, intended to share best practices for collaboration and recommendations for Tribes and MPOs / RTPOs working together.
QUADCO - Quad-County Regional Transportation Planning Organization	RTPO	Public Involvement (2018)	▪ As part of the update for the Regional Transportation Plan, QUADCO facilitated input of key stakeholders and the general public. Engagement included: stakeholder meetings, survey, open houses, and website updates.
San Juan County	None – see Summary	Public Participation Plan first draft (2024)	▪ San Juan County is the only county in Washington that is not part of a designated RTPO and so does not need to comply with RTPO planning requirements. However, the County is producing a PPP to "inform, consult, involve, and collaborate" with residents on its 2025 Comprehensive Plan update. ▪ Engagement includes: Project Information Sheet and FAQs, project online presence via Engage Platform, ARC GIS Portal open to public, online polls, workshop series, and planning commission and county meetings.

Organization	Type	Document	Summary
SCOG - Skagit Council of Governments	MPO and RTPO	Public Participation Plan (2017)	▪ The PPP seeks to "create opportunity for appropriate broad-based, early, continuous and meaningful public participation in all plans, programs and projects" and "engage the public in decision-making processes through a constructive community dialogue."
SWRTPO - Southwest Regional Transportation Planning Organization	MPO and RTPO	Public Participation Plan (2024)	▪ The Public Participation Plan establishes consistent procedures to ensure people have reasonable opportunities to be involved in the regional transportation planning process and provides examples of the types of tools and techniques RTC may use to communicate with the public, stakeholders, and planning partners.
SW RTC - Southwest Washington Regional Transportation Council	MPO and RTPO	▪ Draft Public Participation Plan (2024) ▪ Public Participation Plan (2020)	▪ Currently accepting comment on its Draft 2024 PPP ▪ Outlines guiding principles and goal of public participation ▪ Follows similar language and form to BFCOG's PEP ▪ Lists engagement methods and techniques (pg. 40)
SRTC - Spokane Regional Transportation Council	MPO and RTPO	Public Participation Plan (2021)	▪ SRTC is committed to “inform the community about public meetings and create awareness of how the public can get involved in the regional transportation planning process.” ▪ SRTC is determined in “including all residents and communities in the region in the planning process, focusing on historically excluded and underinvested areas.”
TRPC - Thurston Regional Planning Council	MPO and RTPO	Public Participation Plan (2019)	▪ The PPP "intends to provide opportunity for appropriate broad-based, early, continuous, and meaningful public participation in all planning, programs, and projects. Further, the Agency intends to encourage an on-going forum for the discussion of regional issues, striving for an open exchange of information and ideas. The Plan calls for a broad range of public information and participation opportunities, supplying complete information, timely public notice, and full access to key decisions." ▪ Input can be provided through the public comment period on Council meetings, community events, and surveys.

Organization	Type	Document	Summary
WWV - Walla Walla Valley Metropolitan Planning Organization / WWSRTPO - Walla Walla Sub-Regional Transportation Planning Organization	MPO and RTPO	Public Participation Plan (2023)	▪ Residents can share input through the Policy Board and Technical Advisory Committee public meetings. ▪ A Request for Proposals (RFP) for public engagement services was let in March 2024.
WCOG - Whatcom Council of Governments	MPO and RTPO	Public Participation Plan (2024)	▪ Engagement tools include: WCOG website, media outreach, direct mail, mailing lists, and partnerships with CBOs
YVCOG - Yakima Valley Conference of Governments	MPO and RTPO	Public Participation Plan (2023)	▪ Engagement tools include: YVCOG Website, YVCOG meetings, news releases, public comments period, email distribution lists, and social media

Sources: Cascadia, 2024; BERK, 2024.

F. Key Findings from Current Practices Interviews and Research

The project team researched 16 public sector entities and community organizations to better understand current approaches to engaging overburdened communities, identifying how projects impact overburdened communities, and addressing these impacts. Information was gathered through 30- to 45-minute interviews and/or through desk research.

Organizations were selected because they fall into one or more of the following categories:

- Named HEAL Act agency.
- Agency on the Governor's Interagency Council on Health Disparities.
- Organization that represents a broad coalition of jurisdictions.
- Jurisdiction or organization that is known to have advanced practices around community engagement.

Current practices from public entities are likely more immediately applicable to FMSIB-funded projects, while current practices from community organizations may offer more innovative or community-rooted ideas for FMSIB grantees to consider. While some of the engaged/researched organizations are transportation-focused, many are not, but nonetheless provided valuable information that can be translated into transportation and specifically freight work.

See the sidebar for a list of organizations interviewed and researched.

JURISDICTIONS AND ORGANIZATIONS INTERVIEWED AND/OR RESEARCHED

Interviews

- Association of Washington Cities
- Seattle Duwamish Valley Program
- Spokane Transit Authority
- Washington Public Ports Association
- Washington State Association of Counties
- Washington State Department of Ecology
- Washington State Transportation Improvement Board

Desk Research

- Commission on Asian Pacific American Affairs
- Commission on Hispanic Affairs
- Front and Centered
- Governor's Interagency Council on Health Disparities
- Puget Sound Partnership
- Washington State County Road Administration Board
- Washington State Department of Agriculture
- Washington State Department of Commerce
- Washington State Department of Natural Resources

Freight Truck Drivers

Freight truck drivers are a population that experiences benefits and negative impacts of freight investments. Washington State has over 36,000 truck drivers and ranks among the top five highest-paying states for the profession.[67]

The profession, historically a career for predominately older White males, is becoming increasingly diverse. As of 2023, people of color accounted for 42% of the truck driving workforce in the U.S.[68] In line with this trend, the Legislature updated RCW 46.25.054 in 2017 to allow the issuance of non-domiciled commercial driver licenses, enabling immigrants and noncitizens to more easily become truck drivers.[69]

Challenges

Challenges in the freight industry have a negative impact on truck drivers. The Washington Trucking Association (WTA) reported that drivers in Washington face issues with infrastructure and operational inefficiencies and congestion at ports. They reported drivers waiting in port queues for up to six hours, with a portion of that time being unpaid. WTA also highlighted the problem of inadequate access to truck parking.

The workforce also has considerable health disparities compared to the general population. Truck drivers experience prolonged exposure to diesel emissions from engine exhaust, which can increase the risk of lung cancer and respiratory issues.[70] A 2018 study found that long-haul truck drivers had higher risks for cardiovascular and metabolic diseases, as well as elevated BMI and blood pressure.[71] This population was also less likely to have health insurance coverage compared to other workers in 2019, with 15% being uninsured compared to 10% of the general workforce, further increasing their vulnerability.[72]

Findings

Findings from interviews and research findings about current practices to engage overburdened communities are organized by subtopic.

Baseline Status

- **Some jurisdictions and organizations, especially smaller ones, are still learning how to do this work.** Smaller and more rural jurisdictions and organizations may not be familiar with supporting overburdened communities and may need extra capacity or support in learning how to do so, while other jurisdictions are farther along.
- **Many jurisdictions and organizations lack the capacity to thoroughly identify and address impacts to overburdened communities.** Many, particularly those that are small or in rural areas, do not have the financial or staffing resources to complete thorough identifications of impacts to overburdened communities or to address these impacts.
- **Methods for engaging overburdened communities and addressing project impacts are often tied to funding sources.** Federal and state funding sources typically come with their own set of requirements on defining overburdened communities, identifying impact, and engaging community members.
- **Many jurisdictions and organizations would benefit from education on existing tools.** While there are a variety of tools currently being used by organizations to address project impacts on overburdened communities, many organizations are unaware of these tools or don't know how to fully use them. More education around useful tools could help to mitigate this issue.
- **Many jurisdictions and organizations use existing regional or state resources as a baseline to support their work.** This includes racial justice toolkits, HEAL Act guidelines, guidance from the Washington Environmental Justice Council, SEPA and NEPA requirements, Justice40 initiatives, Title VI regulations and statutes, and input from other organizations like FMSIB. Many jurisdictions and organizations additionally use the Washington Environmental Health Disparities Map. This resource can help to identify overburdened communities, and then to parse out how these communities will be impacted by project work. Some jurisdictions and organizations noted that awareness of this resource varies, so education around what the EHD map does and how to use it would be helpful.

Identifying and Engaging Affected Communities

- **Consider multiple dimensions and intersectionality when identifying affected communities.** Jurisdictions and organizations tend to focus first on environmental equity

along racial lines. Other factors that could be considered when identifying communities that deserve particular attention include income, education level, ability status, age, language, housing insecurity, gender identity, immigrant and refugee status, religion, unemployment rate, access to technology, and involvement in the criminal legal system.

- **Uncertain impact can be treated as high impact for the purposes of designing engagement.** When a project is determined to have uncertain impact on a community, this impact should be treated as significant, so that the project team can begin with high community engagement and then scale back as needed.
- **Jurisdictions and organizations find success when they use previous engagement to inform future engagement.** Often, jurisdictions and organizations and jurisdictions can perform community engagement multiple times in one community. Before participating in new engagement, an organization should familiarize itself with existing engagement, to avoid duplication and to develop trust in the community by showing them that they have been heard in the past.
- **Engagement that caters to the needs of community members is stronger than untailored engagement.** Jurisdictions and organizations are more likely to engage community members thoroughly and authentically by adapting to their needs. This can be through actions like holding virtual and in-person meetings, providing stipends for transportation and childcare, attending existing community meetings to spread information, offering multiple types and levels of engagement opportunities, providing community members with education around civic engagement processes if needed, addressing topics that community members are most interested in, and using partnerships with community-based organizations to facilitate culturally competent engagement.
- **Outreach can help ensure that community members are engaged.** By providing ample or even excess notice and information to community members, organizations can provide a complete understanding of a project's lifecycle and prevent any unexpected developments. This strategy, however, still needs to be intentional, so that communities are not oversaturated with information in a way that causes fatigue.
- **Many jurisdictions and organizations leverage partnerships with community-based organizations (CBOs) to reach overburdened communities.** Partnering with CBOs can help to begin engagement with established trust. Additionally, CBOs already have connections within their communities and know how to best reach community members.
- **Compensation provided to those who participate in engagement can help to strengthen engagement.** Compensation may take the form of gift cards, stipends, food, and childcare, all of which can facilitate and incentivize participation in engagement processes. It should

be noted, however, that it can be difficult to use federal and state funding for community compensation, as this sometimes is not permitted.

Evaluating and Tracking Impact

- **Post-project community engagement and impact monitoring is not routine.** Many interviewees noted that once a project has finished, community members are no longer involved, and impact tracking tends to be minimal and informal. Most jurisdictions do not track actual project impact over time beyond informal measures like word of mouth around project success and smaller organizations likely do not currently have the capacity to execute longitudinal tracking and data analysis. Some interviewees suggested that it would be helpful to create standards and tools for impact tracking across the state.
- **Impact evaluations can be project-specific and co-designed with the community.** While it can sound appealing to apply a single set of criteria to assess project impacts, some interviewees suggested instead that community impact should be evaluated uniquely for each project because every project exists in a unique context. By including community members in the evaluation design process, the results can be more meaningful and relevant to the respective community.
- **Funders should standardize expectations for consideration of overburdened communities.** The recent emergence of a focus on overburdened communities has meant that different funders and agencies have developed different approaches and requirements. Interviewees suggested that state agencies should take responsibility for coordinating around shared definitions, expectations, and tools to alleviate burden on infrastructure owners, particularly those with fewer resources.

G. FMSIB Freight and Community Mapping Tool User Guide

Purpose of the Mapping Tool

The purpose of this tool is to explore the relationship between freight infrastructure, past and future freight investments, and nearby communities in Washington state. The tool is designed to serve the information needs of several categories of users. It includes interactive features and filtering options that allow users to identify areas of interest and learn about freight and community characteristics in those locations. **Intended users include:**

- FMSIB
- Infrastructure owners, including project applicants and sponsors
- Regional planning bodies
- Community organizations
- The State Legislature
- Other interested parties

Legislative Direction

In 2023, the Washington State Legislature passed Substitute House Bill 1084. Among other things, SHB 1084 (codified in Chapter 47.06A RCW) directed the Freight Mobility Strategic Investment Board (FMSIB) to study best practices for mitigating the impacts of freight investments in *overburdened communities* (see box), and to adopt methods to ensure all projects included in its recommended Six-Year Freight Mobility Strategic Investment Program have an engagement plan and consider alternatives to reduce impacts on overburdened communities.

Overburdened Communities

An "overburdened community" describes a census tract where vulnerable populations face multiple environmental harms and health impacts, or which includes Tribal lands. To qualify as an overburdened community, a census tract must meet at least one of the following conditions:

- has an overall rank of 9 or 10 on the Environmental Health Disparities (EHD) map created by the Washington State Department of Health. These ranks are calculated from indicators of population characteristics and pollution burden.
- is characterized as "disadvantaged" on the federal Climate and Economic Justice Screening Tool.
- contains Tribal lands.

This definition was developed by an interagency workgroup convened by the Governor's Office in June 2024 for use making and tracking investments under the Healthy Environment for All (HEAL) and Climate Commitment Acts.[73]

To help implement this directive, FMSIB developed an interactive mapping tool, with a robust set of freight and demographic data that can help users understand the relationship between existing freight infrastructure, potential future freight projects, and nearby communities. This tool is online and publicly accessible from the FMSIB website.

Six-Year Freight Mobility Strategic Investments

FMSIB recommends a statewide program of highest-priority freight mobility investments, with a six-year outlook, updated every two years. This program, called the Six-Year Freight Mobility Strategic Investment Program (Strategic Six-Year Program), serves as the basis for the Legislature's budgeted investments in the freight system. The FMSIB mapping tool hosts information about this Strategic Six-Year Program, providing location and project information for project applicants and sponsors, the Legislature, the Governor's Office, partner agencies, and other interested parties.

Information for Public Infrastructure Owners

The mapping tool provides freight system and community information to assist infrastructure owners – entities that are responsible for building and maintaining infrastructure projects – across Washington. This group includes those proposing projects for inclusion in FMSIB's Strategic Six-Year Program. Identifying the characteristics of communities that may be affected by a proposed project can support the development of an engagement plan. Such identification can also help project teams to involve communities in dialogue about the project and can inform what community impacts should be considered in project design and construction.

Information for Communities

Community members and community organizations are critical partners in shaping freight system investments that channel benefit and mitigate harm to their communities. Engaging these voices is especially important in overburdened communities, which typically face multiple challenges and whose members may have limited ability to track and participate in infrastructure project planning and implementation. Community representatives, including non-profit organizations and local elected officials, can use the mapping tool to retrieve data about geographic areas of interest and to improve their understanding of the nexus between freight infrastructure and the demographic, economic, and environmental characteristics of nearby communities. The mapping tool can help to effectively organize and communicate information to support interested parties' engagement with local jurisdictions and other entities that build and maintain public infrastructure.

About the Data

The mapping tool uses data from a combination of state and federal sources. Some data are provided as spatial layers on the map, which map users can toggle on and off using the Map Layers box (on the right side of the map). Users can also select a variety of selection tools, described in more detail, below. Specific data are also used for calculated summaries at the census tract level. Census tracts are small geographic areas defined by the U.S. Census Bureau and are often used as a standard geographic unit to summarize and publish federal and state-level data.

Environmental Health Disparities Data

In 2024, Washington State developed a new methodology for identifying overburdened communities, as described in the box above.

To help identify overburdened communities and other potential communities of interest – as they relate to environmental, economic, and health disparities – the mapping tool uses a comprehensive data set published by the Washington Department of Health (DOH). Known as the Environmental Health Disparities index (EHD), this data was calculated by DOH as part of its broader Environmental Health Disparities mapping tool and measures relative environmental health risk in communities across the state. EHD scores are calculated from 19 indicators divided into four themes: (1) environmental exposures; (2) environmental effects; (3) sensitive populations; and (4) socioeconomic factors. These four themes along with final EHD index scores are calculated at the census tract level. Scores are assigned from 1 to 10 across a normalized distribution – i.e., the 10% of tracts that scored highest on any factor are assigned a "10," the next 10% a "9," etc. The index and methodology are used as part of Washington State's methodology to identify the most at-risk areas of the state.

For more information about the EHD map and methodology, click here.

Data Sources

The mapping tool sources freight data from:

- Washington State Department of Transportation
- Washington Utilities and Transportation Commission
- Puget Sound Regional Council
- CPCS

Demographic and economic data is sourced from the following U.S. Census Bureau products:

- American Community Survey
- U.S. Decennial Census
- Longitudinal Employer-Household Dynamics

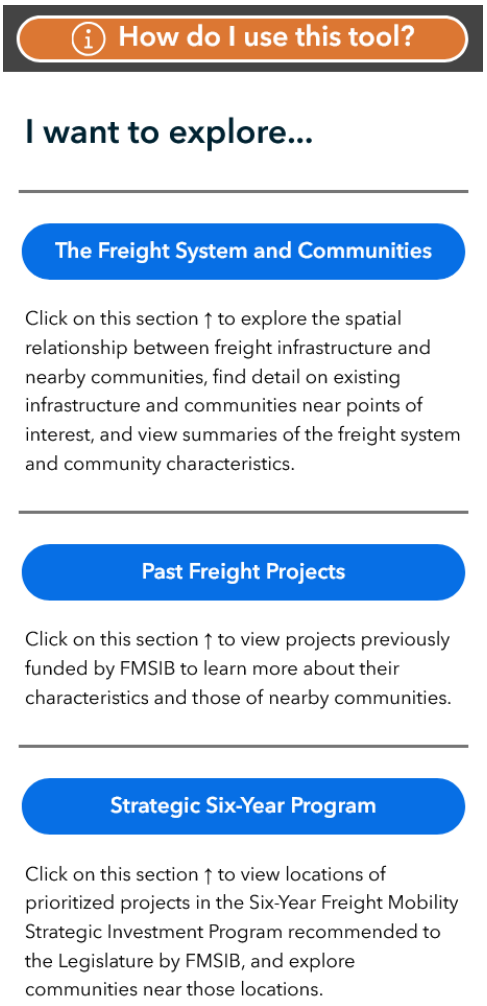
Environmental and health data is sourced from:

- Washington Department of Health
- Washington Department of Ecology
- The Centers for Disease Control and Prevention
- Federal Emergency Management Agency (FEMA)

For more information about the data, calculations, and methods used in the mapping tool, see the FMSIB Mapping Tool Methodology.

Tool Layout and Navigation

The tool contains a home page along with pages for three user pathways. On the home page, users can explore the map to get a general overview of the freight system and look at community characteristics by selecting individual tracts. Use the navigation menu on the left (seen in the screenshot image to the right) to access any of three user pathways: 1) explore more data about freight and communities, 2) learn about a selection of previously funded projects, and 3) gather more information about projects FMSIB has recommended to the Legislature for funding prioritization. (This prioritized list is known as the Six-Year Strategic Freight Mobility Investment Program, or Strategic Six-Year Program.) This left-hand panel also includes a button to click for instructions about using the tool.



Selecting a pathway will open a page with additional functionality, along with more instructions specific to that page. Each of the three pathway pages has a button on the top left to return to the tool's home page.

Mapping Tool Instructions in Brief

The purpose of this tool is to explore the relationship between freight infrastructure, past and future freight investments, and nearby communities. The tool includes several ways to explore these relationships:

- Exploring the map and freight layers of interest
- Manually selecting census tracts
- Using a variety of "selection tools" to identify census tracts within a specified distance of freight infrastructure or points of interest
- Identifying freight features within a specified distance of points of interest

How do I begin?

The tool contains a home page along with three user pathways. On the home page, users can explore the map to get a general overview of the freight system and look at community characteristics by selecting individual tracts. Use the navigation menu on the left (seen in the screenshot image to the right) to access any of three user pathways: 1) explore more data about freight and communities, 2) learn about a selection of previously funded projects, and 3) gather more information about projects recommended by FMSIB to the Legislature for funding prioritization. (This prioritized list is known as the Six-Year Strategic Freight Mobility Investment Program, or Strategic Six-Year Investment Program.) Selecting a pathway will open a page with additional functionality, along with more specific instructions.

How do I interact with the map?

On the home page, users can turn map layers on and off, zoom to desired locations, and click on map features for more information. Use the "Filter for Overburdened Tracts" toggle in the upper right to highlight census tracts that meets the State's definition of overburdened communities because they have at least one of the following: an Environmental Health Disparities score of 9 or 10, a disadvantaged designation under the federal Climate and Economic Justice Screening Tool methodology, or overlapping boundaries with Tribal lands. Click on "Overburdened Communities Info" above the filter for additional information on this definition.

Other pages contain additional options to interact with the map, including selection tools to explore spatial proximity and filter data summaries related to freight infrastructure and community characteristics.

How do I view freight layers on the map?

Each page includes a map legend on the right side of the map, which has a list of layers that can be toggled on or off. By default, all layers are turned off except census tracts. To turn one or more layers on, click on the to the right of the layer. Some layers are grouped – to view these layers, click on the right-facing arrow on the left side of the layer name.

Can I export data?

Yes, data can be exported from many parts of the tool. For example:

- Map layers: click on the three dots to the right of the layer name. Layer clusters (e.g. System Performance) must first be expanded to see component layers.
- Output of selection tools: click on the options above the results list (or).
- Charts from the Data Summaries: click on the on the upper right of the chart.
- Map features: click on the feature on the map to display a pop-up, then click on the at the top of the pop-up.

Using Tool Features

All Pages

Several features are included on each page of the tool (the home page, along with the three user pathway pages). These universal features include:

- Interactive map
- Map layers
- Environmental Health Disparities score filter
- Summary population and job data

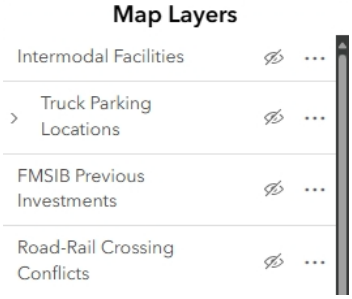
Interactive Map

Each page includes an interactive map with the same set of layers and core interactive features. The interactive features include:

- *Selecting additional map feature information.* Click on map features to display a pop-up box with additional information about the selected feature. To click on a feature, first ensure that the layer is made visible through the map layer window (described in the Map Layers section below).
- *Zoom and scroll functions.* Users can zoom in and out on the map using the icons at the top left of the map, or by using a mouse (clicking and moving the wheel). To scroll around different areas of the map, simply click and hold while moving the mouse to different locations. To return to the default map view, click on the "home" icon at the top left of the map.
- *Search for locations of interest.* Click on the search icon () at the top right of the map. This will open a search field for the user to enter a location, and the map will scroll and zoom to that location.
- *Select alternate basemaps.* To use a different basemap (e.g., aerial imagery, topographic map, etc.), click on the basemap icon () just below the search icon, and basemap options will appear. Select "Dark Gray Canvas" to return to the default basemap.
- *Measure distance and area.* Users can create custom measurements using the "measure" icon () at the top right of the map (below the basemap icon). The measurement tool includes an option for line measurements and area measurements. To finish a measurement and retain the measured area on the map, quickly double-click the mouse on the final measurement location.

Map Layers

A list of all map layers is located to the right of the map on each page. As a default, all layers are turned off (with the exception of the census tract base layer). To make a layer visible, click on the icon to the right of the layer. Some layers are grouped – to view these layers, click on the right-facing arrow on the left side of the layer name.



Census Tracts

A census tract layer is included as a base layer on the map for all pages within the tool and is visible by default. Users can also turn off the layer using the method described above. The tract is the base unit for the data calculations and summaries generated in different parts of the tool (described in greater detail below).

Clicking on individual tracts will reveal a pop-up menu that displays the full set of data associated with that tract. This data table includes: the EHD overall index score and sub-component scores, individual EHD variable calculations, demographic characteristics, job data, economic security data, health data, freight network data, and other transportation characteristics. Users can export this data by clicking on toward the upper left of the pop-up box (seen in the screenshot above). To select multiple tracts, use selection tools within the Freight System and Communities page (described in greater detail below).

For more information about the data contained in the tract layer, along with data definitions and calculation notes, please see Appendix FMSIB Freight & Community Mapping Tool Methodology.

Overburdened Communities Filter

The "Filter for Overburdened Tracts" toggle in the upper right can be used to highlight all census tracts that meet the State's definition of overburdened communities, established in 2024. Overburdened communities have at least one of the following: an Environmental Health Disparities score of 9 or 10, a disadvantaged designation under the federal Climate and Economic Justice Screening Tool methodology, or overlapping boundaries with Tribal lands. Click on "Overburdened Communities Info" above the filter for additional information on this definition.

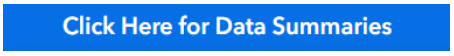
Summary Population and Job Data

To help provide high-level context for users to understand areas of interest, the map includes data summaries for total population, population density, and job density. These are general indicators for the number of people who might be affected by projects at specified locations

and the concentration of jobs in the area as a general proxy for local economic activity. When no census tracts are selected this data defaults to a statewide summary.

Data Summaries

Each user pathway subpage (but not the home page) includes a pop-out window that contains freight and community data summaries. Access this window by clicking on the "Click Here for Data Summaries" button (see image below).



These summaries are not available on the home page (where the user can only select one tract at a time), as their intended use is to summarize multiple census tracts. To select multiple tracts, users must employ a tract selection tool.

Filtering Data

The charts and datapoints in this window summarize census tract-level data, and the summaries dynamically update when the user makes selections of one or more census tracts. By default, when no tract selection is active, the summaries present statewide data.

Users can make tract selections in several ways, as described in more detail below. Each of these selection methods will automatically filter the data in this window, giving the user a custom view of an area of interest to learn more about freight and community characteristics.

Terms and Definitions

The data summaries window has two views: (1) Freight Summaries, and (2) Community Summaries.

The freight summaries tab includes several datapoints and calculations:

- Total freight network miles (disaggregated by truck corridors, rail corridors, and waterways)
- Truck corridor miles by FGTS class
- Road-rail incidents
- Miles of first/last freight mile connections

- Miles of poor or very poor pavement condition
- Total bottleneck miles by bottleneck score
- Total freight road network miles by pavement condition

The community summaries tab includes the following:

- Race and ethnicity of the population
- Share of the population that is Black, Indigenous, or People of Color
- Share of the population with limited English-speaking ability
- Share of the population living under 200% of the federal poverty level
- Unemployment rate
- Annual tons of diesel PM2.5 emissions per census tract
- Share of the population living with asthma
- Distribution of households by household income level

For more information about definitions, calculation methods, and sources, refer to Appendix FMSIB Freight & Community Mapping Tool Methodology.

Exporting Data

Data can be exported from the tool in the following ways.

Census Tract Base Layer

1) Click on a single census tract to display a pop-up box with data about that selected tract. On that pop-up box, click on the ⛓ toward the upper left and select export data.
2) Export the entire census tract base layer (for all of Washington State) by clicking on the three horizontal dots to the right of the census tract layer. This is located on the map layer pane to the right side of the map.

Other Map Layers

Follow the same steps described above to export a single feature from layers visible on the map, or entire layers from the map layer pane.

Data Summaries

Exports from the Data Summaries window are available for all of the charts. To export data from charts in the Data Summaries window, click on the ⛓ at the upper right of a chart of interest, then select “Export.” The data will export as a CSV file.

Filtered Census Tracts from Selection Tools

You can export the filtered list of census tracts from selection tools in two ways:

1) For the "Select Tracts by Manual Drawing" tool, after running the tool, click on the upward facing arrow above the result list.
2) For the "Select Tracts Using Freight Infrastructure" tool, click on the ⁘ above the result list and select the export option.

Freight System and Communities Page

Use this page to explore the spatial relationship between freight infrastructure, points of interest, and nearby communities. On the left side of the page are three different selection tools that assist with this process. Each tool has its own set of instructions. Clicking the ⓘ to the right of each tool button yields an instructions pop-up, and selecting the tool opens up further options on the lower half of the left navigation bar.

Select Freight Infrastructure by Point

This tool selects freight features within a specified distance from a point designated on the map by the user. It is helpful for understanding the distribution of freight infrastructure and identifying areas of limited infrastructure.

Select Tracts by Manual Drawing

This tool allows users to draw a point, line, or polygon shape on the map, and the tool will select census tracts based on their distance from the user-drawn feature. From this filtered list, users can select individual tracts manually to reveal more information. This can help users identify communities near potential freight project areas, corridors, or other points of interest.

Select Tracts Using Freight Infrastructure

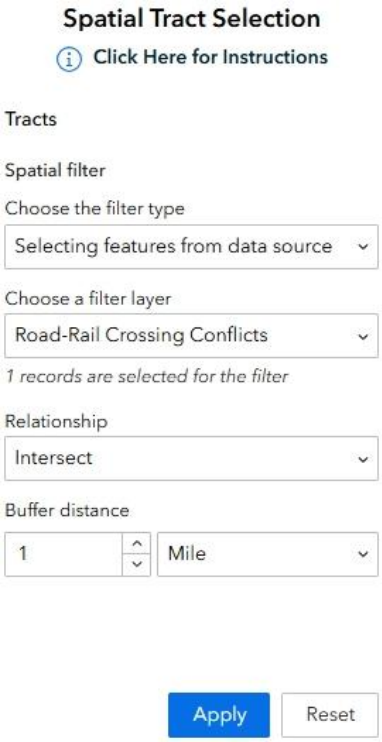
Select a freight feature on the map, and this tool will select census tracts within a specified distance from that freight feature. This is helpful for understanding community characteristics and freight system data near existing freight infrastructure.

The Freight System and Communities page also summarizes freight system and community data. Based on selected census tracts, manually select one tract on the map, or use either of the two "Select Tracts" tools listed above. The button, "Click Here for Data Summaries" on the right side of the map opens a window with these data summaries. See explanation of Data Summaries above.

Sample Use Case on this Page: Exploring Around a Road-Rail Conflict Point

An applicant is interested in exploring solutions to conflicts between rail infrastructure and roadways (i.e., at-grade rail crossings) in a particular jurisdiction (for example, Spokane). They would follow these steps to select a conflict location and explore the area around it.

1. Turn on the road-rail crossing conflict map layer (click in map layers box at right) to view a statewide dataset of road-rail crossing conflicts, prioritized by conflict severity and mitigation need (for more information about this dataset, see Appendix FMSIB Freight & Community Mapping Tool Methodology).



2. Select a conflict point of interest (click on one of the road/rail conflict locations on the map) and click on "Select Tracts Using Freight Infrastructure."

3. Fill in the parameters in the selection tool. "Choose the filter type" and "Relationship" will auto-populate with the default options appropriate to this tool. Select the filter layer of interest (in this case, Road-Rail Crossing Conflicts) from the drop-down options for "Choose a filter layer" and specify the Buffer Distance (number and unit of measurement).

4. Click "Apply" and a list of tracts within the specified distance will appear on the tool. Click on individual tracts to select them, and these selections will filter the data.

5. Click on "Click Here for Data Summaries" button on the right side of the map to reveal a window with tabs for Freight Summaries and Community Summaries. Explore this window to learn more about the selected area, understand other freight characteristics, and learn about the demographics of the community near the road-rail conflict point.

To re-set and explore around a road-rail conflict in a new location, click the in the Spatial Tract Selection bar, and resume from Step 2. It is also necessary to re-set with the trash can icon in order to apply a different selection tool ("Select Freight Infrastructure by Point" or "Select Tracts by Manual Drawing)."

Past Freight Projects Page

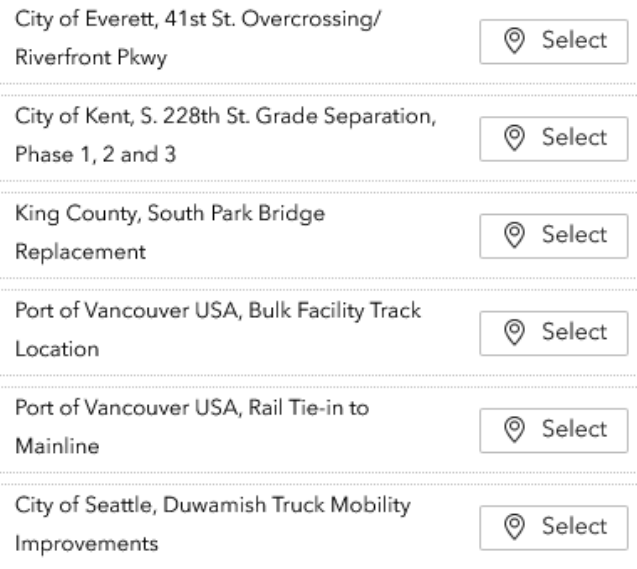
This page allows users to choose a past freight project that was supported with FMSIB funding, and then select census tracts within a specified distance of that project. These functions can help infrastructure holders, the Legislature, the Governor's Office, partner agencies, and other interested parties understand previous funding strategies and investments and generate insights into communities living nearby.

Sample Use Case: Explore Community Characteristics around a Previous FMSIB Project

A local official is interested in exploring the demographic characteristics of residents living near a previous freight mobility investment. This information may help the local official understand the historical context of the area, proactively engage specific communities to learn about how the previous freight project impacted the community, and advocate for a future project design that addresses community needs.

1. Begin by making the FMSIB Previous Investments layer visible on the map, by selecting the "eye" icon next to the layer.

2. Next, select a project from the list. The map will zoom to that location.



3. Choose a buffer distance and click "Apply". The buffer distance describes a straight-line distance from the chosen project. It is the measurement used to select census tracts that overlap ("intersect") with the selected distance.
4. The selection tool will display the full list of census tracts that are within the user's chosen distance. Click on one or more tracts from the resulting list to filter the data summaries and highlight the tracts on the map. To remove the selection and reset the tool, click on the trash can icon.

5. Click on the "Click Here for Data Summaries" button on the right side of the map to reveal a window with a series of freight and community summaries. The user can explore this window to learn more about the selected area and understand the demographics of the community near the selected past project.

Six-Year Freight Mobility Strategic Investment Program Page

This page allows the user to view prioritized projects in the Six-Year Freight Mobility Strategic Investment Program recommended to the Legislature by FMSIB. As described in the section FMSIB Responsibilities: Development of the Strategic Six-Year Program, FMSIB solicits proposals from project applicants for investments in freight mobility and submits a prioritized list to the Legislature at six-year intervals. Inclusion in the Strategic Six-Year Program is **not** a guarantee that the Legislature will fund proposed projects.

On this page, projects are organized by the biennium in which they are recommended for the Legislature's consideration within the Strategic Six-Year Program. Biennial updates to the Strategic Six-Year Program will align to inform funding consideration for future biennial budget cycles.

The user can choose a proposed project from any biennium in the Strategic Six-Year Program, select census tracts within a specified distance of that project, and view their freight and community characteristics. These functions can help infrastructure holders, the Legislature, the Governor's Office, partner agencies, and other interested parties understand proposed funding strategies and investments and generate insights into communities living nearby.

H. FMSIB Freight & Community Mapping Tool Methodology

The FMSIB Freight & Community mapping tool relies on data from a variety of state and federal sources, most notably including the U.S. Census Bureau, Washington State Department of Transportation (WSDOT), and Washington State Department of Health (Environmental Health Disparities data). The following methodology is organized by spatial layers and calculated data. On the map itself, spatial data is presented as layers, containing the original fields as produced by the data provider. For more information about these data layers, click on the links provided below. Where a link isn't available (e.g., in cases of custom datasets), more information is provided about relevant fields.

Calculated data is pre-processed and summarized at the census tract level. This data is embedded in the census tracts spatial layer. More information about these fields and calculations is provided below.

All data is available for export, with instructions available within the FMSIB Freight and Community Mapping Tool User Guide.

Map Layers

Census Tracts

- **Source:** U.S. Census Bureau
- **Link:** https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.html
- **Date last updated:** 2010 geographies
- **Description:** The mapping tool uses 2010 Census tract boundaries for consistency with other data used in the tool and to ensure a higher degree of data accuracy. Future tool updates will use 2020 tract geographies. For more information about the calculated fields embedded in the census tract layer, see the Calculated Data section below.

Freight & Goods Transportation System (FGTS)

- **Source:** Washington State Department of Transportation
- **Link:** https://data.wsdot.wa.gov/arcgis/rest/services/Shared/FreightSystemData/FeatureServer
- **Date last updated:** 2024

- **Description:** The FGTS is an inventory of truck corridors, active railroad corridors, and waterway corridors in Washington state used for the shipment of freight. This data source classifies roadways with five freight tonnage designations: T-1 through T-5 for trucks; R-1 through R-5 for railroads; and W-1 through W-5 for waterways. More information about these designation levels is located here.

Intermodal Facilities

- **Source:** Washington State Department of Transportation
- **Link:** https://gisdata-wsdot.opendata.arcgis.com/datasets/c58a8589a48e45ffa917cb5292ce0baf/about
- **Date last updated:** 2024
- **Description:** This WSDOT data set comprises information about major freight intermodal facilities in Washington state, including cargo airports, rail intermodal terminals, and major ports handling freight shipment. The data includes facility name, type, ownership, and location.

Manufacturing Industrial Centers

- **Source:** Puget Sound Regional Council (PSRC)
- **Link:** https://psrc-psregcncl.hub.arcgis.com/datasets/PSREGCNCL::manufacturing-industrial-centers/about
- **Date last updated:** 2024
- **Description:** PSRC identified 10 regional manufacturing/industrial centers through its VISION 2050 planning process. These are locations for more intensive industrial activity and focal points for planned economic development and infrastructure investments. More information is here.

National Highway Freight Program (NHFP) Projects

- **Source:** Washington State Department of Transportation
- **No link available:** Custom dataset from Washington State Department of Transportation
- **Date last updated:** 2024
- **Description:** The NHFP was established to improve the efficient movement of freight on the National Highway Freight Network. The dataset used in the mapping tool includes both local and state projects funded through NHFP from 2021-2025.

Noise Barriers

- **Source:** Washington State Department of Transportation
- **Link:** https://gisdata-wsdot.opendata.arcgis.com/datasets/WSDOT::wsdot-noise-walls/about
- **Date last updated:** 2024
- **Description:** Noise barriers are free-standing walls built parallel to a highway. They range in height from six to 20 feet, but are typically 12 to 15 feet tall. They can reduce noise levels 10 to 15 decibels, and can be formed from earth berms, or constructed from wood, stucco, concrete, masonry, metal, and other materials.

Pavement Condition

- **Source:** Washington State Department of Transportation
- **Link:** https://gisdata-wsdot.opendata.arcgis.com/datasets/WSDOT::wsdot-pavement-data-survey-unit-condition-good-fair-poor/about
- **Date last updated:** 2024
- **Description:** WSDOT evaluates the pavement condition of state and National Highway Freight Network roads, and assigns each roadway segment a score. Score options include very poor, poor, fair, good, and very good.

Road/Rail Conflicts

- **Source:** Washington State Legislature Joint Transportation Committee (JTC)
- **Link:** http://gisdev.transpogroup.com/jtccrossingstudy/
- **Date last updated:** 2017
- **Description:** The State Legislature directed the JTC to conduct a study to identify and prioritize at-grade road/rail crossing impacts. The final dataset includes 302 rail crossings statewide, organized into 3 tiers of impact for prioritization.

Truck Parking

- **Source:** Washington State Department of Transportation, CPCS, and Trucker Path
- **No link available:** Custom dataset from CPCS
- **Date last updated:** 2024

- **Description:** Location of areas that allow or provide dedicated truck parking facilities. These include public facilities (rest stops and weigh stations) and private facilities.

Truck Reliability and Delay

- **Source:** Washington State Department of Transportation
- **No link available:** Custom dataset from Washington State Department of Transportation
- **Date last updated:** 2022
- **Description:** WSDOT uses a Truck Travel Time Reliability (TTTR) metric to measure travel reliability, and Travel Delay per Mile (TDPM) to measure delay. Bottleneck locations are measured through a combined TTTR-TDPM index. For each segment, total hours of delay per mile is multiplied by the TTTR ratio to calculate a bottleneck score. Bottleneck scores are then grouped by quintile, and total miles of bottlenecks at each quintile level are summarized at the tract level.

Calculated Data

To provide users with the ability to select custom areas and view filtered data summaries, a large amount of data was processed and summarized at the census tract level. As discussed above, the tool uses 2010 census tracts for consistency with certain data sources, and, therefore, tract geographies on the map do not reflect the current tract geographies from the updated 2020 Decennial Census. Future updates to the tool will bring in 2020 tract geographies.

Calculated data is organized into several categories. These include:

- Environmental Health Disparities (EHD) data (from the Washington State Department of Health)
- Demographics
- Economic security
- Health
- Freight system & transportation

The fields are listed below according to their field name in the census tract layer within the tool. They are grouped by topic and source. For more information about the specific characteristics and their methods of calculation, please refer to the links provided below.

Environmental Health Disparities

- **Fields:** Diesel PM2.5 Emissions; Ozone Concentration; PM2.5 Emissions; Proximity to Heavy Traffic Roadways; Toxic Release from Facilities (RSEI); Lead Risk from Housing; PTSDF (Proximity to Hazardous Waste Treatment Storage and Disposal Facilities); PNPL (Proximity to National Priorities List Facilities); PRMP (Proximity to Risk Management Plan Facilities); PWDIS (Proximity to Wastewater Discharge); LEP; No HS Diploma; POC (People of Color); Poverty; Transportation Expense; Unaffordable Housing; Unemployed; CVD (cardiovascular disease); LBW (Low birth weight); Environmental Exposures Theme Rank; Environmental Effects Theme Rank; Socioeconomic Factors Theme Rank; Sensitive Populations Theme Rank; Environmental Health Disparities Overall Score
- **Source:** Washington State Department of Health (DOH)
- **Link:** https://geo.wa.gov/datasets/WADOH::environmental-health-disparities-overall-ranking-current-version/about
- **Date last updated**: 2022
- **Description:** Each variable included in the full EHD dataset has a distinct calculation method, using sources appropriate for the characteristic. See DOH's full calculation and methodology notes at this website: https://fortress.wa.gov/doh/wtn/WTNPortal

Demographics

Population and Race/Ethnicity

- **Fields:** Total population, AIAN alone, Asian alone, Black alone, NHOPI alone, Other alone, Two or more, White alone, Hispanic or Latino
- **Source:** American Community Survey 5-Year Estimates
- **Link:** https://data.census.gov
- **Date last updated:** 2022 (5-year estimates, covering 2018-2022)
- **Description:** Data based on survey responses from a five-year sample. Race and ethnicity categories are defined by the U.S. Census Bureau, and respondents self-select one or more racial categories, along with whether they identify as Hispanic or Latino (the ethnicity category provided by the survey). Respondents can therefore identify as both Hispanic or Latino AND one or more racial categories. The listed categories therefore attempt to disaggregate respondents by those who selected a racial category and "not" Hispanic or Latino, and those who selected Hispanic or Latino (which can also include one or more racial categories). The "alone" at the end of the listed racial categories reflects a "no"

response to Hispanic or Latino. AIAN = American Indian, Alaskan Native; NHOPI = Native Hawaiian, Other Pacific Islander.

Limited English-Speaking Ability

- **Fields:** Limited English Population, LEP percent
- **Source:** American Community Survey 5-Year Estimates
- **Link:** https://data.census.gov
- **Date last updated:** 2022 (5-year estimates, covering 2018-2022)
- **Description:** Data based on survey responses from a five-year sample. Survey respondents who speak a non-English language as their first language are asked to rate their English-speaking ability, from "very well" to "not at all". For this tool, "limited English" is defined as respondents who selected a level below "very well."

Educational Attainment

- **Fields:** No H.S. diploma, No H.S. diploma percent
- **Source:** American Community Survey 5-Year Estimates
- **Link:** https://data.census.gov
- **Date last updated:** 2022 (5-year estimates, covering 2018-2022)
- **Description:** Data based on survey responses from a five-year sample. Survey respondents over the age of 25 are asked about their highest level of educational attainment.

Age

- **Fields:** Population under 18, Population 65 and Over
- **Source:** American Community Survey 5-Year Estimates
- **Link:** https://data.census.gov
- **Date last updated:** 2022 (5-year estimates, covering 2018-2022)
- **Description:** Data based on survey responses from a five-year sample identifying the population under 18 years old, and the population 65 years old and over.

Household Income

- **Fields:** Under $25k, $25k to $50k, $50k to $75k, $75k to $100k, $100k to $150k, $150k or more
- **Source:** American Community Survey 5-Year Estimates

- **Link:** https://data.census.gov
- **Date last updated:** 2022 (5-year estimates, covering 2018-2022)
- **Description:** Data based on survey responses from a five-year sample. Respondents are asked to estimate their total household income. The survey aggregates respondent data into household income categories with consistent ranges. Data represents household estimates.

Economy & Economic Security

Employment

- **Fields:** Unemployed people, Total employable population, Unemployment rate
- **Source:** American Community Survey 5-Year Estimates
- **Link:** https://data.census.gov
- **Date last updated:** 2022 (5-year estimates, covering 2018-2022)
- **Description:** Data based on survey responses from a five-year sample. Respondents are asked questions to identify whether they are in the labor force (e.g., over 16 years old, currently or previously have worked, and are not retired). The survey counts as unemployed individuals who are not currently working but have worked recently and would like to work. The unemployment rate divides this population by the total employable population (those in the labor force).

Jobs and Job Sectors

- **Fields:** Construction & resources, Education, FIRE, Government, Manufacturing, Retail, Services, Total jobs, Job density, Warehousing, transportation, utilities
- **Source:** Longitudinal Employer-Household Dynamics
- **Link:** https://lehd.ces.census.gov/
- **Date last updated:** 2021
- **Description:** Data based on tabulated and modeled administrative data and enumerated at the census block level. Sectors correspond to categories in the North American Industry Classification System.

Poverty

- **Fields:** Population under 200% poverty, % Pop. under 200% poverty

- **Source:** American Community Survey 5-Year Estimates
- **Link:** https://data.census.gov
- **Date last updated:** 2022 (5-year estimates, covering 2018-2022)
- **Description:** Data based on survey responses from a five-year sample. Poverty level is based on the federal poverty guidelines, released annually. The survey estimates the number of residents who live in households that earn incomes at or under 200% of the federal poverty level.

Housing Cost-Burden

- **Fields:** Total households, Cost burden households, Percent cost-burden
- **Source:** American Community Survey 5-Year Estimates
- **Link:** https://data.census.gov
- **Date last updated**: 2022 (5-year estimates, covering 2018-2022)
- **Description:** Data based on survey responses from a five-year sample. Housing cost-burden is defined as households spending more than 30% of their household income on housing costs (including rent, mortgage costs, and other ownership costs).

Farmworkers

- **Fields:** Farmworker units, Farmworker occupants
- **Source:** Washington State Department of Health
- **Link:** https://fortress.wa.gov/doh/arcgis/arcgis/rest/services/WTN/Farmworker/MapServer
- **Date last updated:** 2022
- **Description:** Data collected through the DOH housing licensing program for temporary worker and migrant farmworker housing. More information is located here.

Health

Health Outcomes

- **Fields:** Poor health outcome score
- **Source:** Washington State Department of Health (DOH)
- **Link:** https://fortress.wa.gov/doh/wtnibl/WTNIBL/
- **Date last updated:** 2022
- **Description:** An index value derived from the combination of several health outcomes: cancer deaths, deaths from cardiovascular disease, low birth weight, lower life expectancy at birth, and premature deaths.

Cancer

- **Fields:** Cancer rate per 100k
- **Source:** Washington State Department of Health
- **Link:** https://fortress.wa.gov/doh/wscr
- **Date last updated:** 2022
- **Description:** Cancer incidence data are age-adjusted using the method adopted by the National Institutes of Health's National Cancer Institute. For more information on definitions and technical notes, see this site.

Asthma

- **Fields:** Population with asthma, Asthma rate per 100k
- **Source:** Centers for Disease Control and Prevention
- **Link:** https://data.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-Census-Tract-D/cwsq-ngmh/about_data
- **Date last updated:** 2024
- **Description:** Data based on survey responses from a five-year sample.

Freight System & Transportation

FGTS

This data is also included as a map layer; see Freight & Goods Transportation System (FGTS) above for information about the source, link, date last updated, and description.

- **Fields:** T1 truck miles, T2 truck miles, T3 truck miles, T4 truck miles, T5 truck miles, Truck corridor miles, R1 rail miles, R2 rail miles, R3 rail miles, R4 rail miles, R5 rail miles, Rail corridor miles, W1 waterway miles, W2 waterway miles, W3 waterway miles, W4 waterway miles, W5 waterway miles, Waterway corridor miles, FreightEconCorridor_alt_route, Freight first/last mile connections, FreightEconCorridor_T1, FreightEconCorridor_T2, FreightEconCorridor_total

Freight Critical Corridors

- **Fields:** Critical corridors (rural), Critical corridors (urban)
- **Source:** National Highway Freight Network and the Washington State Department of Transportation
- **Link:** https://gisdata-wsdot.opendata.arcgis.com
- **Date last updated:** 2024
- **Description:** The National Highway Freight Network was established to direct federal resources toward improving the performance of portions of the U.S. freight transportation system. This data set identifies critical urban and rural freight corridors in need of investment, for planning and funding purposes.

Intermodal Facilities

This data is also included as a map layer; see Pavement Condition above for information about the source, link, date last updated, and description.

- **Fields:** Intermodal – cargo airport, Intermodal – port, Intermodal – rail, Total intermodal facilities

Manufacturing Industrial Centers

This data is also included as a map layer; see Manufacturing Industrial Centers above for information about the source, link, date last updated, and description.

- **Fields:** MIC acres

NHFP Projects

This data is also included as a map layer; see National Highway Freight Program (NHFP) Projects above for information about the source, link, date last updated, and description.

- **Fields:** NHFP local rail project, NHFP local road project, NHFP total local projects, NHFP local rail project miles, NHFP local road project miles, NHFP total local project miles, NHFP state projects, NHFP state project miles

Noise Barriers

This data is also included as a map layer; see Noise Barriers above for information about the source, link, date last updated, and description.

- **Fields:** Noise barrier miles

Pavement Condition

This data is also included as a map layer; see Pavement Condition above for information about the source, link, date last updated, and description.

- **Fields:** Pavement condition – very poor, Pavement condition – poor, Pavement condition – fair, Pavement condition – good, Pavement condition – very good

Road/Rail Conflicts

This data is also included as a map layer; see Road/Rail Conflicts above for information about the source, link, date last updated, and description.

- **Fields:** Road/rail conflicts

Road/Rail Incidents

- **Fields:** Road/rail incidents
- **Source:** Washington State Legislature Joint Transportation Committee (JTC)
- **Link:** http://gisdev.transpogroup.com/jtccrossingstudy/
- **Date last updated:** 2017
- **Description:** The State Legislature directed the JTC to conduct a study to identify and prioritize at-grade road/rail crossing impacts. The final dataset includes 302 rail crossings statewide, organized into 3 tiers of impact for prioritization.

Truck Reliability and Delay

This data is also included as a map layer; see Truck Reliability and Delay above for information about the source, link, date last updated, and description.

- **Fields:** Number of top 100 bottlenecks; Number of bottlenecks (1st quintile); Number of bottlenecks (2nd quintile); Number of bottlenecks (3rd quintile); Number of bottlenecks (4th quintile); Number of bottlenecks (5th quintile); bottleneck_quintile_1_miles; bottleneck_quintile_2_miles; bottleneck_quintile_3_miles; bottleneck_quintile_4_miles; bottleneck_quintile_5_miles

Transportation Noise

- **Fields:** Minimum avg decibels; Maximum avg decibels; Average decibel range; Average decibels; Standard deviation decibels; Median decibels; 90th percentile decibels
- **Source:** U.S. Department of Transportation, Bureau of Transportation Statistics
- **Link:** https://www.arcgis.com/home/item.html?id=29d9fc21fce543c7a841664945263e00
- **Date last updated:** 2023
- **Description:** Modeled data that combines railroad, road, and aviation noise. The noise data value is the 24-hour equivalent sound level and expressed using decibel units (dBA). For more information, click here.

Truck Vehicle Volumes

- **Fields:** Avg truck volume per mile; Truck volume / mile - 1st quintile; Truck volume / mile – 2nd quintile; Truck volume / mile – 3rd quintile; Truck volume / mile – 4th quintile; Truck volume / mile – 5th quintile; Truck volume / mile (0 to 100); Truck volume / mile (100 to 1000); Truck volume / mile (1000 to 10000); Truck volume / mile (10000 to 50000); Truck volume / mile (50000 to 793000)
- **Source:** Washington State Department of Transportation
- **Link:** https://gisdata-wsdot.opendata.arcgis.com
- **Date last updated:** 2024
- **Description:** Calculated data that divides the average daily truck traffic along each segment of the statewide freight network by the length of each corresponding segment, and then calculates the weighted average of all segments within each segment tract.

I. Sources

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Endnotes

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