Exhibit C to Resolution No. 26-5564

Regional Emergency Transportation Routes Phase 2

Final Report

Prepared for:
Regional Disaster Preparedness Organization **May 4, 2026**
Metro

Fehr & Peers

Table of Contents

Appendices

List of Figures

List of Tables

Acknowledgements

PROJECT MANAGEMENT TEAM

Regional Disaster Preparedness Organization
Carol Chang

Metro
John Mermin
Tom Kloster (retired)
Kim Ellis
Alicia Wood
Matt Hampton
Alfredo Haro
Jai Daniels

Consultants
Fehr & Peers
Briana Calhoun
Ashley Avila
Chris Breiland

Thuy Tu Consulting
Thuy Tu

Haley & Aldrich, Inc.
Laura Hanson

PROJECT WORK GROUP

Albert Nako, Oregon Department of Transportation
Allison Boyd, Multnomah County
Arini Farrell, Multnomah County
Cathy Amerson, Hillsboro
Chris Strong, Gresham
Courtney Duke, Portland
Dan Marchand, TriMet
Danelle Peterson, Port of Portland
Dayna Webb, Cities of Clackamas County
Dock Rosenthal, Hillsboro
Dyami Valentine, Washington County
Eric Frank, Washington Department of Transportation
Gene Juve, Vancouver
Geoff Bowyer, Oregon Department of Transportation
Harrison Husting, Clark County
Ian Stewart, TriMet
Jabra Khasho, Beaverton
Jay Higgins, Gresham
Jay Wilson, Clackamas County
Jeff Owen, Clackamas County
John MacArthur, PSU TREC
Justine Magnoni-Garver, Clark Regional Emergency Services Agency
Kara Hall, Beaverton
Katherine Kelly, Vancouver
Lewis Lem, Port of Portland
Michael Gaciri, Multnomah County
Michael Ray, TriMet
Michael Southwick, Washington Department of Transportation
Mike Hintz, Washington County
Mike Russell, Columbia County
Peter Lundgren, Oregon Department of Emergency Management
Rachit Nerwal, Portland
Scott Deutsch, C-TRAN
Scott Toenjes, Columbia County
Tammy Bryan, Hillsboro
Tigger Subotnick, TriMet

Regional Emergency Transportation Routes (RETR)

Disasters, both natural and human-caused, can happen anytime, and the transportation system needs to be prepared to withstand them and support lifesaving and life-sustaining activities. Coordinated emergency management planning helps mitigate the risks these hazards pose to the public health and safety of communities and the region's economic prosperity and quality of life.

Regional emergency transportation routes (RETR) are a critical element of emergency preparedness for the five-county Portland–Vancouver metropolitan area which includes Clackamas, Columbia, Multnomah, and Washington counties in Oregon and Clark County in Washington.

Led by the Regional Disaster Preparedness Organization (RDPO) in partnership with Metro, the current planning work on RETRs started with Phase 1 (2019–21), which updated the RETR network, created a comprehensive geospatial dataset, and established an evaluation framework and recommendations for future planning. This report presents the results of Phase 2, which builds on the foundational work of Phase 1 and advances a coordinated, regionwide effort to strengthen emergency response and resilience. Phase 2 focused on developing a RETR tiering framework that includes a prioritization methodology to better support emergency response, long-range planning, and capital investment—particularly in the face of increasing climate-driven hazards.

Why Now?

The region's infrastructure systems must be resilient and able to withstand multiple hazards, from earthquakes and wildfires to the increasing impacts of climate change, including extreme heat, landslides, and flooding. Building on the Phase 1 updates to the RETRs, the region is experiencing renewed momentum to integrate emergency preparedness and response considerations into long-range planning efforts.

Phase 2 advances this goal by addressing a key Phase 1 recommendation and offering more **detailed, actionable guidance that partners in the region can use to make proactive planning and funding decisions**. This effort strengthened partnerships across jurisdictions and disciplines at multiple levels, reinforcing a shared commitment to resilience and cross-jurisdictional coordination and collaboration and ensuring that emergency preparedness and resilience are embedded into the region's routine planning and decision-making processes.

The key steps in Phase 2 of the RETR project included:

1. **Review best practices for prioritization** using other examples within the United States.
2. Through an iterative process with partners, **develop and refine the tiering framework and prioritization methodology.**
3. **Finalize the tiering results and map for RETRs.**
4. **Provide recommendations** for future work.

RDPO Regional Disaster Preparedness Organization · Metro · Fehr & Peers

Background and Foundation

The RETR network has evolved since its initial designation in 1996 and subsequent update in 2006. Phase 1 (2019 – 2021) modernized the network by incorporating new seismic research, updated hazard analyses, infrastructure investments, and demographic changes. It also highlighted three critical needs that Phase 2 directly addressed: prioritizing RETRs, improving consideration of vulnerable populations, and partially formalizing a consistent update cycle.

The prioritization effort in Phase 2 focused on tiering the 192 RETR segments to guide operational planning and investment decision-making . Phase 2 also provided recommendations for coordinating RETRs with other planning efforts and established the start of a process for regular RETR updates, ensuring the system remains aligned with evolving infrastructure, hazards, and community needs.

Engagement

The RETR Phase 2 project relied on a robust, multi-layered engagement process designed to integrate technical expertise, operational experience, and community perspectives. Three groups—the **Project Work Group (PWG)**, **Technical Workshops**, and **Community-Based Organization (CBO) Workshops**—provided input throughout the project that shaped the tiering framework, prioritization methodology, and final results and recommendations.

12
Meetings

120+
Participants

50+
Agencies & CBOs

Prioritization Methodology

Using the updated RETR network established during Phase 1 of the project, Phase 2 developed a methodology for prioritizing RETRs into three tiers, as **shown below**.

RETRs in Clark County are a part of the five-County RDPO network and were a key part of this project. However, in 2025, the Southwest Washington Regional Transportation Council (RTC) initiated a Resiliency Assessment Plan, and as part of the early stages of that effort prioritized RETRs that would be more tailored to Clark County than the broader RDPO effort. The RTC effort built on the methodology developed in Phase 2 and incorporated refinements based on local agency expertise, resulting in different tiering results for certain facilities and the addition of several new routes to the network, particularly in the northern part of the county, where communities are more rural.

1 Score Routes

Split routes into three tiers based on culmulative score. Scored based on proximity to:

- Hospitals
- Fire stations
- Police stations
- Connections to State Seismic Lifeline Routes (SSLR)
- Principal arterials and highways
- Minor arterials
- Fueling centers
- Airports
- Public works facilities, water treatment and distribution sites
- Debris management sites
- Emergency operation centers

2 Apply Automatic Criteria

Some criteria override the scoring, resulting in automatic assignment of certain routes to Tier 1. Hospitals and the Portland Airport must have one Tier 1 route serving each location.

3 Review SVT & Population Density

Utilize the Social Vulnerability Tools (SVT) to identify census tracks with both the highest SVT scores and population density. Key considerations include:

- Is the census track served by a nearby Tier 1 route?
- If not, should a nearby route be upgraded to Tier 1?
- What is the distribution of Tier 1 routes to more rural population centers?

4 Confirm Connectivity

Confirm that the Tier 1 and state priority routes create a connected network. Incorporate changes to tiering (upgrade or downgrade) as needed.

Key Outcomes

The final outcomes from Phase 2 of this work are:

Collaboration

Multi-disciplinary and multi-jurisdictional coordination and collaboration of partners in the Portland-Vancouver metropolitan area across emergency management, transportation planning, engineering, operations, ports, transit, public works, hospitals, fire, and law enforcement.

Tiered RETRs

A tiered RETR network that aims for adequate connectivity to critical infrastructure and essential facilities, incorporates expert feedback provided by partners in the region, and considers equity and access for vulnerable communities.

Robust Database

A comprehensive Geographic Information System (GIS) database and an online RETR map to support future planning and operations and a plan for data maintenance and upkeep.

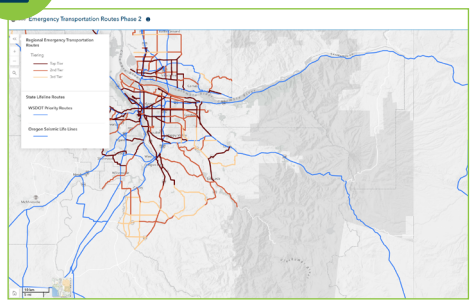
Integration Strategies

Recommendations to increase RETR integration into local, regional, and state plans and considerations for investment decisions.

Continued Support

Additional recommendations for future work to support ongoing local, regional, and state efforts to improve regional resilience and emergency preparedness.

Online RETR Map



Click to visit the online map

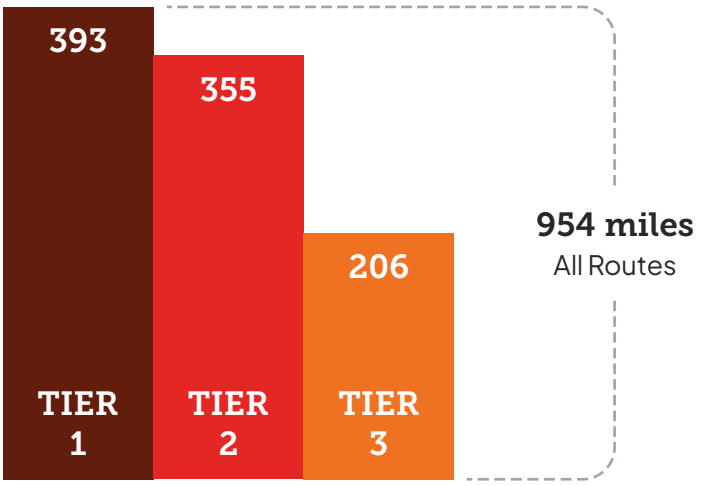
Tier Definitions

Tier 1 routes are the highest priority routes for rapid damage assessment and debris clearance to ensure a functioning regional transportation network after a disaster to facilitate lifesaving and life-sustaining response activities. The Tier 1 routes create a network that connects first responders to critical locations and key communities across the region, and links to the ODOT SSLR and WSDOT priority network systems.

Tier 2 are the second highest priority routes that continue to build off the Tier 1 network, increasing connectivity and redundancy and providing additional access to critical locations and key communities. **Tier 3** further adds to the network.

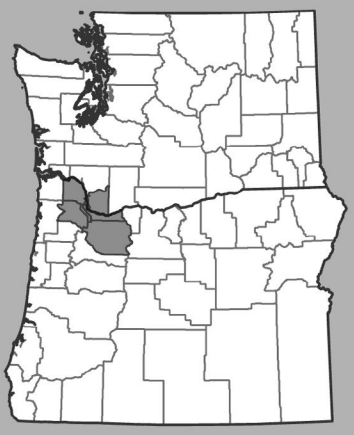
In the case of a more localized disaster where a Tier 1 route may not be part of the affected area, the highest tiered route in the affected area would then be the top priority for assessment, clearance, and restoration.

Length of Routes by Mile



Regional Emergency Transportation Routes

Report appendix includes the criteria for tiering routes in Washington.



Tiered Regional ETRs*
- Tier 1
- Tier 2
- Tier 3
- State ETRs
- County boundary

0 5 10 Miles
0 6 12 Kilometers

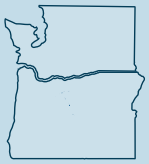
April 3, 2026

* tiering methods vary between Oregon and Washington

Agency Roles

Local, regional, and state agencies each play essential but distinct roles in strengthening RETRs and integrating them into other planning processes.

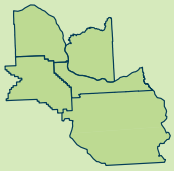
State Agencies



- Policies and guidelines
- State plans
- Technical support
- Coordination with federal agencies
- Funding

At the state level, transportation, land-use, and emergency management agencies ensure that RETRs align with statewide resilience goals, federal requirements, and major system plans. Updating statewide transportation and hazard-mitigation frameworks to explicitly incorporate RETRs strengthens funding eligibility, supports seismic and multi-hazard planning, and reinforces RETRs as critical lifeline corridors. Across all levels of government, prioritizing Tier 1 routes and integrating RETRs into planning and funding structures is essential to ensuring rapid restoration of access, coordinated emergency response, and long-term system resilience.

Regional Agencies



- Regional plans
- Coordination and resource sharing across jurisdictions
- Regional assessments and exercises
- Planning frameworks
- Funding

Regional agencies—such as Metro, SW RTC, and RDPO—coordinate cross-jurisdictional planning, funding, and policy alignment. Their responsibilities include embedding RETRs into Regional Transportation Plans, establishing performance measures for emergency response, and integrating RETRs into debris management, fuel planning, and infrastructure resilience initiatives.

Local Agencies

- Local transportation and emergency management plans
- Policies and ordinances
- Design standards

At the local level, cities and counties integrate RETRs into Transportation System Plans, emergency operations, hazard mitigation, and project-level design to ensure that critical facilities remain accessible and that community-specific risks and needs shape investment priorities. Local agencies are encouraged to elevate emergency response as a formal policy goal, incorporate RETR-specific design standards, prioritize resilience projects, and engage vulnerable populations to ensure equitable access during emergencies.

Recommendations for RETR Application and Future Work

(#)	Phase 2 Recommendation*	Level	Lead/Key Partners
Ongoing Applications			
(2-1)	Integrate RETRs into planning and investment decision-making (e.g., TSPs, RTPs, EOPs, capital programming)	State, Regional, Local	Various
Near-term Future Work			
(2-2)	Prioritize the near-term recommendations and define future RETR project phases	Regional	RDPO, Metro, and RTC with local agencies
(2-3)	Develop RETR management plans covering operations and maintenance, design guidance, hazard scenarios, interagency coordination and recovery.	Local with Regional support	Local agencies with RDPO and Metro
(2-4)	Establish network and tiering update cycle (5–county RETR network and tiering every 10 years; minor network updates every 5 years aligned with RTP updates.)	Regional	RDPO, Metro, and RTC with local agencies
(2-5)	Develop a data management plan to ensure underlying data that informs future RETR network and tiering updates stays current.	Regional	Metro with input from RDPO and RTC
(2-6)	Identify critical failure points and high-risk locations on the RETR network including further work related to bridges.	Regional	RDPO, Metro, and RTC with local agencies
(2-7)	Expand points of interest in future tiering (e.g., resilience hubs, clinics and urgent care centers, fuel management locations, electric vehicle charging sites).	State, Regional, Local	RDPO, Metro, and RTC with local agencies
(2-8)	Improve planning for vulnerable populations and rural communities including access and service gaps.	Regional, Local	Various
(2-9)	Integrate RETR and LETRs into evacuation planning efforts.	Regional, Local	Counties with RDPO and local agencies
Long-term Future Work			
(2-10)	Conduct engineering evaluations of tier 1 routes for seismic upgrades.	State, Regional, Local	Various
(2-11)	Expand RETR concept to other modes (transit, active transportation, rail, marine)	State, Regional, Local	Various e.g., cities, counties, Ports, DOTs and Coast Guard
(2-12)	Develop equity-centered public messaging for transportation in emergencies.	Regional, Local	RDPO Disaster Messaging Work Group

***Note:** Future work on RETRs will be subject to available resources and capacity.

Next Steps

The completion of the RETR Phase 2 marks a significant milestone in strengthening the region's ability to respond to major disasters, but it also underscores the amount of work that remains.

The tiered RETR network, informed by extensive partner engagement and a robust prioritization methodology, provides a clear roadmap for resilience investments. Advancing the recommendations outlined in this report, including RETR management planning, data management, engineering evaluations, and integration into local and regional planning, will require regional coordination and a shared commitment to long-term resilience.

Achieving this vision will depend heavily on securing reliable and diverse funding sources. Yet many of the most consequential next steps such as seismic upgrades, addressing critical failure points, and enhancing rural access will require multi-year, multi-agency investment strategies that exceed currently available resources. Agency partners can all help to prioritize this work, recognizing how important it is for our collective long-term goals.

With sustained investment, the region can translate this planning foundation into a transportation system capable of supporting rapid response and long-term community resilience.

1. Introduction

From 2019 to 2021, the Regional Disaster Preparedness Organization (RDPO) and Metro completed Phase 1 of the Regional Emergency Transportation Routes (RETR) project. Phase 1 updated the network of RETRs across the five-county Portland-Vancouver metropolitan area (Clackamas, Columbia, Multnomah, and Washington counties in Oregon, and Clark County in Washington), created a comprehensive geospatial dataset, and identified 10 recommendations for future work, leading to Phase 2.

Regional Emergency Transportation Routes are travel routes that would be prioritized for rapid damage assessment and debris-removal during a major regional disaster. These routes would be used to move people, emergency personnel and resources such as first responders (e.g., police, fire and emergency medical services), patients, debris, fuel, and other essential supplies. They are intended to bridge agency boundaries and prioritize access to major regional resources.

Following Phase 1, Phase 2 of the RETR project began in 2024 and ended in 2026. This report presents the results of Phase 2 conducted by the RDPO in partnership with Metro to build on the foundational work of Phase 1 and advance a coordinated, regionwide effort to strengthen emergency response and resilience. Phase 2 focused on developing a RETR tiering framework that includes a prioritization methodology to better support emergency response, long-range planning, and capital investment—particularly in the face of increasing climate-driven hazards as well as for large-scale regional emergencies such as the possibility of a Cascadia Subduction Zone (CSZ) level seismic event. This work was funded by the U.S. Department of Homeland Security Urban Areas Security Initiative (UASI) grant program.

1.1 Why Now?

The region's infrastructure systems must be resilient and able to withstand multiple hazards, from earthquakes and wildfires to the increasing impacts of climate change, including extreme heat, landslides, and flooding. Building on the Phase 1 updates to the RETRs, the region is experiencing renewed momentum to integrate emergency preparedness and response considerations into long-range planning efforts.

1.2 Process and Timeline

The second phase of the RETR project included four key steps shown in Figure 1.

Figure 1. Steps for RETR Phase 2

1.3 Key Outcomes

The final outcomes from Phase 2 are:

- **Multi-disciplinary and multi-jurisdictional coordination and collaboration** of partners in the Portland-Vancouver metropolitan area across emergency management, transportation planning, engineering, operations, ports, transit, public works, hospitals, fire, and law enforcement.
- **A tiered RETR network** as a result of a framework for tiering the RETR network and a prioritization methodology that aims for adequate connectivity to critical infrastructure and essential facilities, incorporates expert feedback provided by partners in the region, and considers equity and access for vulnerable communities.
- **A comprehensive Geographic Information System (GIS) database and an online RETR map** to support future planning.
- **Recommendations to increase RETR integration into local, regional, and state plans** and considerations for investment decisions.
- **Additional recommendations for future work** to support ongoing local, regional, and state efforts to improve regional resilience and emergency preparedness.

2. Background and History

The RETR network has evolved since its initial designation in 1996 by the Regional Emergency Management Group (REMG), the predecessor to the RDPO, and subsequent update in 2006. Phase 1 of the RETR project (2019-21), funded by the Urban Areas Security Initiative (UASI) grant, allowed the RDPO and Metro to update regional ETRs (RETRs) and conduct research by the Portland State University (PSU) Transportation Research Education Center (TREC) and local consultant teams.

RDPO and Metro undertook Phase 1 to update the RETR network because the region had gained new knowledge about a potential Cascadia Subduction Zone (CSZ) earthquake, invested in new seismic resilience of some roads and bridges within the region, and established additional emergency planning efforts, further defining the needs of emergency transportation routes. In addition, the region experienced significant growth along with the advancement of new technology, data, and mapping applications.

The 2021 RETR update included elements such as the Oregon Department of Geology and Mineral Industries (DOGAMI) Enhanced Earthquake Impact Analysis (2018-2020) and more recent planning work by the City of Portland, the counties, and the Oregon Department of Transportation (ODOT) to evaluate seismic risks along state-designated seismic lifeline routes (SSLRs) located in Oregon. The project also accounted for seismic updates to infrastructure within the region since 2006, such as the seismically resilient Sellwood and Tilikum Crossing bridges.

Phase 1 modernized the network by incorporating new seismic research, updated hazard analyses, infrastructure investments, and demographic changes. It also highlighted three critical needs that Phase 2 directly addressed: prioritizing RETRs, improving consideration of vulnerable populations, and partially formalizing a consistent update cycle.

Phase 1 materials, including large-format maps and a RETR Update technical report with more information about RETR history, can be found on the RDPO website.

2.1 Phase 1 Groundwork

Phase 1 and its subsequent updates established an initial dataset of critical facilities, hazard impacts, and regional demographics within an online RETR map that could be distributed to emergency managers and transportation planners throughout the region. Phase 1 established several recommendations to develop future phases of the project, with the following recommendations incorporated into Phase 2:

- Prioritize or tier the RETRs;
- Better address vulnerable populations; and
- Formalize the RETRs and agree to a plan for consistent updates.

2.1.1 Prioritize or tier the RETRs

Following Phase 1, the highest priority next step was to prioritize or tier the 192 Phase 1 RETR segments. The reason for prioritization in Phase 2 was to provide operational distinctions between different RETRs for real-world event response and to support capital investment planning for key seismic and natural hazard resilience routes. Phase 2 of the project was established to develop an initial methodology for prioritizing and tiering routes, working with owners and operators of these roadways, and communicating with elected and local officials who will be core players in endorsing the recommended tiering for future investment and operational planning.

2.1.2 Better address vulnerable populations

In Phase 1, the term 'vulnerable populations' was used to describe communities with challenges accessing or utilizing the transportation system (related to age, income, race, ethnicity, language, disability, or mobility) that are often exacerbated during an emergency. Phase 1 analyzed where RETRs intersect with higher concentrations of vulnerable communities to understand the equity implications of the routes. Phase 2 anticipated incorporating the results of Metro's Social Vulnerability Tool (SVT) project (2020-22) that was still in progress when Phase 1 ended. The SVT looks at national and available local data to identify people in the region who are most likely to experience barriers to services and programs before, during and after disasters. Understanding where vulnerable populations are located relative to RETRs allows for early input from community leaders to better understand and prepare for disasters, open lines of clear communication, and allow for better refinement to a tiered RETR network.

2.1.3 Formalize the RETRs and agree to a plan for consistent updates

Phase 1 recommended that RETRs be updated at a minimum of a 10-year cycle. These types of updates help reflect the current state of infrastructure resilience, identified hazard risks, ever-changing populations, emergency resources, and changes in the transportation network. Regional partners, the RDPO, the Southwest Washington Regional Transportation Council (RTC), and Metro were anticipated to conduct shorter five-year updates to capture changes in GIS layers, such as updated infrastructure, new critical facilities, and updates to social vulnerability data. Phase 2 aimed to establish a process for regular updates of the RETR network and formalize a tiering framework.

3. Key Engagements

Partners received information and provided input throughout this project in three main ways: a Project Work Group (PWG), technical workshops, and workshops with community-based organizations (CBO). All meetings were virtual except for the final technical workshop which was offered as a hybrid meeting. Throughout the project, these partners provided critical feedback and input to the methodology, tiering decisions, and final outcomes. They also brought a wide range of backgrounds that ensured the project captured local knowledge and discipline-specific considerations. A summary of engagements is below, and more details on each meeting and outcomes are available in Appendix B.

3.1 Project Work Group

The PWG was a mix of transportation and emergency management planners and engineers. This group met quarterly for a total of six meetings throughout the project and provided technical feedback and project decision-making to guide the project's methods and outcomes. Below lists the meetings and their discussions and outcomes.

- **PWG #1:** Met in December 2024 to talk about project scope, timeline, and outcomes.
- **PWG #2:** Met in April 2025 and discussed how to structure the prioritization framework, such as criteria weighting based on location and road characteristics, establishing criteria that automatically qualified a route for a higher tier, and confirming guidelines for how to approach the tiering levels.
- **PWG #3:** Met in June 2025 and proposed updates to the prioritization framework in conjunction with a draft RETR map showing initial tiering provided by the initial framework. The group also discussed weighted criteria, as opposed to having all criteria count for equal points.
- **PWG #4:** Met in September 2025 to discuss the refined map and updates to the prioritization framework. This session formalized the final prioritization framework and scoring steps.
- **PWG #5:** Met in December 2025 to review the feedback received throughout the technical and CBO workshops, share final suggested updates to the overall RETR network, and gather input on direction for policy and planning recommendation.
- **PWG #6:** Met in March 2025 to review the final report and recommendations for the project.

3.2 Workshops

The project management team facilitated three technical workshops that brought together a broader list of partners including transportation and emergency management planners and engineers, first responders, and public works staff from counties, cities, and special

districts in the five-county region. This technical group provided subject-matter expertise and knowledge to shape the methodology and outcomes. A list of the agencies represented at the workshops can be found in Appendix B.

- **Tech Workshop #1:** Held in March 2025 and collected information about critical infrastructure and key outcomes to shape the first draft of the technical methodology.
- **Tech Workshop #2:** Held in June 2025 and solicited feedback on the first draft of prioritized routes and the draft tiering methodology.
- **Tech Workshop #3:** Held in November 2025 as a hybrid meeting at Metro Regional Center and reviewed the tiered routes and provided detailed feedback by county on the routes and any suggested changes in the tiering.

Metro's Public Engagement staff facilitated three workshops with community-based organizations to share and discuss four Metro projects, including the RETR project, focused on disaster preparedness and community resiliency. Nineteen local community leaders from a diverse group of organizations participated, including Adelante Mujeres, Centro Cultural, the Ethiopian and Eritrean Cultural Center, NW Family Services, Unite Oregon, Oregon Foodbank, Trash for Peace, Upstream Access, Familias en Accion, Community Pulse Association, Oregon Chinese Coalition, Meals on Wheels, Living Islands, Outsider Inn, El Programa Hispano Catolico, Slavic Community Center of NW, the African Youth and Community Organization, and Todos Juntos. Key takeaways included the need for effective communication channels with public agencies, a desire for community centers and resilience hubs, and discussions about frequent extreme weather events, such as snow, ice, heat, etc.

3.3 Other Engagements

Throughout the project, the project management team also met with and emailed agency partners to discuss specific needs and concerns as they arose. The Metro and RDPO project managers routinely provided project updates and briefings to their respective discipline-specific work groups and governance committees. More details can be found in Appendix B.

4. Project Approach

Phase 2 developed a tiering framework that established a prioritization methodology. This methodology was then applied to the RETR network established in Phase 1 of the project, delivering a network of RETRs grouped into three tiers. No new routes were added to this phase, though a few small edits were made to correct minor errors.

Key components in the tiering framework included:

- Researching best practices across the country
- Preparing data for analysis, including reviewing and updating Phase 1 data and splitting longer segments into more equal lengths for the tiering analysis
- Establishing prioritization methodology, including scoring criteria
- Refining the methodology based on partner feedback of criteria and sensitivity testing
- Refining the final tiering results based on local agency knowledge

4.1 Best Practices Review

The consulting team conducted desk research on emergency route prioritization frameworks for agencies across the United States, with a focus on statewide or metropolitan area applications. While few documented processes for creating and prioritizing emergency routes were found, they reviewed seven plans from Oregon, Washington, and Texas.

This review highlighted several common themes for prioritizing routes:

- Ensuring life safety and connectivity of vital emergency resources. Life safety was measured by access to infrastructure such as hospitals, fire stations, and emergency supplies.
- Connectivity included clear routes between hospitals, evacuation centers, military bases, and public facilities (such as schools) that could be used as shelters or serve as meeting points during disasters.
- Clearing high volume, high connectivity routes first, then moving on to routes that provided access to fewer resources.
- Some agencies highlighted the need to ensure access to vulnerable groups, although the definition of who qualifies as a vulnerable group was not well-defined.

These aspects were brought into the tiering framework for RETRs:

- Followed a quantitative format, similar to the one established in Houston-Galveston

- Defined a starting set of common emergency response priorities, such as highway, hospital, and public works facilities access, which was then presented to the work groups for discussion and refinement.

Partners could then help determine how to implement this tiering methodology within the greater Portland region to best serve local communities and disaster response organizations. More details on the documents reviewed can be found Appendix A.

4.2 Data Preparation

Data preparation involved reviewing and updating datasets from Phase 1, addressing identified data gaps, and preparing the underlying RETR route datasets for application of the methodology.

The consulting team and Metro's GIS team coordinated to review Phase 1 data. This included census data on demographics, hazard data, and points of interest such as hospitals, public works facilities, and fire stations. While most data from Phase 1 was identified as not requiring updates, the following was revised or otherwise flagged:

- While census demographic data was used in Phase 1, Metro has since developed a Social Vulnerability Explorer through the Social Vulnerability Tools (SVT) project. The SVT identified communities in the five-county region that experience barriers to emergency services and programs before, during, and after disasters. As the SVT outputs are more tailored to the region than a national dataset, this information was used instead of raw census data.
- State, regional, county, and community infrastructure were expected to have had minor updates over the last few years but not significantly enough to affect the RETRs. However, partner agencies were asked to confirm the location of key facilities.
- In Phase 1, the hospital data layer included locations of other medical facilities in addition to hospitals (e.g., urgent care facilities). As the Phase 2 criteria only included acute care hospitals as priority locations, this dataset was reviewed and updated accordingly.
- Bridges and bridge vulnerability, which had previously been studied by ODOT in partnership with four Oregon counties that designated them as "Vulnerable", "Potentially Vulnerable", and "Not Vulnerable" While this data was ultimately not used in the final prioritization methodology, it is still available in the metadata.

Some data cleaning was performed to better compare the data across different jurisdictions. As the RETR network had already been established in Phase 1, no major edits were made to the base network. During the analysis, some of the longest RETR segments were broken into smaller segments at key roadway crossings, which allowed for more

nuanced scoring, and therefore tiering, along longer roadways. See Appendix C GIS Technical Methods for more details.

4.3 Establish Evaluation Criteria

Using the best practices review and early PWG input, evaluation criteria were established with 13 criteria in four categories (see Table 1). Each RETR segment received points based on roadway characteristics and proximity to key points of interest (POI) using a Euclidean buffer. POIs were chosen focusing on locations deemed critical to facilitate response operations immediately after a disaster. Buffer distances were decided based on the distribution of the POIs, meaning POIs that had multiple locations across the five-county region had smaller buffers while those with fewer locations had larger buffers. For example, fire stations had smaller buffers than regional trauma centers. Buffer distances were tested for each criterion to ensure they were not too large (where too many routes would meet the criteria making it an ineffective measure) or too small (where very few routes would meet the criteria resulting in disconnected higher tiered routes).

Routes initially received a maximum of 11 points and were broken into three categories (High, Medium, and Low) using natural breaks in the total. Eventually High, Medium, and Low correlated with Tiers 1, 2, and 3 (ranging from higher priority to lower priority).

Table 1. Initial Evaluation Criteria

Category	Criteria	Buffer Distance	Points
Lifesaving/ Sustaining	Hospitals	2 Miles	1
	Police Stations	1 Mile	1
	Fire Stations	1 Mile	1
Connectivity	Connection to State Seismic Lifeline Routes	NA	1
	Principal Arterials and Highways	NA	1
	Minor Arterials	NA	1
	Bridges*	NA	-1
Public Works and Resources	Public Works Facilities	2 Miles	1
	Fueling Centers	2 Miles	1
	Water Treatment and Distribution Sites	2 Miles	1
Other Key Destinations	Airports	2 Miles	1
	Debris Management Sites	2 Miles	1
	Emergency Operations Centers (EOC)	2 Miles	1

Source: Fehr & Peers.
*Note: After discussion with partners, Bridges were removed as a criterion in the final evaluation. The project team acknowledged their importance by compiling a table that includes basic information about them, e.g. owner, bridge type, condition, vulnerability, RETR tier. This table can inform the next RTP update and help bridge owners advocate for future funding. – see Appendix D.

4.4 Prioritization Methodology Refinement

The outcomes of the quantitative evaluation were shared in a PWG #3 meeting, Technical Workshop #2, and CBO Workshop #2. Partners discussed what they thought was missing from the methodology and provided guidance on how to refine and add to the process. Key input incorporated into the next iteration of a prioritization methodology included:

- **The need to distribute a more grid-like system of Tier 1 routes** between rural and urban areas more equally. Because the qualitative evaluation was based on proximity to POIs and rural areas naturally had fewer POIs, RETRs in more rural areas skewed towards lower tiers.
- **Removing bridges** as a criterion due to their seismic vulnerability and load capacity constraints, as well as the complexity in how partners view the presence of a bridge along an RETR as a positive or negative characteristic. Each bridge has a different ability to withstand loads, therefore bridge information should still be

presented as a supplement to the methodology, although not as a contributing factor. See Appendix D for a summary table of bridges located on RETRs.

- **Ensuring connectivity for vulnerable populations**, but not as a quantitative scoring system to prioritize vulnerable communities because equity data is often aggregated and may not provide nuanced enough information for emergency response (e.g., susceptibility to power outages).
- **Considering population density**, though there was debate on whether the densest or least dense communities should be prioritized. As noted, dense areas tend to be prioritized because they have more points of interest (POIs); less dense areas have fewer people but can more easily be isolated by a single roadway failure.
- **Maintaining tiering consistency along corridors** (i.e., do not have corridors with segments that oscillate between tiers).
- **Certain POIs are high priority** and must have a Tier 1 route to access regardless of how the routes initially are tiered. These locations were narrowed down to hospitals and Portland International Airport.

The second iteration of the prioritization methodology updated the qualitative evaluation, incorporated key feedback above, and added three additional steps after scoring of the routes:

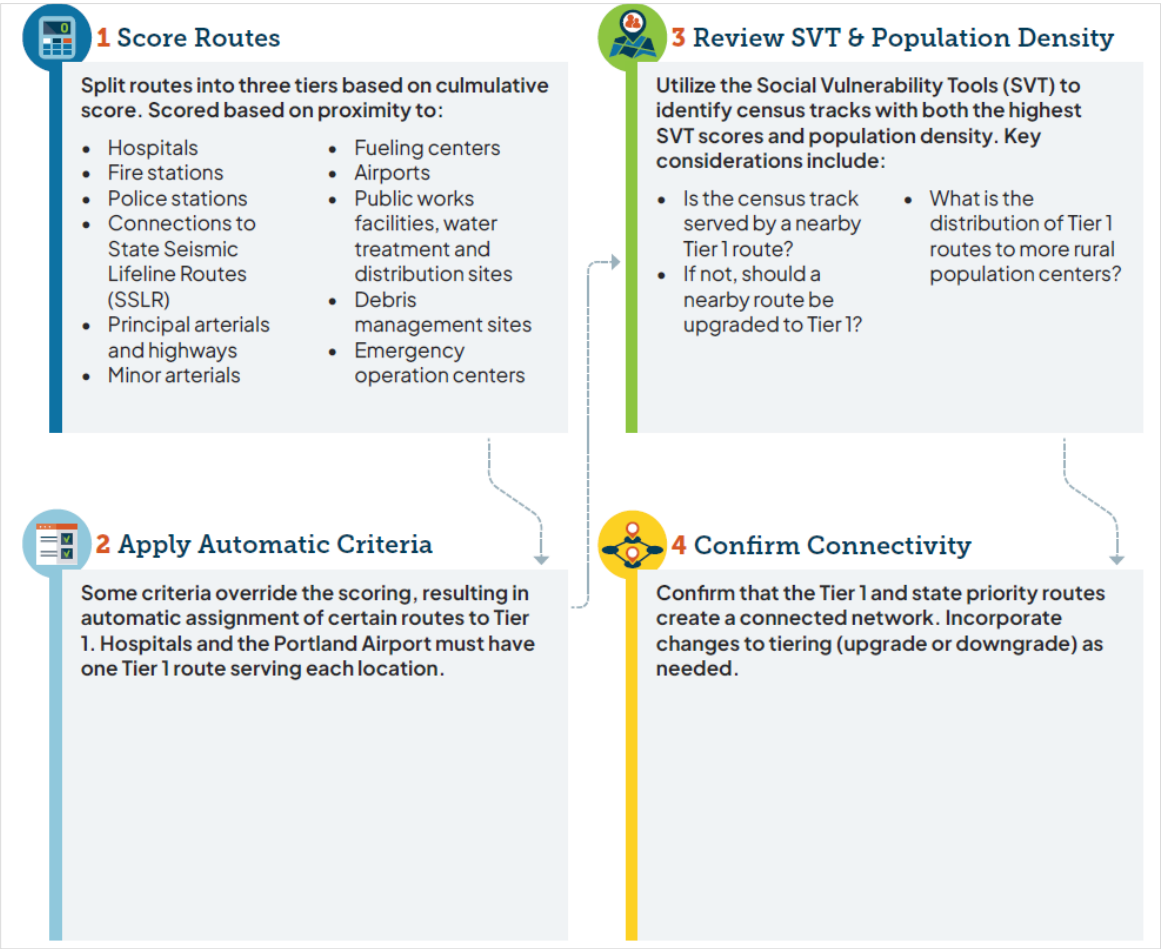
1. **Score routes**: Apply 11 criteria (bridges were removed, and public works and water treatment centers were combined) to create an initial score and split the routes into three tiers using natural breaks in the results.
2. **Apply automatic criteria**: At least one route serving every hospital and Portland International Airport is a Tier 1 route. This may require automatically elevating a lower tiered route.
3. **Conduct qualitative screens for social vulnerability and population density**: Overlay maps of tiered RETRs and census tracts that are in the top third of highest social vulnerability according to Metro's SVT (see map in Appendix G). Consider adding a Tier 1 route to connect to any of these census tracts that is not currently served by one. Overlay maps of tiered RETRs and census tracks that are in the top quarter of highest population density in the region. Consider adding a Tier 1 route to any of these census tracts that are not currently served by one.
4. **Confirm contiguous Tier 1 network**: Review the network holistically to confirm that all Tier 1 routes connect to either another Tier 1 route, an Oregon State Seismic Lifeline Route (SSLR), or a Washington Priority Route to create an interconnected network across the region.

Partners reviewed the second iteration of the prioritization methodology and their feedback led to minimal adjustments.

4.5 Results Review Workshop

Metro's GIS team generated an updated map of the tiered RETR network using the final prioritization methodology in Figure 2.

Figure 2. Final RETR Prioritization Methodology.



For the last technical workshop, Metro and RDPO hosted a hybrid gathering at Metro Regional Center with a virtual option. Participants were organized by county to review the latest tiering assigned to the RETR network. Discussion included feedback to make manual tiering adjustments for closely spaced routes to get a more even distribution across Tiers 1, 2, and 3; requests to adjust tiers based on local knowledge of road conditions, typical usage and travel patterns, and other nearby assets (positive and negative); and recommendations to fill in small gaps on the Tier 1 network. See Appendix E for detailed comments and resulting actions.

This workshop also surfaced questions and discussion that resulted in two major decisions: reassessing alternate ETRs (see 4.6) and incorporating external planning work on RETRs in Clark County, Washington (see 4.7).

4.6 Primary vs Alternate ETRs

Alternate routes were designated as part of the Phase 1 RETR project to provide a detour route in the case of expected failure of vulnerable bridges that could close a primary RETR after a seismic event. These had been identified by Oregon counties working with ODOT to identify detour routes to SSLRs. There were no alternate routes designated in Clark County. At the end of Phase 1, the expectation for alternate routes was that they would be re-evaluated for inclusion or replacement for the primary route in the RETR network in the event a vulnerable bridge is seismically retrofitted or upgraded.

In Phase 2 of the project, the distinction between primary versus alternate routes created confusion about which priority would take precedence across various tier types, such as how a Tier 1 alternate compares to a Tier 2 primary. The project management team ultimately decided to remove alternate routes from the tiering process and subsequently from the tiered RETR network. Nine alternate routes were upgraded to primary routes and brought into the tiered RETR network after discussion with local partners. Reasons to make this change include serving a hospital, improving spacing of north-south or east-west RETRs, and providing access to other critical locations such as the Critical Energy Infrastructure hub or areas with few other options. Data for alternate routes is still available as a data layer.

4.7 RETRs in Clark County, Washington

RETRs in Clark County are a part of the five-county RDPO network and were a key part of this project. However, in 2025, the Southwest Washington RTC initiated a Resiliency Assessment Plan and, as part of the early stages of that effort, prioritized ETRs that are more tailored to Clark County than the broader regional RDPO effort. This project brought in the RTC's results from that effort to ensure that RETR maps in the region, particularly in Clark County, are fully aligned. The RTC effort built on the methodology developed in Phase 2 and incorporated refinements based on local agency expertise resulting in different tiering results for certain facilities and the addition of several new routes to the network–particularly in the northern part of the county where communities are more rural. The two differences between the original RDPO RETR framework are described below.

- RETR Tier Adjustments
    - RTC convened a steering committee of partner agency staff, including representatives from Clark County, Clark Regional Emergency Services Agency (CRESA), WSDOT, Clark County Public Transit Benefit Area Authority (C-TRAN), and cities within Clark County, to review and validate the Phase 2 RETR priorities. Several routes originally classified by RETR as Tier 2 or Tier 3 were recommended to be elevated to Tier 1 due to their importance to

critical infrastructure, network connectivity, and local expertise and agency input.

- New Routes Added
    - The RTC project team also identified additional routes that were not prioritized through the Phase 2 RETR process. These were informed by stakeholder input, critical infrastructure mapping, the Clark County Hazard Mitigation Plan, and local knowledge of emergency access needs. New routes were assigned Tier 1, 2, or 3 using a qualitative assessment that generally followed the methodology and key considerations used by the RDPO RETR framework.

The final network and associated tiers for RETRs in Clark County, as well as the final RETR regional map, reflect the RTC's efforts for their Resiliency Assessment Plan. A detailed summary of the RTC methods can be found in Appendix F.

5. Final Tiered RETRs

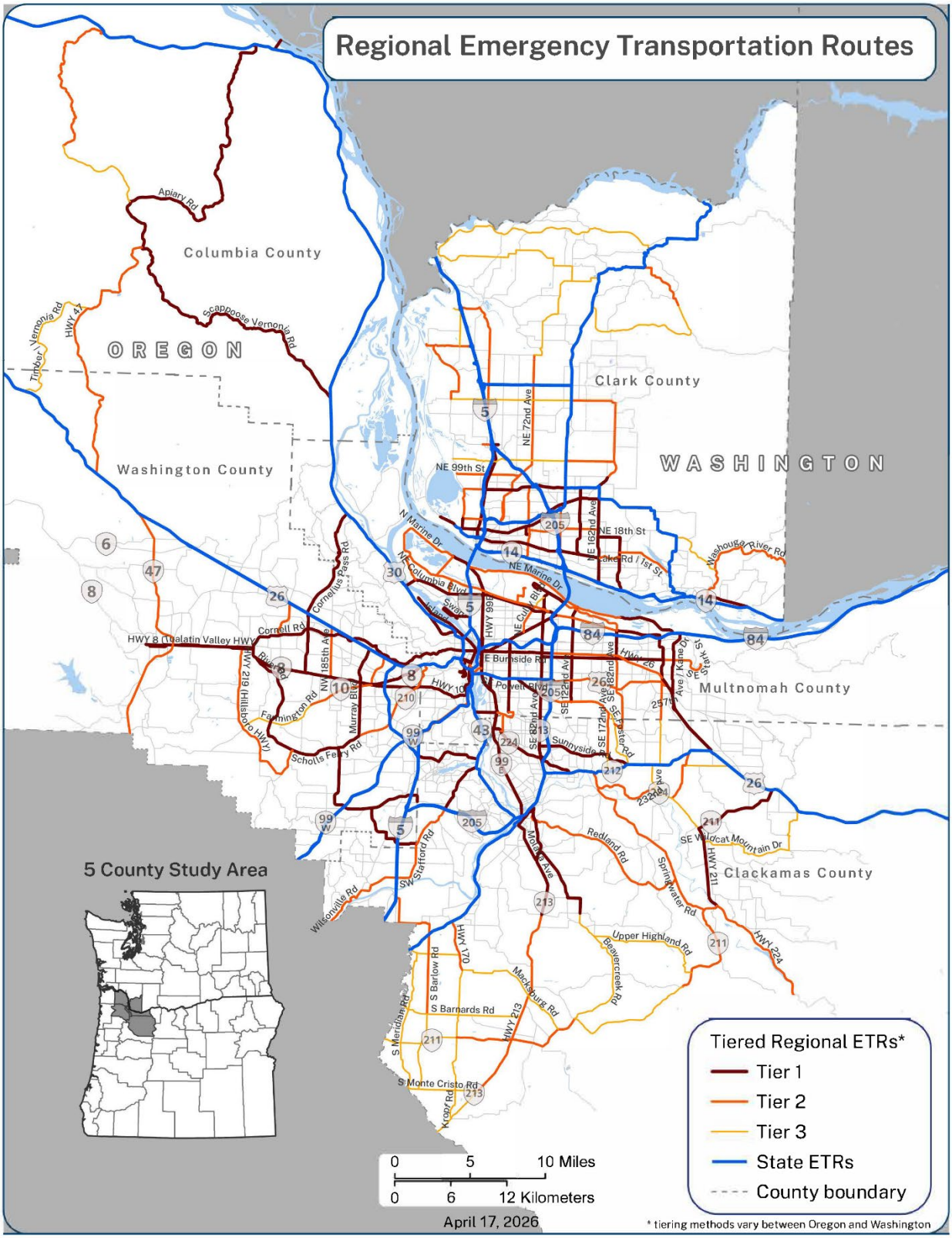
The final regional map of RETRs tiered into three categories is shown in Figure 3**.** A large format map with legend is available on the RDPO website, additional maps can be found in Appendix G, and the GIS data is available in Metro's RLIS database. There is a total of 954 miles of RETRs across the five counties. Of these, about 41% or 393 miles are designated as Tier 1.

Tier 1 routes are the highest priority routes for rapid damage assessment and debris clearance to ensure a functioning regional transportation network after a disaster and to facilitate lifesaving and life-sustaining response activities. Tier 1 routes create a network that connects emergency response personnel to critical locations and key communities across the region, and links to the ODOT SSLR and WSDOT priority network systems.

Tier 2 are the next highest priority routes that continue to build off the Tier 1 network, increasing connectivity and redundancy and providing additional access to critical locations and key communities. Tier 3 further adds to the network.

If a disaster is more localized where the affected area does not include Tier 1 routes, the highest tiered route in the affected area should then be considered the top priority for assessment, clearance, and emergency response.

Figure 3. Tiered Regional Transportation Routes network



6. Recommendations for Applications and Future Work

By bringing together partners across jurisdictions and disciplines, Phase 2 of the RETR project incorporates input from engineering, planning, public works, maintenance, emergency management, first responders, community-based organizations, and others. These partners support emergency response and the impact across regional transportation networks. In addition to bringing together partners from interconnected fields, this project influences, and is influenced by, local, regional, and state plannings efforts and initiatives.

This section shares updates to Phase 1 recommendations, including the recommendations that Phase 2 directly addressed, and proposes additional Phase 2 recommendations for further future planning, policy, and funding priority work for the RETR network. These topics emerged from partners in meetings, workshops, briefings, or other areas over the course of Phase 2 and were deemed out of time, scope, and budget for the current effort.

6.1 Transition Phase 1 Recommendations to Phase 2

Phase 1 led to 10 recommendations for future work. The status of those recommendations:

1-1. Integrate RETRs into other planning and investment decision-making processes - *Continued to address in Phase 2. See 2-1.*
1-2. Prioritize or tier the regional ETRs - *Completed in Phase 2.*
1-3. Develop RETR management plans to include: RETR operations in an emergency, evaluation of specific hazard events, maintenance and coordination between jurisdictions, and transition to recovery - *Continued to address in Phase 2. See 2-3.*
1-4. Better address vulnerable populations - *Continued to address in Phase 2. See 2-8.*
1-5. Formalize RETRs and agree to a plan for consistent updates - *Completed in Phase 2.*
1-6. Integrate RETR and Local Emergency Transportation Routes (LETRs) into evacuation planning - *Carried forward to recommendation 2-9, although local jurisdictions have advanced evacuation planning.*
1-7. Engineering evaluation of top priority routes for seismic upgrades - *Carried forward to recommendation 2-10.*
1-8. Evaluate river routes for use in response to catastrophic events - *Carried forward to recommendation 2-11.*
1-9. Develop equity-centered public messaging for transportation in emergencies - *Carried forward to recommendation 2-12.*
1-10. Evaluate bike and pedestrian options for emergency transportation - *Carried forward to recommendation 2-11.*

Phase 2 directly addressed recommendations 1-2 and 1-5, and parts of 1-1, 1-3, and 1-4. Recommendations that remain open are carried over into the Phase 2 recommendations. See Table 2 for the summary of recommendations including the ones carried over from Phase 1 as well as the ones that emerged during Phase 2. The following recommendations are organized by timeframe and identify specific actions agencies can take to integrate and advance the RETR network.

Table 2. Phase 2 Recommendations for RETR Application and Future Work

#	Phase 2 Recommendation**	Level	Lead/Key Partners
Ongoing Applications			
2-1	**Integrate RETRs into planning and investment decision-making** (e.g. TSPs, RTPs, EOPs, capital programming)	State, Regional, Local	Various
Near-term Future Work			
2-2	**Prioritize the near-term recommendations** and define future RETR project phases	Regional	RDPO, Metro, and RTC with local agencies
2-3	**Develop RETR management plans** covering operations and maintenance, design guidance, hazard scenarios, interagency coordination and recovery.	Local with Regional support	Local agencies with RDPO and Metro
2-4	**Establish network and tiering update cycle** (5-county RETR network and tiering every 10 years; minor network updates every 5 years aligned with RTP updates.)	Regional	RDPO, Metro, and RTC with local agencies
2-5	**Develop a data management plan** to ensure underlying data that informs future RETR network and tiering updates stays current.	Regional	Metro with input from RDPO and RTC
2-6	**Identify critical failure points and high-risk locations** on the RETR network including further work related to bridges.	Regional	RDPO, Metro, and RTC with local agencies
2-7	**Expand points of interest in future tiering** (e.g., resilience hubs, clinics and urgent care centers, fuel management locations, electric vehicle charging sites).	State, Regional, Local	RDPO, Metro, and RTC with local agencies
2-8	**Improve planning for vulnerable populations and rural communities** including access and service gaps.	Regional, Local	Various
2-9	**Integrate RETRs and LETRs into evacuation planning** efforts.	Regional, Local	Counties with RDPO and local agencies
Long-term Future Work			
2-10	**Conduct engineering evaluations of tier 1 routes** for seismic upgrades.	State, Regional, Local	Various
2-11	**Expand RETR concept to other modes of transportation** (e.g., transit, active transportation, rail, marine)	State, Regional, Local	Various e.g., cities, counties, Ports, DOTs and Coast Guard
2-12	**Develop equity-centered public messaging** for transportation in emergencies.	Regional, Local	RDPO Disaster Messaging Work Group

**Note: Future work on RETRs will be subject to available resources and capacity.

6.2 Phase 2 Recommendations (ongoing applications)

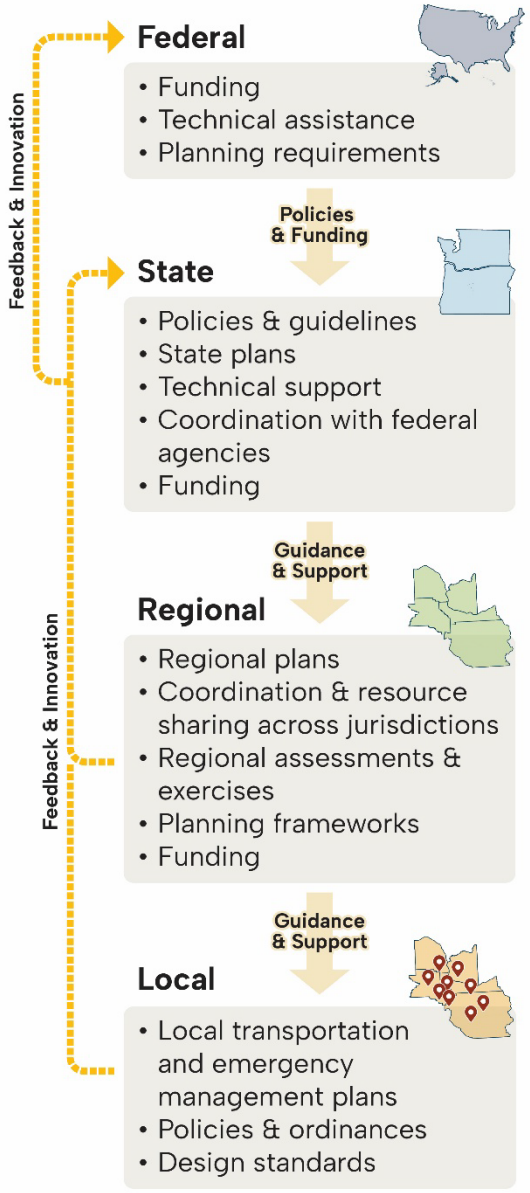
6.2.1 Recommendation 2-1: Integrate RETR into planning and investments.

The RETR network intersects with many planning efforts across disciplines and agencies. While the primary focus is transportation and emergency response, effective implementation depends on coordination across engineering, planning, public works, maintenance, emergency management, and first responders.

Planning occurs across three interconnected levels—local, regional, and state—that continually influence one another (see Figure 4). While federal and state policies provide a shared framework, local priorities and community input play an equally important role in shaping regional and statewide strategies.

The RETR framework, although established at the regional level, is shaped by both state guidance and deep engagement with local transportation and emergency management expertise.

Figure 4. Planning Framework



6.2.1.1 Dependencies and Coordination

These planning efforts are collaborative and do not occur in isolation. Strategic direction, community innovation, and horizontal coordination all influence outcomes. Success relies on strong alignment across these key areas:

- **Data Sharing**: Local hazard data informs regional and statewide risk models.
- **Resource Allocation**: State and regional plans rely on accurate local inventories of critical infrastructure and personnel.
- **Operational Coordination**: Local Emergency Operations Centers (EOCs) activate first during an incident but may request additional support once local resources are exhausted.
- **Policy Alignment**: Local plans must align with state frameworks to remain eligible for grants and disaster recovery funding.

In the region, the Metropolitan Planning Organizations (MPO) (Metro and RTC) together with the RDPO are well positioned to advance transportation resilience. The prioritized RETR network provides a foundation for local, regional, and state agencies to coordinate and advance shared priorities:

- Share data about RETRs and their connections to state priority routes.
- Influence investment priorities toward priority routes in need of strategic resilience enhancements.
- Support operational coordination in real-world incidents that impact local, regional, and state level deployment of emergency response personnel and equipment.
- Elevate transportation resilience priorities in their adopted plans, policies, and investment priorities, to advance the outcomes of this multi-year regional planning effort.

This section describes how local, regional, and state levels contribute to meeting shared transportation and resilience goals and outlines how related planning processes can incorporate RETR concepts and strengthen emergency response coordination. While evacuation planning was out of scope for Phase 2 work, it is a critical topic that is closely related. The recommendations in this report focus on integrating the RETRs and emergency response efforts into planning processes, including where RETRs may help to advance evacuation planning.

6.2.1.2 Local Integration (Cities, Counties)

Local planning focuses on community-specific transportation networks, hazards, resources, and vulnerabilities. Transportation System Plans (TSPs) (in Oregon) and Transportation Elements (TEs) (in Washington) evaluate the full transportation network and guide how agencies build and maintain multimodal systems that serve residents, workers, and visitors. These plans often include updates to local ordinances that can support natural hazard resilience and may set infrastructure design standards that incorporate emergency vehicle access and/or community evacuation needs. Specific to emergency response, local planning focuses on both internal connections and links to neighboring jurisdictions, ensuring that essential facilities—such as public works yards—remain accessible to public works teams and first responders.

Local agencies also develop Emergency Operations Plans (EOP) or Comprehensive Emergency Management Plans (CEMP) and government continuity of operations plans (COOP), which establish protocols for responding to emergencies and maintaining essential services. They also develop hazard mitigation plans (HMP), which plan for mitigating actions that can lessen the impact of disasters.

Because local agencies maintain the closest relationships with community partners—schools, hospitals, and transit providers among many others—they are well positioned to

bring these local perspectives into planning processes. Local risk assessments and community input help shape local plans, which in turn influence regional priorities and state strategies. An example of this ground-up planning can be seen in the first phase of this RETR work. In this case, multiple emergency transportation route designation projects are underway or planned in local jurisdictions. The RETR network has also influenced local decisions in addition to providing input to regional Metropolitan Planning Organizations (MPO) and state Department of Transportation (DOT) and Emergency Management (EM) planning efforts.

At the local level, a few key processes can incorporate and build upon the RETRs.

6.2.1.2.1 TRANSPORTATION SYSTEM PLANS AND TRANSPORTATION ELEMENTS

Transportation System Plans (TSP) and Transportation Elements (TE) establish multimodal transportation goals and policies, identify network gaps, and outline projects and funding strategies. Emergency response and evacuation needs are often underrepresented because they are not required for TSPs and TEs. Incorporating RETRs into TSPs and TEs can occur through:

- **Goals and Policies**: Elevate emergency response, evacuation, and resilience as explicit policy priorities.
- **Local ETR Designation**: Adopt the RETRs into local modal networks and identify local ETRs that connect regional routes to community destinations and other locally critical resources. The alternate routes designated in Phase 1 but removed from the network in Phase 2 may be good candidates for local ETRs.
- **Project Prioritization**: Include emergency response benefits as criteria when ranking capital projects for local funding and awarding points for resiliency projects on local or regional ETRs.
- **Street Design Considerations**: Determine whether RETRs or local ETRs warrant specific design treatments—such as lane widths, access management, speed management, or multimodal facilities—within the TSP/TE, design standards, or municipal code.
- **Funding Strategies**: Identify funding sources for resilience-focused projects; prioritized TSP projects may also advance into the Regional Transportation Plan (RTP) financially constrained project list, making them eligible for federal grants and funding allocated by the MPO.
- **Community Engagement**: Incorporate discussions about ETR access into outreach efforts, ensuring disaster-vulnerable communities are reachable by first responders, resources are equitably distributed, and community members understand the purpose and function of ETRs.

6.2.1.2.2 LOCAL PROJECT PLANNING AND DESIGN

When planning and designing transportation improvements, local agencies should take into consideration RETR designations on the affected roadways and bridges. The Bridge Table included in Appendix D notes all of the bridges that are located on RETRs which can be used in capital project planning. This could mean incorporating:

- Structural resilience elements
- Detailed access planning (e.g., ensuring roadway widths and turning radii are adequate for emergency vehicles)
- Speed management features that will not hinder emergency response (e.g., speed humps) or multimodal infrastructure that can act as space for emergency vehicles (e.g., bike lanes)

RETR designations inform capital investments for seismic resilience in the region. Clackamas County used RETR designation to support a seismic upgrade to a bridge on Beavercreek Road. In addition, Multnomah County successfully advocated for a planned pedestrian bridge installed by the City of Troutdale to adhere to seismic resilience standards because it will cross a RETR (257th Ave). These examples demonstrate the importance of RETR designations to influence codes and standards on adjacent and intersecting infrastructure investments.

6.2.1.2.3 EMERGENCY MANAGEMENT PLANNING

RETRs can be integrated into several key local emergency management plans:

- **Hazard Mitigation Plans (HMP)**: Reference RETRs wherever mitigation projects occur on or near these routes. Aligning projects with RETRs can strengthen prioritization by demonstrating consistency with regional resilience goals. Identify specific routes for resilience upgrades and coordinate that with the local TSP/TE priorities, which would feed into updates to regional transportation plans.
- **Emergency Operations Plans (EOP):** Incorporate RETRs where they support implementation of emergency functions such as damage assessment, mass care, search and rescue, debris management, and other Emergency Support Functions (ESFs). While RETRs are currently identified and prioritized for immediate life-saving and life-sustaining response activities, the concept of RETRs may inform other planning efforts for additional response phases, evacuation, or recovery.

  Clackamas County and Multnomah County both report using the RETR network to plan for snow and ice season and to inform decisions about which routes to open first when they need to plow to reopen roads.
- **Continuity of Operations/Government Plans (COOP/COG):** Inform decisions in local continuity of operations/continuity of government plans for specific bureaus

and departments to ensure critical staff, equipment, and supplies can reach essential facilities and deployment locations.

- **Mass Care and Shelter Plans**: While local jurisdictions vary in their approach to mass care and shelter planning, planners can use the RETR network to identify strategic locations for community points of distribution (CPOD) and shelters. Not every facility needs to be along a regional route; however, regional routes will facilitate debris clearance and access into major health facilities.
- **Exercise Scenario Development**: Inform scenario development and inputs for local exercises. Because many ESFs rely on ground transportation, RETRs provide a realistic basis for anticipating which routes may reopen first, next, and last after a disaster. This can help shape exercise constraints, logistics assumptions, and operational decision-making.
- **Regional Debris Management Framework**: Inform disaster debris site planning and clearance priorities. Align debris removal operations with tiered route reopening sequences, particularly following a catastrophic debris-generating event (e.g., major storm or earthquake).
- **Seismic Islands**: "Seismic islands" often reflect likely disruptions in transportation networks due to bridge failures, landslide impacts, or other seismic hazard impacts. Consider applying this to the RETR network to reinforce specific strategic investments related to ensuring access following an earthquake (i.e., preventing an island at all). Local jurisdictions may also choose to use an island approach to plan improvements or adjust future RETR classifications.

6.2.1.3 Regional Integration (Metropolitan Planning Organizations, Multi-County Coalitions)

Regional agencies, such as Metro, RTC, and the RDPO, address issues crossing jurisdictional boundaries including major transportation corridors, shared utilities, and regional health facilities. Metro and RTC specifically guide regional transportation planning efforts by setting goals, performance targets, and policy frameworks that apply to local agencies. Regional agencies also play a key role in distributing state and federal funding for projects that strengthen transportation networks or increase the region's resilience to disasters.

These agencies often facilitate disaster preparedness planning, training programs, and exercises that link local and state efforts, promoting consistency or alignment, efficiency, and resource sharing. However, it is worth noting that funding mechanisms at the regional level for hazard resilience are modest. The limited resources are focused on assessment and coordinated planning efforts, while implementation of improvements, particularly for infrastructure priorities, is dependent on local, state and federal investment.

Regional collaboration helps ensure that neighboring jurisdictions work from aligned assumptions, goals, performance targets, and strategies. Shared resource planning and mutual aid agreements reduce duplication and improve overall efficiency.

Regional planning efforts build from the input of local agencies, but they also provide policy direction and coordination across agency boundaries and cover shared infrastructure such as utilities, ports, dams, and more. The following are some of the key opportunities to integrate RETRs into regional planning efforts.

6.2.1.3.1 REGIONAL TRANSPORTATION PLANS

Metro Regional Transportation Plan (2023)

The 2023 Metro Regional Transportation Plan (RTP) sets goals, policies, and performance measures for the transportation system within the greater urban Portland area in Clackamas, Multnomah, and Washington counties. It forecasts transportation needs at least 20 years into the future and integrates local and state capital projects into a regionwide financially constrained project list. Inclusion on the list makes these projects eligible for federal funding. While the current RTP includes resiliency planning in its transportation preparedness and resilience policies, the next update could strengthen the emergency and evacuation considerations in several places. The RTP is updated every five years with the next update scheduled for adoption in November 2028.

Goals and Policies**:** Emergency transportation is called out directly in the RTP's transportation preparedness and resilience policies, specifically Section 3.2.4.5. Three of the six resilience policies are the most directly tied to the RETRs.

- Resilience Policy 1: Designate, maintain and strengthen the resilience of regional emergency transportation routes that, in the case of a major regional emergency or natural disaster, would be prioritized for rapid damage assessment and debris-removal and will be critical to response and recovery of the region.
- Resilience Policy 2: Consider climate and other natural hazard-related risks during transportation planning, project development, design and management processes.
- Resilience Policy 3: Optimize operations and maintenance practices that can help lessen impacts on transportation from extreme weather events and natural disasters.

The RETRs within the Metropolitan Planning Area (MPA) are included as a map in the RTP as Figure 3.7. The map will be updated to reflect the tiers established in RETR Phase 2.

Project Prioritization**:** Goal 5 of the RTP is related to climate action and resilience, and it aims to make regional transportation infrastructure more resilient to the effects of climate change and natural hazards. Within the project prioritization process, there are two categories related to emergency transportation that could be awarded zero points, one point, or be evaluated as not applicable or not assessed. These categories are a) whether the project is located on a Regional Emergency Transportation Route (RETR) and/or b) whether the project is located on a State Seismic Lifeline Route (SSLR). It is recommended

that these scoring categories be kept in the next RTP update but that they be updated to provide points if:

- The project is located on a Regional Emergency Transportation Route (RETR) and includes a project or treatment that would increase resiliency, make the route more seismically secure, or support emergency response efforts.
- The project is located on a State Seismic Lifeline Route (SSLR) and includes a project or treatment that would increase resiliency, make the route more seismically secure, or support emergency response efforts.

Furthermore, Metro can define resiliency elements to include resiliency planning efforts or project capital elements such as seismic retrofits, elevating roads or bridges, stormwater management infrastructure, nature-based solutions including vegetation buffers and bioswales, shade structures, and tree or vegetation management along roadways. Roadway or shoulder widening may have a positive effect on emergency response efforts, especially in rural areas, but could conflict with other goals for the transportation network.

The 2023 RTP reported that two-thirds (2/3) of the total RTP capital spending go toward projects located on an RETR or SSLR; in addition, the 2023 RTP proposed 21 capital projects focused on improving the seismic resilience of the transportation system (representing almost 40 percent of total RTP capital spending). Continuing to invest in resilience within the RTP capital spending in the next update cycle should remain a priority and tracking that spending over time provides important transparency.

Southwest Washington Regional Transportation Council (RTC) Regional Transportation Plan (2024)

The Southwest Washington RTC Regional Transportation Plan for Clark County was adopted in 2024, providing a vision for long-range transportation infrastructure, policy, and planning into the next 20-plus years. The Clark County RTP is updated every five years with an amendment anticipated in 2027, and the next update expected in 2029.

The Clark County RTP uses growth forecasts and employment trends to determine future transportation investments, refine policy recommendations, and develop a fiscally constrained project list.

Goals and Policies**:** The Clark County RTP highlights climate change as an emerging issue and discusses the impact of climate-related severe weather events on the capacity of the transportation network. The sustainability and resiliency goal aims to "design and maintain a resilient transportation system that will protect and enhance the natural environment." Under this, objectives corresponding to emergency response and management include:

- Work with agency partners to enhance the transportation network's resiliency by increasing travel options and redundancies

- Support local and state efforts for transportation network resiliency, reliability, and climate adaptation and develop transportation designs that incorporate these trends
- Develop a mechanism to promote regional coordination on emergencies and long-term responses to systemwide climate impacts

Actions established in the 2024 Clark County RTP to implement the sustainability and resilience goals (found in Table 6-1 in the Clark County RTP) include: Incorporate recommendations for ETRs and related best management practices from the Regional Disaster Preparedness Organization (RDPO) Phase 2 study.

Project Prioritization**:** The Clark County RTP establishes performance measures and analyzes them in conjunction with related federal performance measures. Additionally, the Clark County RTP identifies candidate performance measures for the 2029 RTP. There are currently three target area performance measures listed under the Sustainability and Resiliency goal, which primarily focus on vehicle-miles traveled (VMT) and greenhouse gas (GHG) emissions. However, there is a target area performance measure for bridges to determine the percent of bridges with good and poor conditions. Prioritized projects for the 2024 Clark County RTP are shown alongside the relevant performance measures and RTP goals. This listing does not show how the project specifically rates against the RTP goals.

Recap of the recommendations for Regional Transportation Plans

Recommendations for supporting the RETRs in the Metro and Southwest Washington RTC RTP updates can include:

- **Clarify Route Classifications**: Clarify what constitutes a RETR vs a local ETR.
- **Prioritize Resilience of RETRs:** Provide policy support to prioritize resilience and maintenance investments on the RETRs.
- **Identify Opportunities and Track Investment in RETRs:** List and summarize projects on the RETR network that include a resilience improvement separately, and identify appropriate metrics related to emergency response and evacuation routes. This would allow RTP updates to better track progress towards increasing resiliency, addressing current limitations in filtering these types of projects within online RTP project maps and spreadsheets.
- **Identify Routes for Transportation Infrastructure Vulnerability Studies**: Continue supporting work to address critical transportation infrastructure vulnerability to multiple hazards, including extreme heat, flooding and earthquake. The RTPs could identify what further studies are needed.
- **Integrate Tiered RETRs in Next RTP Update:** Incorporate prioritized RETRs in the 2028 RTP (Metro) and 2029 RTP (RTC). RETR network additions or edits to the network should be submitted to Metro and RTC for review and possible inclusion in

each MPO's RTP update (every five years). While minor extensions or edits of current RETRs can adopt existing tiering, entirely new routes may be included but will remain un-tiered until the next regionwide five-county update.

- **Coordinate on Future Five-County Updates:** When RETRs across the five counties are updated, including tiering, the RDPO, RTC, and Metro should partner to deepen coordination across the MPOs planning areas. The recommendation is that this regionwide update occurs every 10 years.

6.2.1.3.2 EMERGENCY MANAGEMENT

Emergency management planning at the regional scale often includes policy or planning frameworks, larger scale assessments, training and scenario development, along with regional funding for resiliency efforts.

- **Regional Debris Management Framework**: In 2014, the RDPO developed a disaster debris management framework. As part of Metro's work implementing the 2030 Regional Waste Plan, in 2024-25 they led a regional work group to develop the Regional Solid Waste Emergency Management Response and Recovery Framework; that process included reviewing the 2014 regional framework. If/when an update to the 2014 RDPO framework occurs or additional work occurs on disaster debris as outlined in the Metro framework, the integration of RETR-tired routes would add value to the application of the framework for local planning.
- **Seismic Islands:** Like recent assessments at the state and local level to designate "seismic islands", this approach could be applied to the RETR network to highlight specific strategic investments in priority connections that need reinforcement for seismic resilience. Understanding where islands may result and possible areas of concern due to a lack of critical services within that island can also inform how local jurisdictions and regional partners prepare and respond accordingly to mitigate or withstand the impact.
- **Exercise Scenario Development**: Like with local integration above, RETRs can inform scenario development and inputs for regional exercises.
- **Fuel Planning**: From 2019 to 2021, the RDPO funded work that drafted emergency fuel plans for four of the five counties as Washington County had already made significant progress on their own in emergency fuel planning. Over the last 10 years, the region also hosted two joint regional tabletop exercises ("Fueling Anxiety" in 2018 and "Fuel Injection" in 2022). In future fuel planning work, the updated RETR network should be compared to emergency fuel storage and distribution plans for each county to flag any gaps or ensure access to critical fuel sites. The updated RETR network should also be used to provide input to a future regional fuel exercise to test the latest state Fuel Action Plans alongside the county emergency fuel plans for fuel movement strategies that rely on state seismic lifeline routes, WSDOT priority routes, and RETRs.
- **Response Planning with Community Partners**: Community partners expressed interest in understanding how local ETRs and RETRs factor into their emergency

response plans. When incorporating priority RETRs into their own plans, public sector emergency management partners should include community partners with critical response roles. One example is hunger relief organizations who deliver meals or receive food inventory to feed their communities. Understanding which routes will likely be available in sequence after a disaster can help with how they plan operations after a disaster.

- **Resilience Hubs:** community partners recognize the importance of resilience hubs—places to gather to access information, services, and resources, and receive assistance before, during, and after a disaster—in their communities. These facilities may also be enhanced with emergency response in mind (e.g., cached supplies, backup energy capability). In recent years, many partners in the five-county region have started discussing and planning for resilience hubs. However, these efforts are often independent or siloed. and there lacks a consolidated dataset to understand where these facilities are and what they offer. For the 2025 UASI grant, the RDPO has supported a project (pending FEMA approval) to work on a coordinated regional approach and understanding about resilience hubs to align the multiple planning and expected operationalization of these facilities. As part of this project, or any other resilience hub planning work, a potential hub's proximity and access to an RETR could factor into site selection or utilization.

6.2.1.3.3 PORTS

The Port of Portland focuses on seismic resilience for emergency transportation routes, which involves assessing vulnerabilities in port facilities and ensuring that critical routes remain operational during seismic events. The Port Seismic Risk Assessment identified specific actions to mitigate risks associated with natural hazards, particularly key assets that support regional economic functions. Key aspects include:

- **Vulnerability Assessment**: Evaluate the seismic risks of various port facilities.
- **Emergency Routes**: Establish and maintain transportation routes to/from port facilities crucial for disaster response and recovery.
- **Mitigation Strategies**: Implement recommendations to enhance the resilience of infrastructure against seismic events.

6.2.1.3.4 POWER UTILITIES

Local electric utility providers, including Pacific Corps and Portland General Electric, confirm they use emergency transportation route designations in their own natural hazard preparedness planning and in real-world response operations in coordination with state partners such as the Oregon Department of Energy (ODOE) and ODOT. Their teams actively monitor road closures and impedances, and they use the RETR designations together with live information to inform clearing roadways to conduct repairs. Clark Public Utilities noted that while they do maintain a list of priority locations (e.g., certain businesses, hospitals, assisted living facilities, etc.), they do not currently have plans that directly reference or

integrate RETRs. However, it is something they will consider in the future when examining access, response priorities, and coordination during large-scale events to strengthen broader emergency response and continuity planning efforts.

The power utilities requested to be engaged during future RETR updates to maintain situational awareness about RETR designations in the metropolitan region to incorporate updates into their internal plans and response operations. Utility providers also note that during emergency response operations, they often look to public sector partners to dictate time-of priorities to help them with restoration decisions and other decision making.

6.2.1.4 State Integration

State agencies focus on overarching policy frameworks and compliance requirements, including alignment with the Federal Emergency Management Agency (FEMA), Federal Highway Administration (FHWA) and U.S. Department of Transportation (USDOT) guidelines. In Oregon and Washington, the state agencies for emergency management provide funding, technical assistance, and statewide hazard assessments, and they maintain the State Comprehensive Emergency Management Plan, which outlines emergency management activities across mitigation, preparedness, response, and recovery. States also coordinate with federal agencies on disaster declarations and recovery resources. The statewide transportation plans set priorities for the major roadway systems that connect the population centers and move people and goods from outside the region to those cities.

State mandates and federal guidelines shape local and regional planning efforts, and many funding streams require alignment with state and federal priorities. Oregon and Washington have both identified highways that will receive priority with respect to restoration and investments to ensure resiliency during emergency events. Examples include Oregon Department of Transportation's (ODOT) Seismic lifelines designation for highways and Washington State Department of Transportation's (WSDOT) State Priority Route tiering system. While Oregon and Washington operate slightly differently, transportation planning and emergency response during a major event would be coordinated to ensure access to critical local and regional resources.

Statewide planning looks at a bigger picture – providing technical assistance and training, setting up policies that shape regional and local planning, and ensuring compliance with federal mandates and funding requirements. While the five-county RETRs are set at a smaller scale, they can still influence state transportation and emergency management efforts.

6.2.1.4.1 TRANSPORTATION PLANNING AND POLICY

ODOT and WSDOT periodically update their statewide transportation plans. In those plans, both agencies have policies to create a transportation system that is resilient to disasters, along with supporting policies such as maintaining assets, coordinating pre-disaster mitigation with MPOs, and completing a variety of hazard and seismic planning activities. The RETRs support many of these state goals and could benefit from ongoing state-level policy and funding support.

Oregon Transportation Plan (2023)

Objective SP.6 of the Oregon Transportation Plan (OTP) states to "increase the resiliency of the transportation system to better withstand and recover from the anticipated impacts of climate change, extreme weather, seismic and other natural disasters, and adapt to changing needs."

Policies under this objective address:

- The ability of communities to recover from transportation challenges
- Mitigating adverse effects of climate change
- Multi-hazard mapping and assessment, including seismic risk assessments
- Identifying route redundancies and detour options
- Alternative fuel resilience
- Using MPOs for disaster/resiliency planning

Other policies in OTP Goal 6.4 address system maintenance and asset management, which affect key infrastructure that could fail during a major emergency. ODOT should consider additional language that prioritizes maintaining assets on RETRs that connect to the SSLRs.

OTP Strategy SP.2.1.1 sets a direction for project prioritization that identifies this top tier priority to "maintain and preserve critical assets, key corridors, and critical lifeline routes." In future updates, the OTP could specifically include reference to the RETRs as part of this strategy to ensure that top tier routes are included and prioritized in state funding decisions. A suggested update to the strategy would be to prioritize projects that "maintain and preserve critical assets, key corridors, critical lifeline routes, and MPO-designated regional emergency transportation routes."

Oregon Highway Plan (2023)

The Oregon Highway Plan (OHP) is a modal plan under the OTP that addresses the specific needs and policies for state highways. Policy 1E establishes the state lifeline routes as "a secure lifeline network of streets, highways, and bridges to facilitate emergency services response and to support rapid economic recovery after a disaster." The Statewide Seismic Lifeline Routes (SSLRs) were a key consideration in the creation and tiering of the RETRs.

While the SSLRs provide major roadway connections across Oregon, in the regional prioritization framework, RETRs receive additional points in the scoring process when they connect into the state system.

There is currently a policy gap in the criteria, where only ramps that connect one SSLR to another SSLR are included in the SSLR network. This leaves a small but critical gap in the network between SSLRs and RETRs, and on facilities that are often vulnerable to seismic events. It is recommended that ramps that connect SSLRs to RETRs be included in the SSLR system so that they are considered for resiliency updates and provide a stable link in the emergency route network. Suggested language could be, "a secure lifeline network of streets, highways, ramps, and bridges to facilitate emergency services response and to support rapid economic recovery after a disaster."

In both the OTP and OHP, lifeline routes or the lifeline network is mentioned in strategy, policy, and prioritization. In future updates, if this phrase is more openly defined to include ramps connecting to RETRs as well as SSLRs as suggested in the definition update above, then the stated priorities to maintain and preserve these key routes would allow for integration with the regional network.

Bridges and culverts came up often in methodology discussions during the RETR tiering process. They are critical assets that can be seismically vulnerable and are prevalent across the RETR network. Incorporating the RETRs in the definition of the lifeline network would elevate those bridges with seismic vulnerabilities on RETRs and increase their likelihood of capital funding for improvements to increase their resilience during seismic or flooding events.

There are four performance measures in the OHP for lifeline routes:

1. The percent of bridges on lifeline routes with a satisfactory seismic rating (potentially bridge health index, sufficiency rating, and/or National Bridge Inventory rating)
2. Number of bridges on lifeline routes brought to a satisfactory rating in reporting period
3. Percentage of Oregon residents whose lifeline system access has been defined and evaluated
4. Percentage of Oregon residents whose lifeline system access meets bridge rating standards

Additional performance measures could include how many SSLRs connect to RETRs or could measure bridge ratings on both the SSLR and RETR systems. If both networks are included in the definition of the lifeline system, then the RETRs could also be part of the calculations for performance measures 3 and 4 above.

Washington Transportation Plan (2025)

The Washington Transportation Plan (WTP) Vision 2050 Plan includes a policy to "Support the efficient operation of vital lifeline facilities, including highways, bridges, roads, and transit systems that are important for the efficient and safe emergency evacuation of at-risk populations, with an emphasis on communities in flood zones and areas prone to wildfires." The plan also emphasizes coordination with local and regional agencies. Incorporating specific references to the RETRs in the next update of this document would not only support the state's vision but also tie the RETRs to larger state-wide policy and funding prioritization.

WSDOT Primary Incident Response Routes

WSDOT has also established priority routes as part of their Statewide Snow and Ice Plan (2025) that are like the ODOT state seismic lifeline routes. The ODOT prioritization system was tailored towards response to seismic events, whereas the WSDOT system was designed for response to winter storm events. WSDOT characterizes the five priority levels as follows:

- Level 1: Interstate Corridors, 80,000+ vehicles per day
- Level 2: Important intercity and local routes, which carry between 20,000 and 80,000 vehicles per day
- Level 3: Fewer than 20,000 vehicles a day
- Level 4: Keep traffic moving under normal expected winter conditions for the 5,000 to 10,000 vehicles that use these roadways daily
- Level 5: Less than 5,000 vehicles use these routes per day. Some are closed during the winter months

During the RETR Phase 2 project, the project team treated the WSDOT high-priority routes (I-5, I-205, SR 14, SR 500, SR 501, SR 502, and SR 503) the same as ODOT SSLRs. RETRs that directly connect to them received a point. In future updates, it is recommended that RETRs continue to prioritize connections to these state-identified routes and coordinate any updated methods included in WSDOT's priority routes.

6.2.1.4.2 LAND USE POLICY

In Oregon, the Transportation Planning Rules (TPR) implement Goal 12: Transportation of the Statewide Land Use Planning Goals. The TPR sets the requirements for Transportation System Planning and the required elements and analysis for a TSP. At this point in time, emergency response and resiliency are not required elements of a TSP, however, in the future, there could be discussion around how to incorporate this into transportation planning and how to implement RETRs in other jurisdictions in Oregon.

In Washington, the climate change and resiliency element of Comprehensive Plans emphasizes actions that enhance resiliency in multiple ways. There is not a specific

direction either in these or the transportation elements that emergency response must be studied. Similar to the Oregon TPR, this could be incorporated into future planning requirements to increase the priority on regional and local ETRs.

6.2.1.4.3 HAZARD MITIGATION PLANS

The Oregon Department of Land Conservation and Development (DLCD) maintains Oregon's natural hazard mitigation plan (NHMP). The most recent NHMP was approved in September 2025, and the next update cycle will conclude by September 2030. The State plan receives input from other state agencies; for transportation priorities, DLCD looks to ODOT as the primary partner to advise on strategic hazard mitigation priorities. This is how ODOT's SSLRs are considered. If RETRs are officially documented by ODOT, they may similarly be communicated to DLCD. Then when state NHMP planners are looking at priorities for the Portland Metro region, they can use the RETRs as a data point to both inform and prioritize Portland-area investments.

Washington's State Enhanced Hazard Mitigation Plan (SEHMP) provides an overarching statewide framework for reducing risks to people, infrastructure, and essential services. Transportation systems, including highways, bridges, and multimodal corridors, are a core component of this framework. The SEHMP directly supports and complements RETR planning in several important ways.

- The plan identifies principal hazards that could affect the transportation system focusing on earthquakes, landslides, wildfires, floods, and hazardous materials incidents. These hazards highlight the importance of resilient and redundant transportation corridors
- The plan recognizes the need to keep key highway segments, bridges, and cross-state routes operational or quickly restorable so they can support life safety functions and supply movement
- The plan documents and coordinates mitigation programs across multiple state agencies—including WSDOT, the Department of Ecology, and the Emergency Management Division—focusing on reducing infrastructure vulnerability and improving hazard readiness. These state-level risk-reduction programs help guide and reinforce regional priorities related to transportation resilience

6.2.1.4.4 OREGON STATEWIDE SEISMIC ISLANDS

In 2022-24 the Oregon Department of Human Services (ODHS) Office of Resilience and Emergency Management (OREM) developed 31 statewide "seismic islands" that detail areas of the state likely to become isolated following a Cascadia Subduction Zone 9.0 earthquake (worst-case scenario). The islands indicate areas of the SSLRs that are likely to be cut off due to damage from seismic hazards. ODHS developed these islands to inform strategic investments in mass care to strengthen mass care services (which falls under their leadership as the State's lead for Emergency Support Function (ESF) #6: Mass Care.

Following the original project, ODHS/OREM delivered a second pilot effort to refine the "islands" with local input: engaging four counties and two tribes along the coast, in addition to a few counties in central Oregon. The process identified areas where local routes may be able to serve as work-around routes for anticipated "breaks" in the SSLR network and refined some of the island boundaries as a result.

ODHS/OREM also hopes to roll-out county level seismic islanding assessments to identify local breaks to priority road networks and create a more comprehensive capability for local and state partners to inform strategic mass care plans and the syncing of those plans for local and state partners.

The RETR network would be an excellent candidate for a future "seismic island" approach to determine where and how the RETRs can serve connectivity where SSLRs may fail and furthermore, where the RETRs themselves may be disrupted due to seismic impacts resulting in "islands" across the metro region. Should ODHS secure funding for additional seismic islanding work with local partners, the region should consider participating (and perhaps cost share).

6.2.1.4.5 STATE EMERGENCY FUEL PLANNING

The Oregon Department of Energy (ODOE) maintains an annually updated Energy Security Plan (ESP) that includes an evaluation of liquid fuel system risks and recommended mitigation actions (Sections 7, 8) in addition to a specific statewide Fuel Resource Evaluation (Section 9). The ESP supports the Oregon Fuel Action Plan: ODOE's response-focused plan for emergency fuel management in a statewide or regional emergency.

The ESP's fuel resource evaluation leveraged the statewide seismic islands (see above) to inform planning for isolated areas following a seismic event. It is worth noting that a large percentage of critical fuel infrastructure for the state sits in the Portland metro region. The SSLRs and the RETR network will be used to respond to seismic or other significant disruptions to the fuel storage and distribution network.

Any future assessment of seismic islanding of the RETR network (as recommended above) could in turn inform strategic emergency fuel resource planning for local jurisdictions and support deeper planning with state partners. In the interim, a refreshed seismic-scenario driven emergency fuel tabletop exercise (as a follow-on to the 2018 and 2022 regional tabletop exercises) can leverage the latest county-level emergency fuel plans (2019-2021), alongside the 2024-2025 updated Fuel Action Plan and ESP's Fuel Resource Evaluation. Such an exercise would be a valuable test for alignment and identification of gaps to support additional planning and training.

Washington has a set of plans that are similar in scope to the Oregon Energy Security Plan. The Energy Resilience and Emergency Management Office (EREMO) at the Department of

Commerce has a 2023 State Fuel Action Plan, intended to be an emergency response plan in the event of a fuel shortage or disruption. The Washington State Enhanced Hazard Mitigation Plan (SEHMP) assesses energy system vulnerabilities, and state priority routes considered fuel access and delivery. Future updates to RTC's RTP and WSDOT state highway planning could recognize the role of RETRs in fuel access and delivery during emergency events.

6.2.1.5 Potential Funding Opportunities

In all the considerations discussed here, funding for improvements is critical. Integrating the RETRs into local, regional, and state documents increases their priority and prominence, and eligibility for capital funds. Additionally, current funding streams are often connected across agencies, and this funding structure enables rapid, equitable, and accountable planning and operations.

Tier 1 routes should be the first priority for resilience projects and funding for maintenance or projects to reduce the risk of emergency event failure on these facilities. However, all routes designated as RETRs should be considered for funding for resilience projects due to their importance to the regional network.

Table 3 shares examples of potential funding opportunities.

Table 3. Potential Funding Opportunities

Name	Notes
Federal	
FEMA Public Assistance (PA)	Reimburses eligible costs of emergency response work or permanent repair of infrastructure following a federally-declared disaster. There is a non-federal cost share requirement, typically 25%.
Federal Highway Administration (FHWA) Emergency Relief	ODOT applies on behalf of state and local owners for Federal-aid highways; covers emergency and permanent repairs
Federal Transit Administration (FTA) Emergency Relief	For damaged transit systems' capital and operations, in coordination with ODOT Rail & Public Transit Division
State of Oregon	
ODOT Seismic Program, Seismic Plus, Implementation Guidelines	Prioritize lifeline corridors, combine retrofit with replacement where lifecycle-efficient; and integrates unstable slope mitigation

Name	Notes
Statewide Transportation Improvement Fund (STIF)	Oregon's dedicated transit revenue stream for maintaining and improving public transportation. Support for emergency service continuity and recovery (operations focused)
Connect Oregon (non-highway modes)	Competitive funds and federal match options for aviation, rail, and marine resilience and recovery (e.g., port berth, airport apron, etc.)
Seismic Rehabilitation Grant Program (SRGP, Business Oregon)	For emergency services facilities & schools (EOCs, fire, police, etc.)
State of Washington	
Washington's Climate Commitment Act (CCA)	Generates substantial funding for transportation infrastructure investments. RETRs are well aligned with CCA's goals to leverage carbon fees toward investments to make the state's transportation system more resilient. Working with legislators and WSDOT to allocate this funding to RETRs could be a priority
Washington State Motor Vehicle Fund	Fuel tax revenues to be used for highway and roadway investments
Transportation Alternatives and Local Programs Grants	A mix of state and pass-through federal grants that could specifically support local bridge rehabilitation and community connectivity improvements on RETRs
Legislative funding packages	Many of Washington's larger transportation projects are funded through legislative packages that identify specific sets of investments. RETRs would be strong candidates for future funding packages that tend to leverage new or expanded transportation revenue sources
Regional and Local	
Metropolitan Planning Organizations (MPO)	Prioritize flexible funds, update Transportation Improvement Programs (TIP) for emergency priorities, coordinate cross-jurisdictional detours and transit
Local option sources	Transportation system development charges (SDC), transportation impact fees, transportation benefit district taxes (WA state specific), local gas taxes, general fund emergency reserves, etc.

6.3 Phase 2 Recommendations (near-term future work)

6.3.1 Recommendation 2-2: Prioritize the near-term recommendations and define future RETR project phases

Recommendations 2-3 through 2-9 emerged during Phase 2 as next steps partners have identified that will further RETR planning work. These recommendations need to be reassessed alongside priority, capacity, and budget amongst partners to determine the next phases of the RETR project.

6.3.2 Recommendation 2-3: Develop RETR management plans.

Metro and the RDPO originally submitted a Phase 2 proposal to the RDPO's 2021 Urban Area Security Initiative application process. In addition to tiering the RETR network, that project concept included developing a RETR management plan. Phase 2 was eventually delayed until the 2023 UASI grant year and with a smaller budget, developing guidelines for operations and maintenance was removed from the scope.

Based on discussions throughout Phase 2, the need to have a shared understanding of operationalizing RETRs is a recommendation that should be addressed in the near-term to facilitate more specific response planning. With different owners and operators across the RETR network, planning can be coordinated on a regional level but ultimately local jurisdictions will likely be the first responders due to equipment and personnel availability after a disaster. A RETR management plan should define concepts, such as communications between agencies, ETR use, users (including transit providers and public works staff), regional design guidance, priorities and responsibilities for route maintenance, debris clearance, and emergency repair. A coordinated plan with a timeline and associated responsibilities for federal, state, regional, and local emergency responders would provide the framework for developing emergency transportation response plans for varying levels of government.

See the ETR Phase 1 Technical Report, Recommendation 3 in section 8.2, page 71 for more detailed information.

6.3.3 Recommendation 2-4: Establish network and tiering update cycle

Phase 1 recommended a minimum 10-year update cycle and a shorter five-year update to capture changes in underlying data that will be used for an update. During discussions within this project, the RDPO, Metro, and RTC have agreed to jointly update the five-county RETR network/tiering every 10 years with minor updates to the network every five years as part of updates to the Regional Transportation Plans of Metro (covering the urbanized portion of Clackamas, Multnomah, and Washington counties) and the RTC (covering the urbanized portion of Clark County). While the RTC may update their data and the network

in Clark County separate from the Oregon counties and vice versa, partners should make sure to invite bi-state partners to be part of an update process or, at minimum, make them aware.

6.3.4 Recommendation 2-5: Develop a data management plan

Phase 1 and Phase 2 of the RETR project relied heavily on underlying data to inform analysis that updated the overall network and tiered the routes in the network respectively. Proximity to specific critical facilities or other points of interest were factors in determining RETR including (or exclusion) and subsequent tier. In both phases, significant data review and cleanup was required before beginning analysis. Data sources include Metro's Regional Land Information System (RLIS), a collection of Geographic Information System (GIS) datasets that support planning and analysis in the Portland metropolitan area, as well as ODOT and WSDOT databases. See Appendix C for the full list of data sources and additional information about the technical process

Given the amount of data that went into analysis as well as the amount of data generated specific to RETRs, a robust data management plan is needed. Regular updates to underlying RETR-related datasets will set up future RETR work to minimize how much data cleanup might be needed prior to analysis. Additionally, maintaining data about the RETR network and individual routes will ensure that partners are working with the most current information. As RLIS is the primary location where route data is stored and much of the underlying data is compiled, Metro is the most likely partner to develop this data management plan.

6.3.5 Recommendation 2-6: Identify critical failure points and high-risk locations including further work related to bridges

Identifying critical failure points and high-risk locations along the RETR network is essential to ensuring that the system can function reliably under emergency conditions. Disruptions caused by earthquakes, flooding, wildfires, or severe weather can have cascading effects, particularly at locations where the network lacks redundancy or depends on a single asset such as a bridge, interchange, or constrained corridor.

By systematically pinpointing these vulnerabilities, agencies can better understand where failures would result in significant loss of connectivity, delayed emergency response, or isolation of communities. This knowledge provides a foundation for prioritizing investments, whether through targeted capital improvements, operational strategies, or contingency planning.

Throughout the RETR project, partners conveyed urgent concerns related to bridges and other failure points in the RETR network. In response, the project team created a bridge table (Appendix D) that compiles basic information about all the bridges located along the

RETR network, including bridge name, owner, maintainer, bridge type, condition, seismic vulnerability, and the tier of the RETR route it is located on. Future work on this topic could use this table as a starting point for a more thorough analysis.

6.3.6 Recommendation 2-7: Expand points of interest in future tiering

Input from partners noted other considerations and refinements to the prioritization criteria for future iterations of the tiering process. A few examples include:

- **Clinics and urgent care centers**: health and medical partners note that in areas of the region that are farther away from an acute care hospital, local clinics or urgent care centers often the medical facility for that area (e.g., Columbia County does not have a hospital within county borders but there are community health centers). When evaluating proximity to points of interest, future iterations should consider areas in our region where non-hospital medical facilities should be factored in.
- **Resilience hubs**: community partners continue to elevate the importance of resilience hubs as critical community spaces. If resilience hubs are included as part of RETR identification and/or prioritization criteria, a central dataset of resilience hub locations is needed.
- **Fuel infrastructure**: as described in Recommendation 2-1, counties and the state have advanced fuel and energy planning over the last five years. While the current criteria includes some, but not all, fuel retail and fuel storage, fuel infrastructure more tailored to emergency response operations should be cleared up and determined. This may include a crosswalk of identified priority locations in county fuel management plans and state energy plans (e.g., ODOE's Energy Security Plan) to prioritize public facilities with enhanced emergency fuel storage, fuel stations or emergency distribution sites, etc.

6.3.7 Recommendation 2-8: Improve planning for vulnerable populations and rural communities

Phase 2 improved upon the underlying data used during the tiering process by using Metro's Social Vulnerability Tool (SVT) developed in 2020-22. The SVT data provided a better regional look at ensuring socially vulnerable, and hence likely more disaster-vulnerable communities are served by prioritized RETRs. Metro is currently working on a phase 2 of the SVT project to develop disaster-specific social vulnerability indices, enabling the region to refine ongoing work in understanding and measuring social vulnerability in our region by aligning specific vulnerabilities to specific disasters scenarios. The project is expected to conclude in 2026.

To build on recommendation 2-1, local jurisdictions can use RETRs to support investment in vulnerable or underserved communities. Engaging with local community partners (e.g., schools, hospitals, transit agencies, community-based organizations, etc.) around the

RETRs, discussing how emergency services can access and equitably serve their communities, and listening to local concerns is key to both transportation and emergency management planning, and an opportunity to understand how community needs can be met while improving resilience of RETRs.

Another challenge that arose during the tiering process was how RETRs serve rural areas and the need to balance tiering routes in urban versus rural areas. The evaluation criteria inherently led to a greater number of higher-tiered segments in urban areas because of the concentration of people and therefore points of interest. Rural areas do not have the same density of road networks, leading to fewer options for routes and redundancies. Partners in those areas recognize they cannot expect the same level of service. The recommendation is to use RETRs to focus on mitigating risks and minimizing impacts (e.g., understanding islanding effects; planning for pre-positioned agreements, supplies, or resources; updating county natural hazard mitigation plans; investing in and developing resilience hubs and other community spaces; and educating and preparing residents on the risks of living in those areas).

6.3.8 Recommendation 2-9: Integrate RETRs and LETRs into evacuation planning

Local and state partners continue to make progress on evacuation planning. As noted above, emergency response is often underrepresented in TSPs and TEs (and therefore, may not appear on priority project lists) because they are not required. The same is true for evacuation planning. In some jurisdictions, local evacuation plans exist for specific high-risk neighborhoods or facilities. RETRs, while focused on emergency response access, can be used as a consideration when agencies identify preferred evacuation routes; the local designation of evacuation routes is also a useful input to future RETR updates. Tiered priority RETRs could incorporate details about specific corridors designated for priority egress from high vulnerability geographies in specific hazard scenarios.

See the ETR Phase 1 Technical Report, Recommendation 6 in section 8.2, page 74 for additional information.

6.4 Phase 2 Recommendations (long-term future work)

The following recommendations are carried over from Phase 1 as additional follow-on work to advance emergency transportation plans and resilience. See the respective sections in the ETR Phase 1 Technical Report for additional information.

6.4.1 Recommendation 2-10: Conduct engineering evaluation of tier 1 routes

See Recommendation 7 in section 8.3, page 73.

6.4.2 Recommendation 2-11: Expand RETR concept to other modes of transportation

See Recommendation 8 (river routes) and Recommendation 10 (bike and pedestrian options) in section 8.3, page 75.

6.4.3 Recommendation 2-12: Develop equity-centered public messaging

See Recommendation 9 in section 8.3, page 75 for additional information.

7. Conclusion

The completion of the RETR Phase 2 marks a significant milestone in strengthening the region's ability to respond to major disasters. However, it also underscores the amount of work that remains. The tiered RETR network, informed by extensive partner engagement and a robust prioritization methodology, provides a clear roadmap for resilience investments. Advancing the recommendations outlined in this report, including RETR management planning, data management, engineering evaluations, and integration into local and regional planning, will require regional coordination and a shared commitment to long-term resilience.

Achieving this vision will depend heavily on securing reliable and diverse funding sources. Yet many of the most consequential next steps such as seismic upgrades, addressing critical failure points, and enhancing rural access will require multi-year, multi-agency investment strategies that exceed currently available resources. Agency partners can all help to prioritize this work, recognizing how important it is for our collective long-term goals. With sustained investment, the region can translate this planning foundation into a transportation system capable of supporting rapid response and long-term community resilience.

8. Definitions

Arterial: Arterials provide direct, relatively high-speed service for longer trips and large traffic volumes, forming from the primary connections between the central city, regional centers, industrial areas, intermodal facilities, as well as between neighboring cities and the metropolitan region. These can be classified as "Principal" or "Minor."

Capacity: A transportation facility's ability to accommodate moving people or vehicles in a given place during a given time period.

Cascadia Subduction Zone (CSZ): The zone surrounding the Cascadia fault line running along the Pacific Northwest coast, capable of producing severe earthquakes.

Climate change: Any change in global or regional climate patterns over time, whether due to natural variability or human activity, that persists for an extended period and is attributed largely to increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.

Community centers: Key local destinations such as schools, libraries, grocery stores, pharmacies, hospitals and other medical facilities, general stores, and other places that provide key services and/or daily needs.

Critical infrastructure: Lifelines other than the roadway transportation network, such as water, wastewater, electricity, fuel, communications, and intermodal transportation (i.e., transit, rail, airports, marine terminals, and river access points).

Debris clearance: The clearance, removal, and/or disposal of items such as trees, sand, gravel, building components, wreckage, vehicles, and personal property.

Emergency Operations Center (EOC): A facility where government agencies coordinate response activities, resource allocation, and decision-making during emergencies.

Emergency Operations Plan (EOP): A local plan that establishes protocols for responding to emergencies and coordinating response functions, which often incorporate regional emergency transportation routes (RETRs). Also known as Comprehensive Emergency Management Plans (CEMP).

Essential facilities: For the purpose of tiering routes within the Metro region, essential facilities included places such as hospitals and health care facilities; emergency operations centers (EOCs); police and fire stations; public works facilities; state, regional, and local points of distribution (PODs); designated debris management sites; and shelters and community centers.

Geographic Information Systems: System for storing, analyzing, and displaying spatial data often used in planning, operations, and emergency response.

Hazard Mitigation Plan (HMP): A plan that provides an overarching statewide framework for reducing risks to people, infrastructure, and essential services.

Metropolitan Planning Organization (MPO): A regional agency responsible for long-range planning, policy development, and distribution of federal transportation funds within an urbanized area.

Natural Hazard Mitigation Plan (NHMP): see Hazard Mitigation Plan.

Points of Interest: Destinations, or points, that were used in identifying essential services for emergency transportation. These considered:

- Life safety: Measured by access to infrastructure such as hospitals, fire stations, and police stations.
- Connectivity: Ability to designate clear routes to State Seismic Lifeline Routes, principal arterials/highways, and minor arterials.
- Public Works and Resources: Access to public works facilities, fueling centers, and water treatment and distribution sites.
- Other key destinations: Airports, debris management sites, and Emergency Operations Centers.

Regional Emergency Transportation Routes (RETRs): Routes used during and after a major regional emergency or disaster to transport resources and materials, including first responders (e.g., police, fire and emergency medical services, fuel, essential supplies, debris, equipment, patients, and personnel).

RETR Network Tiers: A framework used to prioritize RETRs based on their relative support for emergency response, long-range planning, and capital investment.

- Tier 1 routes are the highest priority routes for rapid damage assessment and debris clearance to ensure a functioning regional transportation network after a disaster to facilitate lifesaving and life-sustaining response activities. Tier 1 routes create a network that connects emergency response personnel to critical locations and key communities across the region, and links to the ODOT Statewide Seismic Lifeline Routes (SSLR) and WSDOT priority network systems.
- Tier 2 are the next highest priority routes that continue to build off the Tier 1 network, increasing connectivity and redundancy and providing additional access to critical locations and key communities.
- Tier 3 further adds to the network.

Regional Transportation Plan (RTP): A long-range transportation planning document adopted by a Metropolitan Planning Organization that sets goals, policies, performance measures, and investment priorities for the regional transportation system.

Resilience hubs: Places within a community to gather to access information, services, and resources, and receive assistance before, during, and after a disaster.

Seismic islands: Areas defined by Oregon Department of Human Services (ODHS) within Oregon that are likely to become isolated following a Cascadia Subduction Zone 9.0 earthquake. The islands indicate areas of the Statewide Seismic Lifeline Routes (SSLRs) that are likely to be cut off due to damage from seismic hazards.

Social Vulnerability Tool (SVT): The SVT is a tool created by Metro that looks at national and available local data to identify people in the region who are most likely to experience barriers to services and programs before, during and after disasters.

Statewide Seismic Lifeline Routes (SSLR): Routes established by ODOT with the goal of supporting survivability and emergency response efforts immediately following an event; providing transportation to facilities that are critical to life support functions for interim periods following an event; and supporting statewide economic recovery.

Transportation Improvement Plan (TIP): A short-term prioritized list of transportation projects eligible for state and federal funding.

Transportation System Plan (TSP): A local plan that evaluates the full transportation network and guides how jurisdictions build, manage, and maintain multimodal transportation systems.

Vulnerable Populations: Communities with challenges accessing or utilizing the transportation system (related to age, income, race, ethnicity, language, disability, or mobility) that are often exacerbated during an emergency.

9. Acronyms

C-TRAN – Clark County Public Transit Benefit Area Authority
CBO - Community-Based Organization
CCA – (Washington) Climate Commitment Act
CEMP – Comprehensive Emergency Management Plan
COOP/COG - Continuity of Operations/Government Plan
CPOD – Commodity Point of Distribution
CRESA - Clark Regional Emergency Services Agency
CSZ - Cascadia Subduction Zone
DLCD – Oregon Department of Land Conservation and Development
DOGAMI – Oregon Department of Geology and Mineral Industries
DOT – Department of Transportation (see ODOT, WSDOT)
EM – Emergency Management
EOC – Emergency Operations Center
EOP – Emergency Operations Plan
EREMO – (WA Department of Commerce) Energy Resilience & Emergency Management Office
ESF – Emergency Support Function(s)
ESP – Energy Security Plan
ETR – Emergency Transportation Route(s)
FEMA – Federal Emergency Management Agency
FHWA – Federal Highway Administration
FTA – Federal Transit Administration
GHG – Greenhouse Gas Emissions
GIS – Geographic Information System
HMP – Hazard Mitigation Plans
LETR – Local Emergency Transportation Route
MPA – Metropolitan Planning Area
MPO – Metropolitan Planning Organization
NHMP – Natural Hazards Mitigation Plan
ODHS – Oregon Department of Human Services
ODOE – Oregon Department of Energy
ODOT – Oregon Department of Transportation
OHP – Oregon Highway Plan
OREM – (ODHS) Office of Resilience and Emergency Management
OTP – Oregon Transportation Plan
PA – (FEMA) Public Assistance
POI – Point(s) of Interest
PSU – Portland State University
PWG – Project Work Group

RDPO – Regional Disaster Preparedness Organization
REMG – Regional Emergency Management Group
RETR – Regional Emergency Transportation Route(s)
RLIS – (Metro) Regional Land Information System
RTC – (Southwest Washington) Regional Transportation Council
RTP – Regional Transportation Plan
SEHMP – (Washington) State Enhanced Hazard Mitigation Plan
SDC – System Development Charges
SR – State Route
SRGP – (Oregon) Seismic Rehabilitation Grant Program
SSLR – (Oregon) Statewide Seismic Lifeline Route(s)
STIF – (Oregon) Statewide Transportation Improvement Fund
SVT – (Metro) Social Vulnerability Tool
TE – Transportation Element(s)
TIP – Transportation Improvement Program
TPR – Transportation Planning Rules
TREC – Transportation Research and Education Center
TSP – Transportation System Plan(s)
UASI – Urban Area Security Initiative
USDOT – U.S. Department of Transportation
VMT - Vehicle-Miles Traveled
WSDOT – Washington State Department of Transportation
WTP – Washington Transportation Plan

10. References

Metro Disaster Debris Management Plan
Metro. *Metro Disaster Debris Management Plan.* Updated October 29, 2025. URL: https://www.oregonmetro.gov/resources/disaster-debris-plan

Metro Regional Transportation Plan (RTP)
Metro. *2023 Regional Transportation Plan.* Adopted November 30, 2023.
URL: https://www.oregonmetro.gov/projects/2023-regional-transportation-plan

Metro Social Vulnerability Tools (SVT)
Metro. *Social Vulnerability Tools Project Phase 1.* Completed 2022.
URL (project page): https://rdpo.net/social-vulnerability-tools-project
URL (online explorer): https://gis.oregonmetro.gov/social-vulnerability-explorer/

Oregon Energy Security Plan
Oregon Department of Energy. *Oregon Energy Security Plan.* Updated September 2025.
URL: https://www.oregon.gov/energy/safety-resiliency/Pages/Energy-Security-Plan.aspx

Oregon Fuel Action Plan
Oregon Department of Energy. *Oregon Fuel Action Plan.*
URL: https://www.oregon.gov/energy/safety-resiliency/Documents/Oregon-Fuel-Action-Plan.pdf

Oregon Highway Plan (OHP)
Oregon Department of Transportation. Oregon Highway Plan. Adopted 1999; most recent amendment 2023. URL: https://www.oregon.gov/odot/Planning/Documents/OHP.pdf

Oregon Natural Hazards Mitigation Plan (NHMP) 2025–2030
Oregon Department of Emergency Management & DLCD. *2025–2030 Oregon Natural Hazard Mitigation Plan.* FEMA-approved September 15, 2025.
URL: https://www.oregon.gov/oem/emresources/Plans_Assessments/Pages/hazard-mitigation-planning.aspx

Oregon Statewide Seismic Islands
Oregon Department of Emergency Management. *Cascadia Island Mapping Pilot Project.* Accessed February 2026. https://www.oregon.gov/oem/hazardsprep/pages/cascadia-subduction-zone.aspx

Oregon Transportation Plan (OTP)
Oregon Department of Transportation. *Oregon Transportation Plan.* Adopted July 13, 2023.
URL: https://www.oregon.gov/ODOT/Planning/Pages/Plans.aspx

Phase 1 Regional Emergency Transportation Routes Update
Thuy Tu Consulting and Salus Resilience. *Regional Emergency Transportation Routes Update for the Portland-Vancouver Metropolitan Region in Oregon and Washington.* Prepared April 2, 2021.
URL (project page): https://rdpo.net/emergency-transportation-routes-phase-1
URL (report): https://drive.google.com/file/d/1WQKbco7d4AaKymTGRIkCe9Q6LNXpdpuy/view?usp=sharing

Southwest Washington Regional Transportation Council (RTC) – Clark County RTP
RTC. *Clark County Regional Transportation Plan.* Adopted 2024.
URL: https://rtc.wa.gov/programs/regional-transportation-plans/clark-county/

WSDOT Chapter 7: Snow and ice control
Washington State Department of Transportation. *Maintenance Manual M 51-01 Chapter 7: Snow and ice control.* December 2025.
URL: https://wsdot.wa.gov/publications/manuals/fulltext/m51-01/chapter7.pdf

Washington State Enhanced Hazard Mitigation Plan (SEHMP)
Washington Emergency Management Division. *Washington State Enhanced Hazard Mitigation Plan.* Approved October 1, 2023.
URL: https://mil.wa.gov/asset/651ec296d76a9/2023_WA_SEHMP_final_20231004.pdf

Washington State Fuel Action Plan
Washington State Department of Commerce. *Fuel Action Plan.* Finalized October 2023.
URL: https://deptofcommerce.app.box.com/s/niubqs1s9dpt7g0oz6lq6ln0krzs6ysb

Washington Transportation Plan – WTP Vision 2050
Washington State Transportation Commission. *Washington Transportation Plan – Vision 2050.* Published August 11, 2025.
URL: https://wstc.wa.gov/wp-content/uploads/2025/08/2025-08-11-WTP-Vision2050-Plan.pdf

Appendix A. Best Practices Memorandum

FEHR PEERS

Memorandum

Date: 15 November 2024

To: Carol Chang and John Mermin

From: Udit Khandelwal and Briana Calhoun, Fehr & Peers

Subject: Best Practices for Reopening of Emergency Routes (RETR Phase II)

PT24-0106

Building on the work on the topic of evacuation that Fehr and Peers has completed across the country, this interim memo presents a research summary from three Oregon plans and five other jurisdictions which have laid out a framework for deciding which road-based routes should be prioritized for being kept operational after an emergency in the respective region. Though they each address different purposes (like evacuation, debris clearing, military response) and involve different types of stakeholders, this memo is focused only on their approaches to roadway prioritization. The exception is the Portland Transportation Recovery Plan, which also includes transit and rail along with roadways.

The examples reviewed here span different scales – state, county, and city – and this influences what each of them seeks to prioritize. For example, state-level policies prioritize regional and interstate access over local access after an emergency. Furthermore, some are more specific than others about quantifying the framework with which they perform route prioritization.

Plan Review

City and County of San Francisco Disaster Debris Management Plan (2019)

The CCSF Disaster Debris Management Plan was prepared to specifically deal with physical debris in the aftermath of any type of natural or man-made emergency faced by the San Francisco County region. The SF Public Works Department created a route tiering system to prioritize streets for damage assessment, street clearance, and emergency response after a disaster. The tiering took into consideration:

- Egress and ingress to critical facilities and infrastructure
  - Critical facilities: Fire Stations, Police Stations, Medical facilities, primary shelters, schools, radio repeaters,
  - Critical infrastructure: water pump stations, reservoirs, road structures

- Need to move across the city (N&S/ E&W)
- Potential damage and obstructions to roadways
    - Downed lines (power and MUNI)
    - Glass from high-rise buildings
    - Damaged road structures

The plan does not include a quantifiable method for prioritizing routes for clearance, and instead provides the following order:

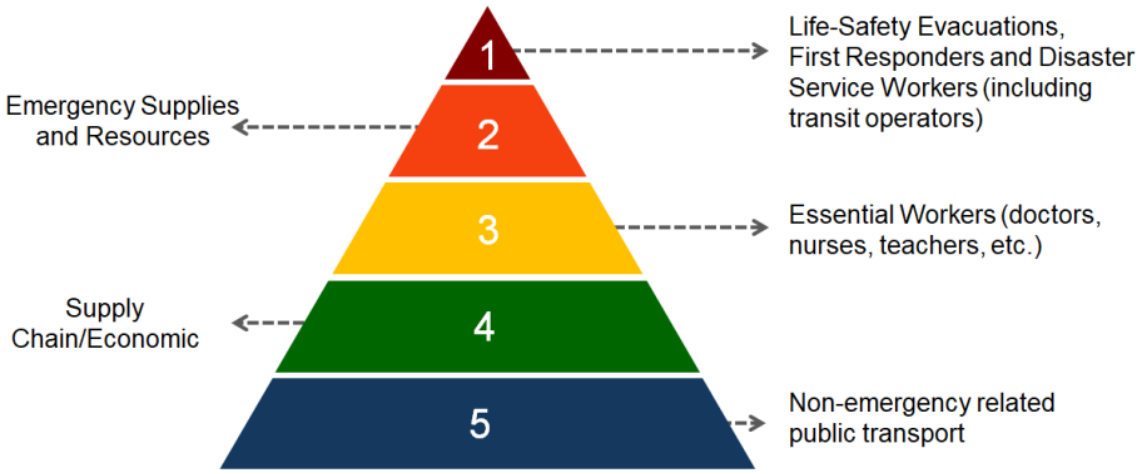
1. Immediate life-safety needs – firefighting, emergency medical, search and rescue, evacuations
2. Clearance of at least one lane on all critical routes to ensure access to fire and police stations, hospitals, EOC DOC, critical staging areas. (shown in the SFPW windshield survey map)
3. Clearing access to public schools, other facilities used for emergency shelters
4. Clearing access to other gov and public facilities essential to recovery
5. Access for utility restoration (substations, pump stations, wastewater plants)
6. Secondary road clearance
7. Clearance on private roads if and when debris affects public welfare (though this will need pre-approval from Cal OES and FEMA).

Santa Barbara Transportation Emergency Preparedness Plan (2020)

This plan applies to the counties of Santa Barbara and Ventura, which are part of a region highly susceptible to earthquakes, fires, and flooding. In this document the priorities for transportation access in the aftermath of an emergency are set not based on infrastructure but on the needs of different groups and travel purposes. It illustrates this through a prioritization pyramid (see figure below) with the following order in reducing priority:

1. Life safety actions, first responders, Disaster Service Workers: Ensuring that, during an emergency, these workers can report to their place of duty.
2. Emergency supplies and resources: Necessities like food, medical supplies, fuel, and special supplies needed by first responders are transported.
3. Essential workers: Depending on the emergency, who qualifies as “essential” can change and county officials would need to take a call on this to ensure such workers can report for maintaining essential services.
4. Supply chain/economic: As the private sector maintains most of the supply chains, emergency managers would need to work with key players and transportation providers to ensure critical supplies are available.
5. Non-emergency related transit: This would be considered of least priority and transit services would be halted until the disaster is stabilized.

Figure 1. Transportation Priorities in an Emergency (Source: Santa Barbara Transportation Emergency Preparedness Plan)



Houston-Galveston Area Council, Resilience and Durability to Extreme Weather (2021)

The Houston-Galveston region is a big economic hub that is also highly vulnerable to flooding. The report documents Criticality and Vulnerability Assessments (CA and VA) to identify transportation assets and routes which are crucial to the region's functions and economic activity, and which are most susceptible to regional climate stressors. For the purposes of this memo, we are only concerned with the CA, since the VA's focus is to identify the infrastructure to be prioritized for rehabilitation. The report is also for a pilot program and is limited to road infrastructure – major roads and bridges. The CA is based on the following four categories:

- Socioeconomic importance (20%): Contribution of each transportation asset to regional economy and access to key hotspots
- Usage and operational importance (40%): Volumes and types of traffic that each asset holds (AADT, transit)
- Health and safety importance (30%): Access provided by each asset to healthcare and safety facilities and for underserved areas and populations.
- Emergency preparedness importance (10%): Role of each asset in an emergency; indicators include evacuation routes, links to shelters and Emergency Operation Centers (EOCs), access to military facilities.

The weighting for these categories was developed based on feedback from stakeholders (detailed methodology Appendix A pg. 101). Each of these categorizations relies on multiple indicators scored typically on a 0-4 scale, and then after weighting each roadway was scored on a 0-1 scale. Because freeways have large traffic flows, a bias towards them in the scoring is reduced by treating freeways separately from other major roads. The study also splits each route into

segments and scores the segments individually. For example, for the indicator "Access to airports" within the Socioeconomic category (refer Table below), each road segment is scored from 0-4 based on the travel time to the nearest airport.

Table 1: List of indicators for each evaluation criterion

Category	Indicator	Category	Indicator
Socioeconomic	Access to airports	**Health and safety**	Access to hospitals
	Access to ports		Access to fire stations
	Access to activity population		Service to vulnerable pop
Usage and operational	AADT	**Emergency preparedness**	Evacuation route
	AADTT		Access to shelters
	Transit rides		Access to FEMA EOCs
			Military access

The vulnerability assessment framework involves an evaluation of transportation assets' capacity to endure and recover from climate exposures and service disruptions due to extreme weather events. It consists of three main components:

1. **Exposure** assesses whether a road segment or bridge is likely to be flooded based on various flooding scenarios, utilizing data such as water depth and flood risk maps.
2. **Sensitivity** measures how much damage or disruption an asset may experience when exposed to specific stressors, considering factors like structural integrity and past performance during floods.
3. **Adaptive Capacity** evaluates the ability of the transportation system to cope with damage or disruption, focusing on aspects like repair costs and network redundancy.

These components are combined to create an overall vulnerability index, which helps identify critical infrastructure that requires prioritization for resilience strategies against future climate impacts.

Metro Disaster Debris Management Plan (2022)

The Disaster Debris Management Plan outlines a framework for managing debris generated by disasters in the Portland-Metro region, emphasizing safety, public health, and environmental sustainability. It establishes procedures for debris operations, including temporary management sites, prioritization of debris clearance, and coordination with local and federal agencies. The plan

incorporates considerations for climate change, equity, employee safety, and compliance with regulatory requirements while aiming to minimize greenhouse gas emissions.

The top priority for debris clearance is focused on emergency transportation routes, critical facilities, and any debris which poses an immediate threat to public health and safety.

ODOT Seismic Lifelines Evaluation, Vulnerability Synthesis, and Identification (2012)

Mandated by Policy 1E, Lifeline Routes, in the *Oregon Highway Plan*, this report documents the process for the Oregon Seismic Lifelines Route identification project. Criteria in the evaluation framework are grouped into 3 categories: Connections, Capacity, Resilience. The tables below categorize and list all criteria used for scoring, along with the description of the scoring parameters for each of them on a "Low", "Moderate", and "High" scale. As with the scoring system in other reports, individual routes are split into segments and scored for access to different services listed in "Connections".

This evaluation framework is used to divide the state roadway system into three tiers, in which:

- The Tier 1 system provides access through the state and to Washington and California through a contiguous network, with minimal cost of seismic retrofitting.
- The Tier 2 system extends the contiguous reach of the first tier, while providing redundancy to the population hubs in Portland MSA and Willamette Valley.
- Tier 3 ties the other two segments together with additional redundancies.

The report notes that the goal of this prioritization is to serve state needs over the needs for access to every location, and thus locally crucial "seismic lifeline" routes may not have been considered if they don't serve as key corridors at a statewide level.

Table 2: Evaluation criteria in Connections category

Category: Connections	Low score	Moderate score	High score
Access to each of: - Fire stations - Hospitals	None within 5 miles of the segment	At least one within 5 miles of the segment	At least one within 1 mile of the segment
Access to ports and airports	Segment doesn't provide ready access to airport or port	Segment leads to an arterial that leads to an airport or port	Segment provides direct access to airports or port
Access to railroads	Segment provides no direct access to a railroad	--	Segment intersects with railroad or closely parallels railroad
Access to ODOT maintenance facilities	No maintenance facilities within 0.25 mile of the segment	--	At least one maintenance facility within 0.25 mile of the segment
Access to population centers	Sum of population values for all population centers along the segment is less than 10,000	Sum of population values for all population centers along the segment is between 10,000 and 100,000	Sum of population values for all population centers along the segment is greater than 100,000
Access to emergency response staging areas	Segment doesn't provide ready access to a staging area	Segment leads to an arterial that leads to a staging area	Segment provides direct access to a staging area
Access to critical utilities	Segment does not provide access to critical utility infrastructure	--	Segment provides access to critical utility infrastructure
Access to central Oregon	Segment does not provide access to central Oregon	Two-lane roadway that provides access to central Oregon	High-capacity roadway that provides access to central Oregon (connects to US 97)
Connection to Centers of Commerce	Segment does not connect to an urban growth boundary of an MPO	Segment connects to an MPO urban growth boundary, but not to a central business district	Segment provides direct access to a central business district in an MPO

Importance of Segment to Freight Movement	No mention of the highway in Chapter 4 of the Oregon Freight Plan	Highway that provides connectivity to a freight facility, as listed in the Oregon Freight Plan	Strategic freight corridor as depicted in the Oregon Freight Plan
Segment Provides Critical Non-redundant Access	At least one alternate roadway (state or locally owned) exists that provides access to the same area for which the segment provides access		No alternate roadway exists that provides access to the same area for which the segment provides access

Table 3: Evaluation criteria in Capacity category

Category: Capacity	Low score	Moderate score	High score
Roadway Width	Two or three lanes	Four or five lanes	Six or more lanes
Ability to Control Use	No access control	Limited access control (such as an expressway)	Full access control (such as on an interstate freeway)
Freight Access	Highly restricted to truck and oversize load traffic	Some restrictions for length or width; will not accommodate oversize and overweight loads	No freight restrictions

Table 4: Evaluation criteria in Resilience category

Category: Resilience	
Bridge seismic resilience	Bridge seismic resilience after short-term repair
Roadway seismic resilience	Roadway seismic resilience after short-term repair

Resilient Washington State (2012)

The Resilient Washington State initiative aims to enhance the state's preparedness and recovery capabilities in the event of an earthquake, recognizing Washington's high seismic risk. The framework includes a comprehensive assessment of critical infrastructure across four sectors: Critical Services, Utilities, Transportation, and Housing & Economic Development. It identifies vulnerabilities, establishes target recovery timeframes for essential services, and outlines ten key

recommendations for improving resilience, such as making schools and hospitals structurally sound, enhancing utility systems, and strengthening business continuity planning.

While individual emergency routes are not identified in this plan, it does establish the target timeframe for recovery for a range of transportation networks, including ferries and rail.

Figure 2. Target States Of Recovery: Washington's Transportation Sector

KEY TO THE TABLE

TARGETS TO ACHIEVE DIFFERENT LEVELS OF RECOVERY:

- ***Minimal*** *(A minimum level of service is restored, primarily for the use of emergency responders, repair crews, and vehicles transporting food and other critical supplies.)*
- ***Functional*** *(Service is not yet restored to full capacity, but is sufficient to get the economy moving again—e.g. some truck/freight traffic can be accommodated. There may be fewer lanes in use, some weight restrictions, and lower speed limits.)*
- ***Operational*** *(Restoration is up to 80–90% of capacity: A full level of service has been restored and is sufficient to allow people to commute to school and to work.)*

TIME NEEDED FOR RECOVERY TO 80–90% OPERATIONAL GIVEN CURRENT CONDITIONS: ✕

For a number of components, the timeframes marked in the table reflect the estimated recovery period following a worst case scenario earthquake. See the notes in Workshop Report II for details.

TARGET STATES OF RECOVERY: WASHINGTON'S TRANSPORTATION SECTOR

	Event occurs	0–24 hours	1–3 days	3–7 days	1 week–1 month	1–3 months	3 months–1 year	1–3 years	3+ years
Interstate 5									
Puget Sound (center & north)								✕	
South end (Chehalis south)							✕		
Interstate 90									
Puget Sound (Snoqualmie Pass west)								✕	
Cascades to eastern WA (Snoqualmie to Idaho)							✕		
Interstate 405									
South end (Tukwila to I-90)								✕	
North end (I-90 to Lynnwood)								✕	
Ferry operations							✕		
Floating Bridges									
SR 520								✕	
I-90							✕		
Hood Canal					✕				

TARGET STATES OF RECOVERY: WASHINGTON'S TRANSPORTATION SECTOR (CONTINUED)

	Event occurs	0–24 hours	1–3 days	3–7 days	1 week–1 month	1– 3 months	3 months–1 year	1– 3 years	3+ years
25% of major & minor arterials					✕				
50% of major & minor arterials						✕			
75% of major & minor arterials							✕		
90% of major & minor arterials								✕	
Airports								✕	
Airport for emergency traffic					✕				
Ports and navigable waterways								✕	
Rail (freight & passenger)								✕	
Mass transit: estimates mirror those of major & minor arterials									

Washington State Catastrophic Index Assessment (Transportation) & Appendix 1: Cascadia Subduction Zone (2022)

The Catastrophic Incident Annex (CIA) outlines the strategic framework for managing transportation infrastructure during catastrophic incidents in Washington State. It emphasizes the importance of identifying and prioritizing critical routes for emergency response, including highways, bridges, railways, maritime, and aviation systems. The document details planning assumptions, operational concepts, and coordination mechanisms necessary to assess damage, clear debris, and restore access to essential services. It also highlights the roles of various agencies, the need for situational awareness, and the establishment of logistics connections to facilitate effective disaster response and recovery efforts.

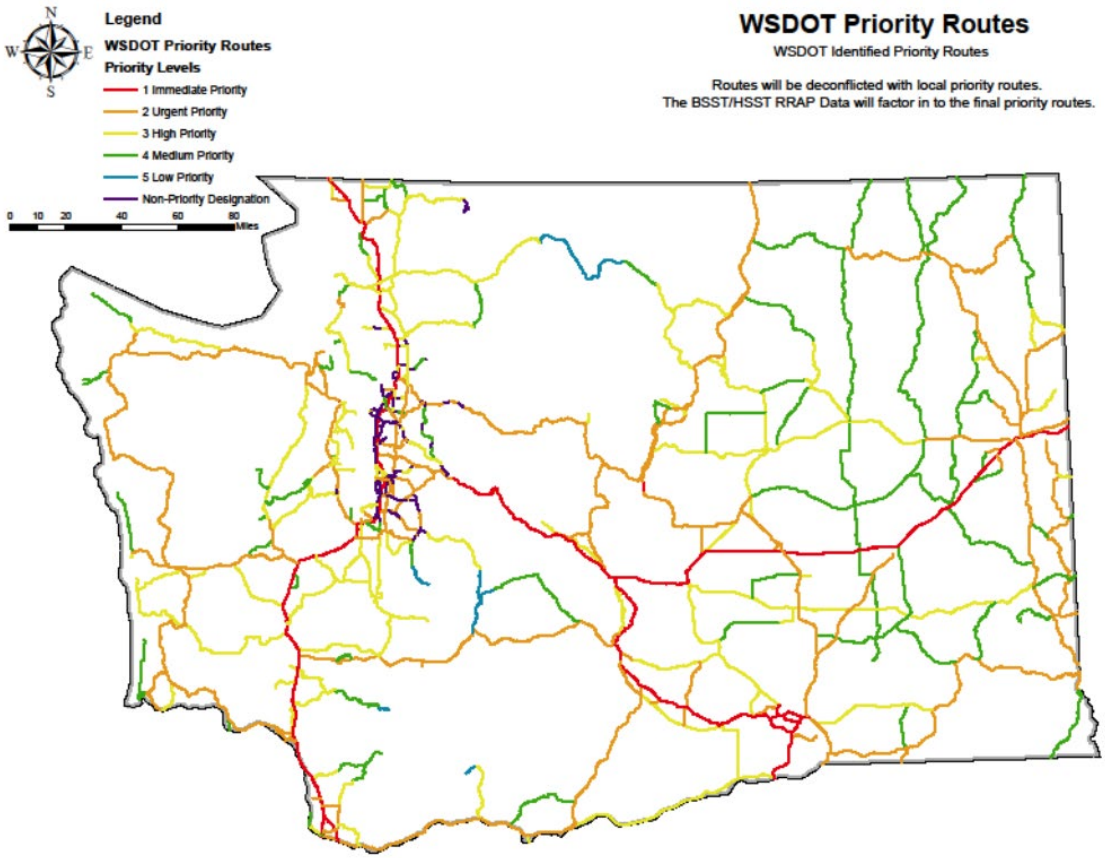
The plan prioritizes transportation routes in three tiers for the recovery of transportation infrastructure after an incident.

- WSDOT Seismic Lifeline Routes
- State Priority Routes
- Local Priority Routes

WSDOT Seismic Lifeline Routes are routes that should be reopened quickly to create connections between Incident Support Bases (ISBs) located in central and eastern Washington and Federal Staging Areas (FSAs) located in western Washington. They are either currently or in the progress of being retrofitted for improved earthquake survivability.

All State Routes in Washington have been assigned a priority (1-5) based on their level of use.

Figure 3. WSDOT State Priority Routes



Local Priority Routes are those roadways which are essential for a local response to occur within a jurisdiction. These routes are intended to:

- Enable access from the state transportation system.
- Connect with local staging areas, mass care locations, medical services, and specific critical infrastructure.
- Bypass the state transportation system at points to offer additional areas of connection and access.

These are being established by local jurisdictions and may not follow the same criteria for all locations.

Portland Transportation Recovery Plan, 2018

The Portland Transportation Recovery Plan was prepared after receiving an FTA grant which aimed to help organizations integrate and coordinate their transit, transportation planning, and transportation demand management (TDM) elements for the response and recovery periods of disaster management. As part of the "Portland Transportation Alternatives Prioritization Tool"

(APT), the report shares a methodology for prioritizing transportation improvements for all highway and transit facilities in the city based on the categories of usage, access, and equity.

Note that the relevant parts of the Plan shared in this memo are about prioritization of improvements, as opposed to that of reopening or operations of routes and roadways. However, the APT is unique in that it considers both rail and roadways for prioritization, and the focus on transit can be a helpful input for next steps after this memo. Furthermore, though this memo is focused only on roadways, the rail component of the APT is shown here for a complete understanding. The transportation improvements considered by the APT are arranged in order of their "contribution to the safe, efficient, reliable movement of people or freight". The scoring is out of 100, with points scored across three main categories:

1. Usage: Maximum of 50 total points for rail and 50 total points for roadways based on the level of usage by users and the role of the facility in emergency management activities.
   MAX Light Rail Service or Portland Streetcar
   a. Ridership by line (maximum of 50 points)

   Roadway
   a. PBOT Traffic Classification (maximum of 9 points)
   b. PBOT Transit Classification (maximum of 9 points)
   c. PBOT Bikeway Classification (maximum of 9 points)
   d. PBOT Pedestrian Classification (maximum of 9 points)
   e. PBOT Freight Classification (maximum of 9 points)
   f. PBOT Emergency Response Route (maximum of 5 points)
2. Access: Maximum of 35 total points based on degree to which priority areas and facilities are served.
   a. Centers and Corridors (maximum of 7 points)
   b. PBEM Tier I Critical Facilities (maximum of 5 points)
   c. Hospitals (maximum of 5 points) iv. Fire Stations (maximum of 5 points)
   d. Police Stations (maximum of 5 points)
   e. Large Employers (maximum of 4 points)
   f. BEECN Location (maximum of 4 points)
3. Equity: Maximum of 15 total points based on the degree to which communities of concern are positively impacted.
   a. Persons of Color Served (maximum of 3 points)
   b. Low-Income Persons Served (maximum of 3 points)
   c. Persons with Disabilities Served (maximum of 3 points)
   d. Persons with Poor Vehicle Access Served (maximum of 3 points)
   e. Persons with Limited English Proficiency Served (maximum of 3 points)

Methods Comparison

The route prioritization methods across the various plans in the document share several similarities. Many plans incorporate a tiered approach to prioritization, categorizing routes based on their significance to emergency response. While some plans utilize qualitative assessments others employ quantitative scoring systems, and stakeholder input and local jurisdictional priorities are key to the route prioritization process.

The most common criterion in the reviewed plans is the emphasis on life safety and access to critical facilities as a top priority during emergencies, ensuring that first responders can operate effectively. The facilities that are classified as critical differ slightly among the jurisdictions so this could be an area of discussion amongst the RETR project work groups.

Economic impact to include access to population centers, freight routes, and ports is also included in a number of the methods, with roadway capacity and volume (AADT) being key measures. Some of the criteria consider route redundancy as a metric, while only the Houston-Galveston Area Council includes a special consideration for vulnerable populations.

Appendix B. Tiering Methodology and Stakeholder Summary Memorandum

Fehr & Peers

Memorandum

Date: April 3, 2026

To: Regional Emergency Transportation Routes PMT

From: Aiden Gray, Ashley Avila, and Briana Calhoun, Fehr & Peers

Subject: RETR Tiering Methodology Development Process

The first draft of the tiering methodology for prioritizing emergency routes is based on a review of best practices and feedback from the project's stakeholder engagement. This memo describes the initial tiering methodology presented to stakeholders, how stakeholder input influenced the development process, and the updated tiering methodology. It concludes with steps to continue into the next phase of the project — implementation of the tiering methodology.

Best Practices Review

In the Fall of 2024, our team reviewed best practices for emergency route prioritization for agencies across the country. The review centered on prioritization frameworks built for either state-wide or metropolitan area planning comparable to the Metro region. We found few documented processes for creating or prioritizing emergency routes, but there were examples found from Oregon, Washington, California, and Texas.

Comparison of Emergency Route Plans

Table 1 summarizes the plans we analyzed. Of the seven we reviewed, only two used a quantitative scoring system. The Houston-Galveston Area Council ranked indicators on a scale of 0-4, and ODOT gave indicators a score of low, medium, or high based on whether or not they met specific criteria.

Table 1. Summary of Emergency Route Prioritization Plans

Agency	Name of Plan	Year	Tiering Methodology
City and County of San Francisco	Disaster Debris Management Plan	2019	Qualitative
Santa Barbara County	Transportation Emergency Preparedness Plan	2020	Qualitative
Houston-Galveston Area Council	Resilience and Durability to Extreme Weather Plan	2021	Quantitative
Portland Metro	Disaster Debris Management Plan	2022	Qualitative

Agency	Name of Plan	Year	Tiering Methodology
Oregon Department of Transportation (ODOT)	Seismic Lifelines Evaluation	2012	Quantitative
Washington Department of Transportation (WSDOT)	The Resilient Washington State Initiative	2012	N/A
Washington Department of Transportation (WSDOT)	The Catastrophic Index Assessment (Transportation)	2022	Unknown

The two most common themes for prioritizing route access were ensuring life safety and connectivity of vital emergency resources. Throughout the plans, life safety was primarily measured by access to infrastructure such as hospitals, fire stations, and emergency supplies. Emergency access included clear routes between hospitals, evacuation shelters, military bases, and public facilities (e.g., schools) to be used as shelters. These spaces serve as meeting points during disasters where large groups of people can congregate, so the ability to easily access these areas is crucial to evacuations.

Agencies also tended to favor clearing high volume, high connectivity routes first and regional routes after. For example, ODOT and WSDOT prioritize state seismic lifeline routes which tend to be high-capacity interstate routes designed to carry heavy freight traffic. These roads allow large emergency vehicles to travel quickly through an area, and they provide access to large populations and commerce centers.

Houston's process also prioritizes access to vulnerable populations and transit operations after an emergency, which few agencies explicitly define in their plans. Transit agencies can play a significant role in evacuation efforts and transporting materials, making them an asset during disaster response.

Restoring access to communication channels is another important category that is often missed in emergency route planning. The County of San Francisco's plan specifies access to radio stations, which can be vital to providing timely communication to first responders and residents. Agencies that do not include communication channels in their plans refer to the restoration of critical utilities. These could be defined as electricity, water, natural gas lines, and cell service access.

Impact of Best Practices Research on Initial Framework

The initial framework follows a quantitative format like the Houston-Galveston framework. The categories for the evaluation criteria also mirror the best practices case studies. The four categories chosen for the methodology are lifesaving/sustaining, connectivity, public works and resources, and other key destinations. The first two categories were present in the majority of emergency response plans in Table 1. The public works and key destinations categories were not explicitly laid out in the best practices research, but the criteria for these two categories were present in many plans (either under a different category name or as a standalone criteria).

The best practices research helped planners develop a set of common emergency response priorities such as access to highways, hospitals, and public works facilities that could then be used as a starting point for the methodology. More importantly, these initial priorities could be presented to stakeholders during the engagement process to determine how to implement the tiering methodology in the Portland Metro region to better serve local communities and disaster response organizations.

Summary of Initial Stakeholder Involvement

The best practices research underscored the need for constant, meaningful stakeholder involvement throughout the course of the project. In the case of RDPO, stakeholders consisted of emergency response experts and community leaders from around the Metro area. Three stakeholder groups were created to provide input throughout this project: a Project Work Group, a Technical Workshop group, and Community Based Organizations (CBO) group.

The project work group is a mix of transportation and emergency management planners. This group met quarterly throughout the project and has provided both technical feedback and project decision-making to guide the project strategies and outcomes.

The Technical Workshops have included a larger list of stakeholders including transportation and emergency management planners, first responders, and public works staff from across the five-county region. This group met three times during the project to provide their industry knowledge to shape the methodology and outcomes. Agencies represented at these workshops include: City of Beaverton, City of Canby Fire, City of Fairview, City of Gresham, City of Happy Valley, City of Hillsboro, City of Lake Oswego, City of Longview, WA, City of Milwaukie, City of Oregon CIty, City of Portland Fire & Rescue, City of Portland, Bureau of Transportation (PBOT), City of Portland; Bureau of Planning & Sustainability (BPS), City of Tigard, City of Troutdale, City of Vancouver,WA, Clackamas County Department of Transportation & Development (DTD), Clackamas County Disaster Management, Clackamas County Fire District, Clackamas River Water Providers (CRWP), Clark County Regional Emergency Services Agency (CRESA), Clean Water Services, Columbia County Public Works, Fehr & Peers, Haley & Aldrich, Metro, Multnomah County Transportation Division, Multnomah County Emergency Management, Oregon Department of Transportation (ODOT), Oregon Office of Environmental Management (OEM), Oregon Walks, Port of Portland, Portland State University, Regional Disaster Preparedness Organization (RDPO), Southwest Washington Regional Transportation Council (SW RTC), The Street Trust, Thuy Tu Consulting, TriMet, Tualatin Valley Water District, Washington County Land Use & Transportation (LUT), Washington County Emergency Management, Washington State Department of Transportation (WSDOT)

Lastly, the CBO workshops occurred three times throughout the project and consisted of 19 local community leaders from a diverse group of organizations, including Adelante Mujeres, Centro Cultural, the Ethiopian and Eritrean Cultural Center, NW Family Services, Unite Oregon, Oregon Foodbank, Trash for Peace, Upstream Access, Familias en Accion, Community Pulse Association, Oregon Chinese Coalition, Meals on Wheels, Living Islands, Outsider Inn, El Programa Hispano Catolico, Slavic Community Center of NW, the African Youth and Community Organization, and Todos Juntos. Using small breakout group discussions, they were asked to provide input on four Metro projects including the RETRs.

Project Work Group Meeting #1

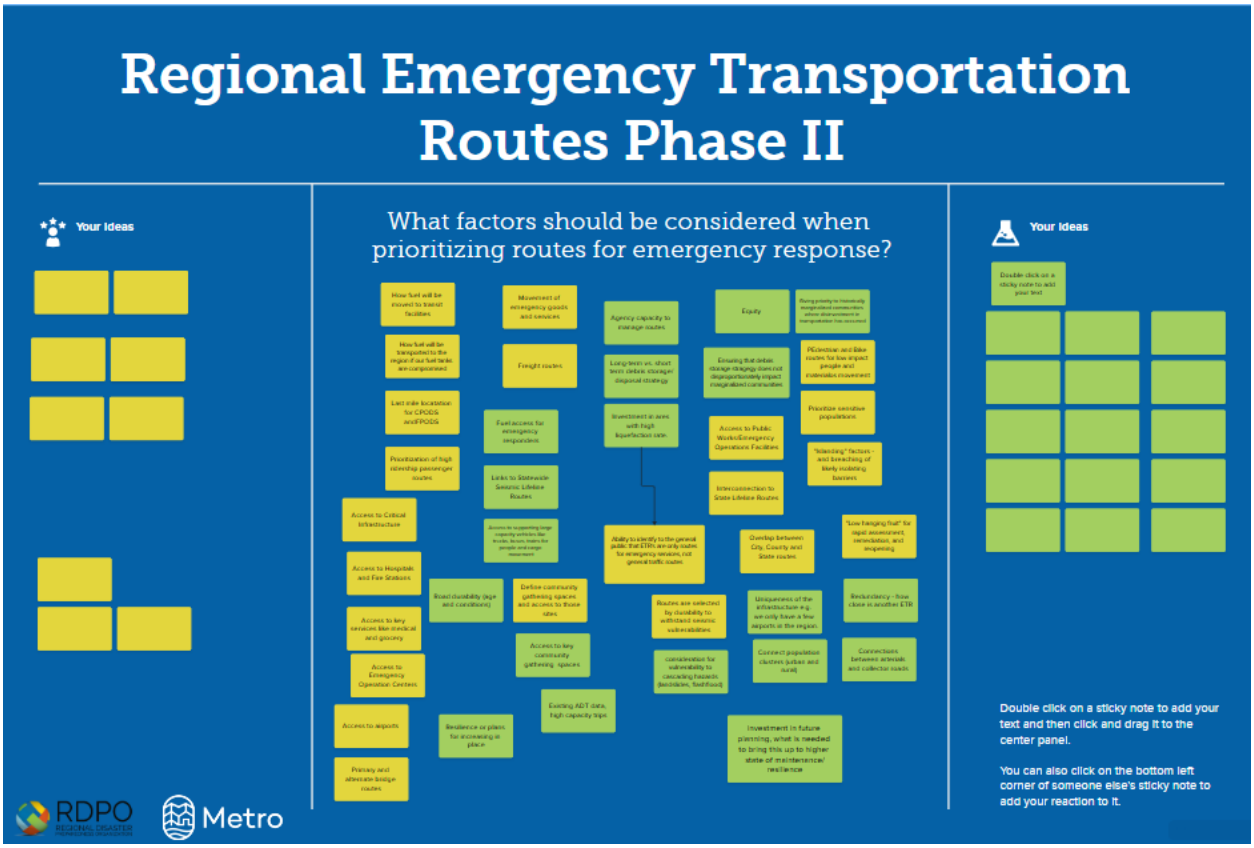
The first project work group meeting was held in December 2024 to introduce the project, share progress on initial project deliverables (which included a data review and best practices research), and gather input on the prioritization framework and discussion as part of the technical workshops. There were 27 attendees representing organizations such as ODOT, city and county staff from the five-county area, RDPO, TriMet, CTRAN, and Port of Portland.

The overall scope was discussed, including how this project would impact other planning efforts such as the RTP by making new recommendations for that process. Attendees were provided with a draft Best Practices memo to review and an update on the data review process, which had no further questions. The project work group was then given a prioritization activity using a visual collaboration whiteboard to brainstorm ideas to include in a prioritization framework, shown in FIGURE X below. During the activity, participants had various questions about how to best incorporate emergency transportation routes within their jurisdictions, explore jurisdictional capacity to manage routes, and understand the impact on various transportation modes under different circumstances/emergency scenarios.

Overall themes for prioritization raised by participants during this activity included:

- **Equity and Marginalized communities:** Prioritization of historically marginalized communities in transportation planning and investment.
- **Infrastructure Durability:** Importance of maintaining and enhancing the durability of roads and infrastructure.
- **Community Connectivity:** Enhancing connections between urban and rural areas, as well as between different modes of transportation and specifically to state lifeline routes.
- **Fuel Access and Transportation Logistics:** Addressing fuel access for emergency services and logistics for transporting goods and services.
- **Access to Key Services:** Ensuring access to essential services like medical facilities and grocery stores for all populations.
- **Additional considerations:** Other comments included the uniqueness of infrastructure (such as only having a few airports available within the region), route redundancy, debris management strategies, and how to operationalize these – such as ensuring quick reopening, thinking about agency ability to manage and maintenance routes, and educating the public.

Figure 1. Project Work Group #1 Activity



Technical Workshop #1

The first of the technical sessions was held in March of 2025. During the technical session, participating experts were asked which roadways they would open first in the aftermath of a disaster, what key locations they would need to access first, and what they thought the biggest logistical challenges would be when responding to an emergency.

Key Routes to Prioritize

The key routes mentioned by workshop members to prioritize were those that provide connections to key locations or primary evacuation routes. The main freeways, I-5 and I-84, were mentioned as important out-of-region routes that would allow external resources and emergency responders to access affected areas. In addition to interstates, highways and state routes could function as major thoroughfares for resources and people. The technical experts noted that only one lane in each direction would be necessary to serve its purpose during an emergency. The idea of a grid-like pattern of connected routes was also highly favored because it would provide redundancy in the case a route is blocked or unusable. This redundancy would allow emergency responders to move more quickly by rerouting general traffic and emergency responders away from work zones if possible.

Some participants noted concern over the creation of "islands" where communities have no access in and out of their city. This lack of connections could cut people off from food, water, and emergency healthcare. The Metro region also has a variety of both urban and rural areas, and there was

discussion around how those people outside of core centers will receive support during an emergency.

Key Locations to Prioritize

Key locations considered by the group fell into these categories: public health, emergency response, maintenance, and community centers. **Table 2** provides the types of key locations brought up in the discussion.

Table 2. Key Locations by Category

Category	Key Locations
Public Health	• Hospitals/Trauma Centers • Wastewater Treatment Plants • Water Reservoirs/Drinking Water Treatment Centers
Emergency Response	• Emergency Operation Centers (EOCs) • Fire Stations • Police Stations • PDX and other local airports
Maintenance	• TriMet Garages • Fuel Sites/Gas Stations • Public Works Departments
Community Centers	• Schools • Evacuation Shelters • Fairgrounds

Many of the locations mentioned made it into the first draft of the tiering methodology.

The Biggest Logistical Challenges to Emergency Response

Challenges mentioned during the technical workshop informed the first prioritization framework's design and continued to shape it into the future. Most of the identified challenges apply to any agency during an emergency, such as how people respond to the emergency and how to provide access to food, water, fuel, and shelter as quickly as possible to affected communities. These logistical issues affect the emergency routes since the routes chosen will dictate how quickly some of these services will be reestablished. Chosen emergency routes may also span multiple jurisdictions, complicating agency ownership and responsibility of resources.

There are challenges unique to the Portland Metro area that require special consideration. The greatest challenge is the number of river crossings throughout the area, including 12 major bridges within the City of Portland. During a seismic event, bridges present a barrier for emergency responders and utility workers. During this workshop, there was no consensus regarding bridges and how to prioritize them as evacuation routes. Bridges were highlighted as important connections between large areas of the Metro region, but would also require many intensive resources to complete infrastructure repairs.

Portland's topography was highlighted as being prone to landslides, which may endanger the lives of emergency responders as they cross the region. The framework discussed would work to build

redundancy into the system so that large natural disasters do not cut off entire portions of the Metro region.

CBO Workshop #1

Feedback from community leaders was gathered through community workshops where Metro presented four disaster preparedness planning projects, including the RETR project. The first CBO workshop was held in April of 2025.

Community leaders expressed a lack of trust in government, which could impede emergency relief efforts. The government also lacks effective communication channels with marginalized communities, and social media is seen as an unreliable way to distribute information to a wide audience. To restore trust in government agencies, it may be worthwhile establishing emergency response lines with known and trusted community organizations that have the resources to reach the people in their communities. The creation of community centers and resilience hubs would also help channel resources to these communities.

Another takeaway from the CBO workshop was that communities were more concerned with frequent extreme events such as heat waves, winter storms, and wildfires than potential once-in-a-lifetime disasters.

Project Work Group Meeting #2

The second work group meeting was held on April 10th, 2025 and featured a summary of the first technical and CBO workshops and a discussion on how the framework should be structured. The work group agreed the framework should include criteria weighing based on location and road characteristics. Participants were asked to rank which locations or characteristics should be prioritized in a weighted framework. **Table 3** shows the top five location priorities, which were also identified in the technical workshop.

Table 3. Locations Identified as Being a Priority

Priority Level	Location
1	Highways and Major Arterials
2	Public Works Facilities
3	Hospitals
4	Water Treatment/Distribution Centers (Tie)
5	Fueling Centers (Tie)

Criteria that automatically qualified a route for a higher tier was proposed. The group agreed that certain criteria should qualify routes for higher tiers, but there was a lack of consensus on defining the criteria. The most common criteria were fuel access, access to public facilities, connection to PDX airport, medical facilities like hospitals, and whether a route crossed a river.

The work group agreed that the Tier 1 routes should form a connected network while the Tier 2 and 3 routes did not have to be fully connected to one another. This allows Tier 2 and 3 routes to augment the network to provide more access. The group also agreed that the Tier 1 network should be

distributed throughout the Portland Metro region, including some uneven distribution providing framework flexibility around major population centers that may require more routes.

Initial Tiering Methodology Outline

We built the initial outline for the tiering methodology using data from Phase 1 of the project. Some of the existing RETR segments were broken into smaller roadway segments at key roadway crossings to provide more nuanced scoring for roadways whose features may change over long distances. Most of the points of interest (POIs) identified by the stakeholders were a part of the Phase 1 analysis, so these ArcGIS layers were reviewed and updated to reflect current conditions. Then we created a buffer in GIS to flag RETRs within a certain distance of the POIs. These initial buffer distances were based on the distribution of the POIs — those that had multiple locations across the five-county region had smaller buffers while those with fewer locations had larger buffers. This reduced the potential of certain criteria being 'washed out', with a majority of routes receiving a point for that criterion.

The tiering methodology does not include all locations presented during the technical workshop. The focus of this work is emergency response, versus evacuation or recovery, and locations like shelters would not be a first need for responders and so were not included. There was also difficulty in finding a consistent source of data for smaller medical clinics and while the CBO workshop highlighted the importance of resilience hubs, there is no standard definition in the Metro region for these hubs. We therefore omitted these two criteria from the initial evaluation even though stakeholders identified them as important POIs.

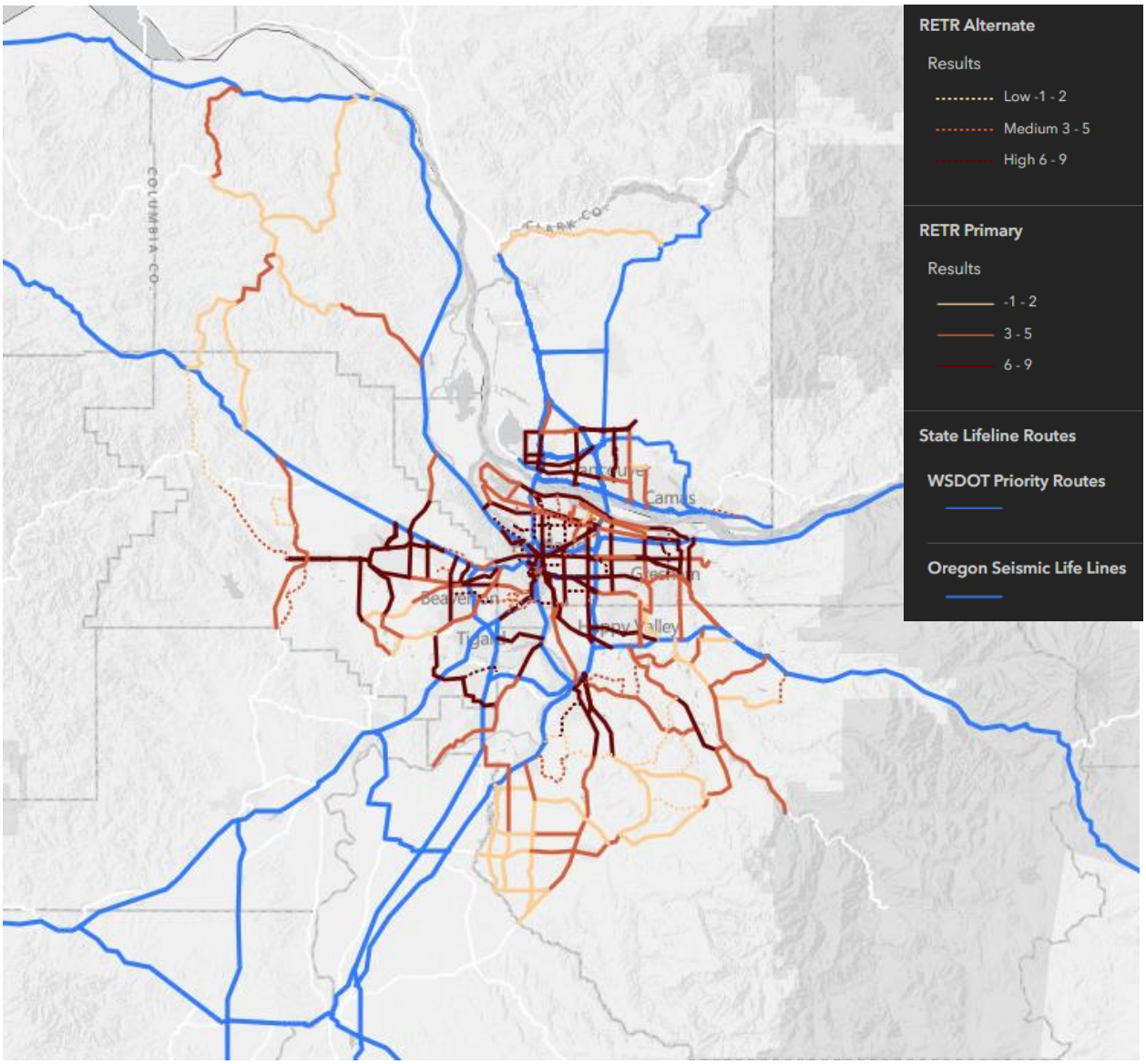
Table 4. shows the criteria used to flag routes, the buffer distances assigned in GIS, and the points assigned. This draft did not include criteria weighing to get a baseline for scoring without any adjustments for priority, population, or equity.

Table 4. Initial Evaluation Criteria

Category	Criteria	Buffer Distance	Points
Lifesaving/Sustaining	Hospitals	2 Miles	1
	Police Stations	1 Mile	1
	Fire Stations	1 Mile	1
Connectivity	Connection to State Seismic Lifeline Routes	NA	1
	Principal Arterials and Highways	NA	1
	Minor Arterials	NA	1
	Bridges	NA	-1
Public Works and Resources	Public Works Facilities	2 Miles	1
	Fueling Centers	2 Miles	1
	Water Treatment and Distribution Sites	2 Miles	1
Other Key Destinations	Airports	2 Miles	1
	Debris Management Sites	2 Miles	1
	Emergency Operations Centers (EOCs)	2 Miles	1

We summarized the initial methodology in an online map as an extension of the tool developed during Phase 1 (see Figure 2).

Figure 2. Map of Phase 2 RETR Emergency Routes Based on Draft Methodology



Routes could receive a maximum of 12 points and were broken into three categories (High, Medium, Low) using natural breaks in the point totals.

Technical Workshop #2

The second technical workshop occurred in June 2025 and featured 49 professionals from emergency management, public works, and transportation planning backgrounds. This workshop's goal was to obtain feedback on the first draft of the tiering methodology shown in **Table 4** and assess the distribution of routes that the baseline analysis provided, shown in **Figure 2.** Attendees received

the online map shown in **Figure 2** to assess the distribution of emergency routes and the scoring criteria.

The principal conclusion regarding the map was the need to distribute highly ranked routes between rural and urban Portland more equally. The group proposed the idea of using the primary and alternative route designations to handle high-ranking routes that are near each other. To standardize this process, a spacing requirement could be introduced to ensure that Tier 1 routes are well distributed. There was also concern about "floating routes" where Tier 1 routes are not connected to the larger network, which would make clear access for emergency responders more difficult.

The workshop also proposed changes to the scoring criteria, such as weighing the criteria by category. This would allow planners to prioritize categories like life safety, which would allow the methodology to be better tailored towards the goals of the agency. Regarding existing criteria, it was decided that bridges may be removed as a criterion due to their seismic vulnerability and load capacity constraints. Each bridge has a different ability to withstand loads, therefore bridge information should still be presented as a supplement to the methodology, although not as a deciding factor.

Attendees also wanted a more connected, grid-like network that considered access for vulnerable populations. Rural communities are at risk for longer emergency response times. Attendees mentioned the importance of ensuring rural communities have at least one accessible emergency route that would prevent them from becoming isolated from resources. While the group agreed that population density did not need to become a criterion, the map should be checked against population data to search for any gaps in the network.

CBO Workshop #2

The second community workshop occurred in June of 2025 and featured 11 CBOs. The CBO representatives wanted a map that shows the concentration of vulnerable communities in comparison to the RETR network map. When overlaid, these maps could identify which communities the initial draft serves and how connectivity to vulnerable communities could be improved. The goal would be to create a system that provides fair distribution of emergency services to vulnerable communities during a disaster.

Like the first CBO workshop, lack of communication and community trust were key topics. During this workshop, attendees were particularly concerned over road closure communications during an emergency. CBOs were highlighted as being able to communicate more effectively with their communities and efforts should be made by the agencies to work collaboratively with CBOs to distribute resources.

Project Work Group Meeting #3

The third project work group (PWG) meeting occurred at the end of June 2025. This meeting was focused on discussing potential changes to the draft tiering methodology. The first map shown to group members illustrated the outcomes of the initial round of scoring. After reviewing the map, members were asked to reflect on the results and how scoring might affect the final methodology.

There was support within the PWG to update the map to reflect a weighed evaluation; however, there was not agreement that weighing would considerably change the tiering or on how items should be

weighed. The weighing of bridges was a large concern because of how it might affect project funding. If bridges are weighed negatively, routes with bridges may not achieve Tier 1 status, and the map could not be used as justification for allocating funds to upgrade bridges for seismic resiliency. If the bridges are weighed positively, that may support funding but may cause a route to have a higher tiering despite being more likely to become obstructed during an emergency. Conversation surrounding these tradeoffs did not yield a solid conclusion.

The other significant discussion regarding weighing was over the difference between regional and local public works facilities. The current methodology does not differentiate between the two, but the majority of the group agreed that there should be a distinction in scoring. The group was split about which type of facility was more important, because while most public works facilities often have similar equipment, regional facilities are accessible to a larger pool of agencies. This fact may be negated in an emergency however, as all agencies and facilities will be working together regardless and smaller local facilities are used to serve regional interests. No consensus was reached by the end of the meeting.

A new topic emerged during the workshop: how to weigh the methodology when considering vulnerable groups. A majority of the work group was against using a large-scale, quantitative scoring system to prioritize vulnerable communities because equity data is often aggregated and may not provide nuanced information regarding emergency response (ex. susceptibility to power outages). Population data also tends to prioritize dense, urban environments, which is already reflected in the current map as POIs are more clustered in denser urban areas. The group agreed it would be better to make manual adjustments to prioritize vulnerable groups that may have been left out of the initial methodology. As a check, the map could have a feature that overlays population or equity information over the emergency routes. This would be done to identify which vulnerable areas may need more attention, but changes would still be made on a small scale.

Summary of Second Stakeholder Engagement Process

A review of the draft tiering methodology with stakeholders yielded the following key points that influenced the next phase of development:

- There is support for incorporating vulnerable communities into the analysis process. The discussion emphasized the fact that vulnerability in the context of emergency response may be difficult to show through standard equity data (ex. people with physical disabilities experience more challenges during evacuation). Because of this, the methodology should incorporate manual adjustments to advance equity in the response plan.
- Emergency response professionals would like to see a more grid-like system of Tier 1 routes that balances route distribution between urban and rural Metro communities. This would build in route redundancy and decrease the risk of communities becoming "islands" without access to emergency resources.
- Portland's 12 bridges introduce complications into the planning of emergency routes, as many may not withstand an extreme seismic event. There was a lack of consensus on how to address bridges in this plan because they require a larger, more detailed conversation between stakeholders.

Project Work Group Meeting #4

The fourth project work group meeting was held in September 2025. The goal of this meeting was for group members to continue to share input on updates to the project web map and the draft prioritization methodology.

The web map updates had featured requests to:

- Add/amend routes and key points of interest
- Address connections to WSDOT priority routes and their emergency routes
- Increase connections to isolated communities
- Reconcile differences in prioritization related to bridges
- Address tiering consistency along high priority corridors.

Stakeholders described preferring consistency along corridors, meaning a similar tiering throughout connected routes, versus granularity, where a route may be continuous but changes tier several times based on adjacent prioritization criteria.

Ultimately, the team decided to remove bridges from the scoring criteria. Bridges would instead be mapped in a separate manner to provide a supplement to the methodology. The work group also discussed the importance of compiling medical clinic data across all five counties, updating the general prioritization methodology, and strategies regarding updates implemented to the routes and data regionally over time.

This meeting formalized the prioritization evaluation steps for determining tiering of regional emergency transportation routes, which included:

1. Score Routes
2. Apply automatic criteria
3. Review of social vulnerability index
4. Review population density
5. Confirm connectivity

Questions focused on whether there was criteria outside of Hospitals and Portland International Airport that would cause an "automatic" criteria upgrade of a route to Tier 1; whether any locations were missing that needed Tier 1 access based on census block groups highlighted among the top third of the Social Vulnerability Index; whether mapping changes captured dense communities that need Tier 1 access; and how should communities with low density at-risk of isolation be accounted for.

Overall, the work group supported automatic tiering upgrades for hospitals and Portland International Airport. Another critical discussion was about the general process of upgrading routes and what that would mean for funding and general prioritization. The group agreed with the prioritization method changes but had questions on what the process would be for “downgrading” routes if additional routes were being upgraded.

Finally, the group discussed population density criteria and consideration of lowest density communities at risk of isolation in an emergency. The group discussed the balance between serving dense population areas (which also feature a denser collection of core services that require ETR connections) and serving rural areas which may have less features highlighted by the criteria (and in turn, increases their vulnerability). State Lifeline Routes were discussed as a way to address connections between rural areas and critical resources like hospitals which may not be in every county. Other concerns were traffic management, overall hazard exposures, and addressing large low-density areas without Tier 1 routes.

Technical Workshop #3

The third technical workshop was held in November 2025.This meeting shared results about updates to the RETR tiering methodology and map. The group members were joined into small, geographically focused breakout sessions to provide additional feedback prior to formalizing the tiering and maps. The general discussion group questions were:

- Does the RETR tiering in your jurisdiction align with your knowledge of local emergency response activities and needs?
- If you feel a roadway belongs in a different tier, what makes you think that?

There was a total of 5 groups as follows, who discussed the following:

1. Group 1 – Clackamas County: This group discussed several rural Clackamas County routes for consideration to be elevated to Tier 1. While no specific route was selected at the time, the group committed to future follow-up with County staff involved with maintenance and emergency operations. In addition, the group had conversations about data included in this phase and future phases, such as general considerations regarding distinguishing hospital types and the presence of county and city public works facilities. The group looked more closely at the Meridian hospital in Tualatin and proposed adding new access there via a new Tier 1 route.
2. Group 2 – Columbia/Washington County: This group talked about key transportation routes near the Hillsboro airport and which routes to adjust further. This group brought up the importance of connectivity to hospitals and other emergency services and highlighted which parallel routes would best provide access to these services. The group also talked about the importance of cross-county connections, such as between Columbia and Washington County, the rural Southwest side of the county, and between Hillsboro and Beaverton.
3. Group 3 – Multnomah County: This group wanted to make sure there were no gaps within the county in Tier 1 emergency routes. This group also provided further route tier upgrade recommendations, such as for airport access and access to vulnerable populations. Regarding methodologies, the group talked about general confusion regarding alternative route tiering, the methods behind the spacing analysis, how emergency responders will use this data, funding opportunities, and future elements of this project.
4. Group 4 – Virtual Group A: This group was one of two Virtual Groups. This group included representatives from Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust. This group provided insight regarding specific tiers across different counties. This group also discussed methodology questions about distinguishing T2, T3, and alternative routes, the importance of multi-modal transportation, debris management and mass care.
5. Group 5 – Virtual Group B (Clark County and Washington County): This group discussed the significance of key infrastructure, especially the I-5 and I-205 bridges, which are vital for

commercial, emergency, and daily connectivity between Oregon and Washington. There was consensus on emphasizing these bridges in policy documents for preservation and maintenance funding. This group also talked about access into Vancouver, especially along the Lewis and Clark Bridge. Much of this coordination will also occur through additional planning efforts in Washington. This extended into a discussion regarding the importance of sharing criteria between Southwest RTC, Metro, the ODOT and WSDOT. This group also talked about the importance of access to airports, like the Hillsboro Airport, through segments like Brookwood. Other areas discussed include Cedar Hills and Murray Boulevard.

CBO Workshop #3

The third (and final) community workshop occurred in October of 2025 and featured 13 participants from 12 CBOs. Participants shared their support for the qualitative methods used in the project to help address social vulnerability and equity. They emphasized that rural areas have unique considerations that should be accounted for, e.g., typically have one main street to get in and out, which is difficult to navigate during extreme weather.

They encouraged a "systematic outreach" process during extreme weather disasters. They recommended considering infrastructure for public-facing resources during extreme weather to ensure people are safe, have food and receive referrals (e.g., resilience hubs, shelters). They also shared interest in utilizing the mapping systems related to ETRs and adding additional layers.

Project Work Group Meeting #5

The fifth project work group meeting was held in December 2025. The goal of this meeting was to review feedback received throughout the technical and CBO workshops, share final suggested updates from the gathered feedback, and gather input on direction for policy and planning recommendations. During the meeting, the project management team presented the notes and map comments captured from Technical Workshop #3 and discussed some tiering changes that did not have direct resolutions. The PWG was asked to review the notes and map comments and provide follow-ups by email over the next two weeks.

The group also discussed a proposal to modify the Alternate Route designations established in Phase 1. For Phase 2, some Alternate Routes which had been identified as the closest connection to a hospital would be changed to a Primary Route. All other Alternate Routes would be removed from the formal ETR map but preserved as part of the overall dataset. Local jurisdictions would be recommended to designate these Alternate Routes as local ETRs. This decision-making was guided by previous Project Work Group Meetings and Technical Workshops, which highlighted concerns regarding decision-making, funding, and understanding of the alternative routes.

The team also presented a bridge table resource, which will provide jurisdictions with information about where bridges are located on RETRs to support future capital projects and funding considerations. The group discussed whether additional information would support future planning and additional feedback about any missing or incorrect bridges/data.

Finally, the team discussed policy recommendations to include in the final report and ways to ensure the project can be incorporated into local, regional, and state planning efforts. The team requested that clear direction be included to make it easier to communicate the overall report with elected

officials. The next, and last, work group meeting would be scheduled in March, with the draft report submitted for review in late February.

Dates of Committee Engagement for Regional Emergency Transportation Rotes Phase 2 project (2024-2026)

Group/Organization	Date	Topic
Transportation Policy Advisory Committee (TPAC)	2/2/2024	Overview of project and recruitment for quarterly work group
Clackamas County coordinating committee - staff level (CTAC)	3/7/2004	Overview of project
Metro Technical Advisory Committee (MTAC)	3/20/2024	Overview of project
RDPO Public Works Work Group	3/27/2024	Overview of project and recruitment for quarterly work group
RDPO Emergency Management Work Group (REMTEC)	4/5/2024	Quick project update
Tualatin Valley Water District	4/16/2024	Overview of the project with engineers and other water SMEs working on the WWSS. There is a new water supply program, and they feel ETR work is in line with their long range strategic planning efforts typing to their NHMP action items and other lifeline interdependencies.

Metro Council work session	5/7/2024	Overview of project
SW Washington Regional Transportation Advisory Committee (RTAC)	5/17/2024	Overview of project
SW Washington Regional Transportation Commission (RTC) Board	6/4/2024	Overview of project
RDPO Policy Committee (electeds)	11/15/2024	Overview of project - Carol confirmed with Mark to add to Nov 2024 PC agenda
Clackamas County Coordinating Committee (urban sub) - Electeds (C-4)	11/20/2024	Overview of project
Joint Policy Advisory Committee on Transportation (JPACT)	11/21/2024	Overview of project
Washington County Coordinating Committee - staff level (WCCTAC)	12/5/2024	Overview of project
6 Quarterly Project work group meeting	12/12/24, 4/10/25, 6/26/25, 9/10/25, 12/11/25, 3/11/26	
Technical Workshop 1 of 3	6/11/2025	Technical workshops on tiering methodology
Technical Workshop 2 of 3	3/10/2025	Technical workshops on tiering methodology
Technical Workshop 3 of 3	11/12/2025	Technical workshops on tiering methodology
CBO Workshop 1 of 3	4/3/2025	Methodology input from perspective of vulnerable populations
CBO Workshop 2 of 3	6/23/2025	Methodology input from perspective of vulnerable populations
CBO Workshop 3 of 3	10/23/2025	Methodology input from perspective of vulnerable populations
RDPO Fire / EMS Work Group	2/5/2025	Overview of project and recruitment for technical workshops
RDPO Public Works Work Group	7/21/2025	Email update on project soliciting draft feedback
RDPO Public Works Work Group	9/24/2025	Update on project methodology development occuring at technical workshops
RDPO Solid Waste subcommittee	10/2/2025	Overview of project and approach
Clackamas County coordinating committee - staff level (CTAC)	10/2/2025	Update on project methodology development occuring at technical workshops

Washington County Coordinating Committee - staff level (WCCTAC)	10/2/2025	Update on project methodology development occuring at technical workshops
RDPO Emergency Management Work Group (REMTEC)	10/3/2025	Review of project and update on approach
TPAC	10/3/2025	Update on project methodology development occuring at technical workshops
Metro Council work session	10/9/2025	Update on project methodology development occuring at technical workshops
11th Annual Region 10 PacTrans Conference	10/10/2025	Share basic project info / highlights
RDPO Steering Committee	10/13/2025	Update on project methodology development occuring at technical workshops
JPACT	10/16/2025	Update on project methodology development occuring at technical workshops
RDPO Policy Committee (electeds)	11/21/2025	Review of project, update on methodology development, connections to policy needs
TPAC	3/6/2026	Briefing on Final report with project findings and recommendations
SW Washington Regional Transportation Advisory Committee (RTAC)	3/20/2026	Recommendation to RTC Board of final report with project findings and recommendations
SW Washington Regional Transportation Commission (RTC) Board	4/7/2026	Acceptance of final report with project findings and recommendations
RDPO Policy Committee (electeds)	3/20/2026	Briefing on final report with project findings and recommendations
RDPO Steering Committee	4/6/2026 or 5/4/2026	Briefing on final report with project findings and recommendations
TPAC	4/3/2026	Recommendation to JPACT to Accept final report with project findings and recommendations
Metro Council work session	4/16/2026	Briefing on final report with project findings and recommendations
JPACT	4/16/2026	Comments from Chair / memo sharing final report with project findings and recommendations
JPACT	5/21/2026	Acceptance (by consent) of final report with project findings and recommendations
Metro Council	5/28/2026	Acceptance (by consent) of final report with project findings and recommendations

Dissemination webinar	Late May. Date TBD	Broadly share project results

Appendix C. GIS Technical Methods

GIS Technical Memo

Date: March 19th, 2026

To: Regional Emergency Transportation Routes PMT

From: Alicia Wood, Metro

Subject: RETR GIS Technical Methodology

This memo builds on the content of the tiering methodology and stakeholder summary memo and describes how that guidance was then translated into implementation of the tiering methodology. It covers data preparation, automated geospatial analyses, and final revisions to incorporate all stakeholder feedback.

Data Preparation

Data preparation tasks included reviewing and updating original data from phase 1 as needed, sourcing additional new data, and segmenting the original RETR segments into smaller segments in preparation for the tiering analysis.

Data Sources

Table 1 summarizes the data used in phase 2 and their sources. The Notes column indicates which data are in Metro's Regional Land Information System (RLIS) and thus will be maintained there moving forward, as well as those made publicly available elsewhere online by their original source agencies. All other data will need closer review and updating for future tiering iterations.

Table 1. Data Sources

Criteria	Source(s)	Notes
		In RLIS (link)
Hospitals	Phase 1 (RLIS, Oregon GEO, Washington Geospatial Open Data Portal)	
Police Stations	Phase 1 (WCCCA, Port of Portland, City of Gresham)	
Fire Stations	Phase 1 (RLIS, Washington County, Columbia County)	In RLIS (link)
State Seismic Lifeline Routes (SSLRs)	ODOT & SWRTC	ODOT

Criteria	Source(s)	Notes
Principal Arterials and Highways	ODOT & WSDOT	WSDOT sources (non-state, state); ODOT sources (non-state, state)
Minor Arterials	ODOT & WSDOT	Same links as principal arterials above
Bridges	Phase 1 (PBOT, Clackamas County, Clark County, Washington County), ODOT & WSDOT	ODOT, WSDOT
Public Works Facilities (PWFs)	Phase 1 (City of Gresham, Clackamas County, Clark County, Columbia County, Washington County, Port of Portland, Port of Vancouver, Portland Water Bureau)	
Fueling Centers	Phase 1 (CNA)	
Water Treatment and Distribution Sites	Phase 1 (included in Public Works Facilities dataset above)	
Airports	Phase 1 (RLIS, Columbia County, WSDOT)	In RLIS (link)
Debris Management Sites	Phase 1 (Metro)	
Emergency Operations Centers (EOCs)	Phase 1 (City of Gresham, City of Portland, Clackamas County, Clark County, Port of Portland, TriMet, Washington County, WSDOT)	In RLIS soon
Social Vulnerability Index (SVI)	RLIS (Metro)	In RLIS (link)
Population	RLIS (from US Census Bureau – ACS)	In RLIS (link)
FEMA Flood Hazard Zones	RLIS (from FEMA)	In RLIS (link)
Landslide Susceptibility	Phase 1 (DOGAMI)	SLIDO-4.5
Liquefaction Susceptibility	Phase 1 (DOGAMI & Washington DNR)	

Data revisions

After an initial review, most original phase 1 data were identified as not requiring updates. Some infrastructure was expected to have had minor updates over the last few years but not enough to affect the RETR tiering. However, partner agencies were asked to confirm the location of key facilities.

Beyond this review the following data edits were made:

- In phase 1, several urgent care facilities were present in the hospital data. These facilities were removed for this phase. Additionally, a couple of other facilities had either closed or downgraded their level of service to that of urgent care since phase 1 completed, so these were also removed.
- Fire station edits were made that included the removal of a few closed facilities, address correction for one facility, and the addition of a few new facilities.
- Category 1 & 2 Emergency Operations Centers & Public Works Facilities were combined respectively as the distinction between 1 & 2 wasn't needed for this tiering analysis.
- Fresh copies of data in RLIS or publicly available online were acquired (see Table 1 notes).
- Bridge data from phase 1 was cleaned up to remove duplicates and prep for merging with current ODOT & WSDOT data. New and old bridge data was joined together by ID to utilize current name & condition information where possible but also retain old seismic vulnerability data only available in the original phase 1 bridge data. New facilities only present in the current bridge data were also added.
- Lastly, new arterial data was acquired, as full 5-county arterial designation was not included in phase 1. Federal functional classification data was pulled from ODOT & WSDOT sources (Table 1), merged, and the functional classes mapped to the simplified classification needed for this analysis: (a) Minor Arterials and (b) Principal Arterials, Highways, Other Freeways and Expressways. For analysis simplicity later, these were kept in a single feature class with an attribute distinguishing the two categories.

Route Segmentation

The final data preparation task involved prepping the emergency transportation routes themselves. As the base RETR network was already established in Phase 1, no new routes were added. But some of the longer routes were split into shorter roadway segments to provide more nuanced scoring for roadways whose features may change over long distances. A few options for splitting were considered: jurisdictional boundaries, equidistant segmentation, and major roadway intersections. Ultimately, the latter, key roadway intersections, was prioritized, especially with other ETRs. For example, in phase 1 Highway 211 was a single long 42-mile route. For phase 2, this was split into 8 roughly 5-mile segments.

To account for this splitting and still retain clear descriptive attribution and unique identification, the following steps were taken:

- ETRID_2020 and ROUTENAME fields were left as is.
- ROUTE_FROM and ROUTE_TO were updated to better describe the current location of each individual segment end.
- A new ETRID_2025 field was added. This ID was created using the ETRID_2020 value, and then tagging on an additional _1, _2, etc. indicator to the end of the ID identifying the individual subsegments of phase 2.

Geospatial Analysis

Following the best practices review and initial stakeholder engagement, an outlined tiering methodology was developed (see Appendix A and B for more details). This section describes how

this methodology was then translated into a GIS-based tiering implementation, followed by supplementary hazard resilience and demographic analyses.

Initial Tiering Analysis

The planned approach evaluated each RETR segment against 13 criteria, including roadway characteristics and proximity to key points of interest (POIs). Proximity-based criteria were to be assessed using Euclidean buffers. Buffer distances were selected based on the distribution of each POI type: criteria with many locations across the five-county region used smaller buffers, while those with fewer locations used larger ones. This reduced the potential of certain criteria being 'washed out' and assigning points to most routes.

Each route segment would receive points for every criterion met, and total scores were to be grouped into High Medium and Low tiers using natural breaks. No weighting was applied at this stage; the intent was to establish a baseline scoring system before introducing adjustments for prioritization, population, or equity.

Table 2 shows the 13 criteria used to evaluate routes, the buffer distances assigned for proximity evaluation, and the points assigned for meeting said criteria.

Table 2. Initial Evaluation Criteria

Category	Criteria	Buffer Distance	Points
Lifesaving/Sustaining	Hospitals	2 Miles	1
	Police Stations	1 Mile	1
	Fire Stations	1 Mile	1
Connectivity	Connection to State Seismic Lifeline Routes	NA	1
	Principal Arterials and Highways	NA	1
	Minor Arterials	NA	1
	Bridges	NA	-1
Public Works and Resources	Public Works Facilities	2 Miles	1
	Fueling Centers	2 Miles	1
	Water Treatment and Distribution Sites	2 Miles	1
Other Key Destinations	Airports	2 Miles	1
	Debris Management Sites	2 Miles	1
	Emergency Operations Centers (EOCs)	2 Miles	1

This table was then translated into an automated geospatial workflow using Python and the ArcGIS arcpy library. Automating buffer creation, proximity checks, and scoring within ArcGIS ensured a consistent, reproducible process for tiering routes that could be easily updated as stakeholder feedback refined the methodology.

The python script consisted of 2 major sections:

- evaluation of POI-based proximity criteria, and

- evaluation of the roadway-characteristic criteria (bridges, SSLRs, arterials)

The following sections further describe steps taken in the script to evaluate each criterion.

POI Criteria

For evaluating POI criterion, the process was as follows:

- An empty "[criteria-name]_results" field was added to the RETR segment layer.
- The Buffer tool was used to create proximity polygons around each POI feature using the buffer distance specified in **Table 2**.
- The Select by Location tool was used to identify all RETR segments that intersect these buffers.
- Lastly, for those selected segments, the "[criteria-name]_results field was populated with the appropriate point value specified in **Table 2**.

Bridges

Bridge points were not consistently snapped to the street centerline dataset used for RETR segments. To ensure valid matches, bridges were buffered by 100 ft before applying the same select-and-calculate process used for POIs.

SSLRs

Because the SSLR network only includes ramps connecting SSLRs to other SSLRs, additional logic was needed to identify RETR connections.

- First SSLR features were buffered 150 ft to account for larger rights-of-way and unidentified ramps.
- RETR segments intersecting these buffers were assigned points using the same select-and-calculate process used for POIs.

But after initial review some routes were still being left out due to long ramp distances. So, an additional step was added.

- All ramps were selected from the street centerline file.
- The Select by Location tool was then used to identify only ramps that intersected SSLRs.
- Finally, RETR segments intersecting those selected ramps were assigned points.

Note: This automated process resulted in a few false positive matches where the SSLR crossed over an RETR but no connection is present on the ground. A manual review was completed after processing, and points for these features were removed.

Arterials

Lastly, a final unique process was used for the evaluation of the 'Principal Arterials and Highways' and 'Minor Arterials' criteria. The process needed to distinguish between RETR segments that *intersected* an arterial and those that were *classified as* an arterial. To do this, the script looped through each RETR segment and evaluated them individually. For each feature it:

- Buffered the RETR segments by 50ft.

- Clipped the arterials to just get segments within that buffer.
- Removed clipped arterial segments shorter than 120 ft to avoid capturing small perpendicular street fragments.
- Dissolved remaining arterial segments by classification and calculated their lengths.
- Finally, assigned points based on the arterial class with the longest dissolved length.
    - The route could only receive credit for one arterial classification.
    - Although both arterial criteria were ultimately weighed equally, the process was designed to support the possibility of future weighting differences.

After all criteria were evaluated, the points from all "[criteria-name]_results" fields were added to get the final 'Results' value. The highest scoring route had a score of 10, and the lowest -1. Using natural breaks in the scoring, these scores were grouped into Low Medium and High categories. The first draft of this categorization was then uploaded into an interactive web map for review in future work group meetings.

Secondary Geospatial Analysis

Following the next round of engagement (Technical Workshop #2, CBO Workshop #2, and Project Work Group Meeting #3 and #4), some tiering method revisions were explored. These included: (a) removing bridges, (b) weighting criteria, and (c) automatic top-tier criteria. Additionally, secondary analyses were conducted to evaluate: (d) hazard risk along each route, and (e) whether vulnerable communities were being served with the draft top tier routes.

Bridge removal

Following recommendations in Technical Workshop #2 (see Appendix B), bridges were removed from the tiering criteria and their points removed from the final 'Results' scoring.

The bridge data attribute table was cleaned up and extended to include the following attributes: bridge ID, name, owner, crossing type, condition, seismic vulnerability, and RETR tier. And this table was separated into a supplementary appendix (see Appendix D) intended to provide bridge owners with information useful in advocating for funding.

Weighting criteria

Double weighting hospitals in the tiering criteria was explored after feedback from stakeholders during initial workshops. This double weighting was implemented by multiplying the "Hospitals_results" points by 2 when summing all the "[criteria-name]_results" fields to get the final "Results" score. Ultimately, this revision had very little impact on the results, and it wasn't incorporated into the final methodology.

Automatic top-tier criteria

Following recommendations in Project Work Group Meeting #4 (see Appendix B), some automatic top-tier criteria upgrades were applied. In this meeting Hospitals and Portland International Airport were flagged as the criteria that met this qualification. All routes in the vicinity of these points of interest were reviewed, and if they didn't currently have a tier 1 route serving them, the closed route was upgraded to Tier 1.

Hazard analysis

In Phase 1 route resilience was evaluated using seismic, landslide, and flood hazard data. The same methodology was applied in this phase, updated with the latest data from DOGAMI (seismic vulnerability and landslide susceptibility), FEMA flood hazard zones, and ODOT bridge seismic vulnerability data.

The Phase 1 methodology was translated into a python script to streamline future updates.

The script first automated some data preparation steps:

- All hazard datasets were clipped to the 5-county region.
- The landslide susceptibility raster was converted to vector polygons.
- FEMA flood zones (A, AE, AH, AO, and X) were reclassified into 100-year & 500-year flood categories.
- New fields were added to the RETR dataset to store all output hazard results (e.g., Landslide_Haz_Pct_Moderate).

Next, liquefaction susceptibility, landslide susceptibility, and flood hazard areas were assessed in relation to the RETR segments. For each of these datasets the following steps were taken:

- The Identity tool was used to intersect each hazard dataset with the RETR segments, splitting segments wherever hazard classifications changed.
- The Summary Statistics tool was then used to calculate the total length of each RETR segment within each hazard class.
- These lengths were then converted to percentages representing the share of each RETR segment exposed to each hazard level.
- And finally using an Update Cursor, the calculated percentages were written to the corresponding results fields (e.g., Landslide_Haz_Pct_Moderate) in the RETR segment data.

Bridge vulnerability was assessed separately due to its point-based nature. It involved the following:

- RETR segments were buffered 200 ft.
- The spatial join tool was used to create a record for each RETR–bridge intersection, allowing multiple bridges to be associated with a single RETR segment.
- Next, using a cursor, the script counted the number of bridges intersecting each RETR segment in each bridge seismic vulnerability category.
- These counts were then written to the appropriate results fields in the RETR segment data.

All hazard results fields were then joined into the draft RETR tiering data displayed in the online viewer. This allowed stakeholders to click on a segment and view all its corresponding hazard exposure and bridge vulnerability metrics alongside the original tiering criteria results.

SVI & population analysis

In Project Work Group Meeting #3 discussions arose on how to best modify the methodology to consider vulnerable communities and population. Ultimately, the group decided to conduct qualitative screening for social vulnerability and population density.

The draft RETR tiering was overlaid with census tracts in:

- the top third of social vulnerability, based on Metro's Social Vulnerability Index (SVI), and
- the top quarter of population density, based on US Census Bureau ACS data.

Any tract in either category that did not intersect with a draft Tier 1 RETR was flagged for review. The project work group would then consider upgrading at least one route serving each flagged tract to ensure Tier 1 coverage for these communities.

The following steps were taken to identify these unserved tracts in GIS:

- The Social Vulnerability Index 2025 layer was filtered to only include tracts in the top third of SVI scores (SVI > 6.66).
- The RETR segments were filtered to only include Tier 1 routes.
- Then the Select by Location tool was used to select and flag those top 1/3 SVI tracts that do not intersect (or fall within 150 ft of) Tier 1 routes.

The same process was completed using the population density data; only the top quarter of tracts were selected instead.

Ultimately, all flagged census tracts were added to the interactive web map alongside the draft tiering results. That way, stakeholders could visually identify unserved vulnerable communities and consider potential route upgrades to improve their access.

Final Revisions (post Workshop Feedback)

Following feedback gathered during Technical Workshop #3, CBO Workshop #3, and Project Work Group Meeting #5, final revisions to the RETRs were made. These included manual tier changes, removal of remaining alternate routes, and replacement of SWRTC routes.

Manual changes

Stakeholders in all 3 meetings provided ample feedback on changes they would like to see made to the draft tiers and provided their justification for why. All changes requested are documented in Appendix E. The project team then reviewed and determined which to implement and which not to implement (see Appendix E for more details). Categories of changes made included: tier upgrades, tier downgrades, route type upgrades from alternate to primary, and a couple of linework error revisions. All changes were made manually in the attribute table, and an additional 'Notes' field was added and comments written to describe what change was made and the corresponding comment # from Appendix E.

Alternate route removal

As discussed in Project Work Group Meeting #5 (see Appendix B), some critical alternate routes were to receive upgrades to primary routes, and then all remaining alternates would be removed from the formal RETR network. Ultimately 9 alternate routes were upgraded as a part of the manual changes described above and in Appendix E. The remaining alternate routes were removed from the main RETR network but kept as an ancillary data layer that can be used in future analysis and mapping.

SWRTC route replacement

The final change made following this last round of stakeholder feedback was the replacement of Clark County results. In 2025 the MPO for the Clark County region, Southwest Washington Regional Transportation Council (SWRTC), initiated a Resiliency Assessment Plan that built on our original methodology and resulted in prioritized ETRs that were more tailored to Clark County. Ultimately, we swapped out our network in Clark County with theirs. This included some minor tier adjustments and a couple of new routes. (see section 4.7 in the main report for more details).

This involved the following steps in GIS:

- Their raw route linework was split at individual street intersections. So, we merged segments together by Tier to create segments comparable to the length of the rest of our RETRs.
- Next route names, to/from descriptions, and IDs were transferred from our previous Clark County network where possible. And new names, descriptions, and IDs were created for the remaining new routes, following conventions used in the original route creation in Phase 1.
- Lastly, the original Clark County segments in our main RETR network were deleted, and these replacements were appended into the main RETR network.

Appendix D. Bridge Table

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
08708700	WOODIN CREEK CULVERT	City of Battle Ground	City of Battle Ground	Good	Waterway	2nd	WSDOT	Not Evaluated	
BB005	Beaverton Creek, SW Cedar Hills Blvd	City of Beaverton	City of Beaverton	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
25T07A	Johnson Creek, SE 242nd Ave	City of Gresham	City of Gresham	Fair	Waterway	2nd	ODOT	Not Evaluated	
05282	Culvert, Hwy 26 at MP 14.08 (City Br)	City of Gresham	City of Gresham	Good	Waterway	2nd	ODOT	Not Evaluated	
21155	Gresham Fairview Trail over Hwy 26	City of Gresham	City of Gresham	Fair	Other	2nd	ODOT	Not Evaluated	
51B002	Johnson Creek & Owp Ry, SW Highland Dr	City of Gresham	City of Gresham	Fair	Waterway	2nd	ODOT	Not Evaluated	
17985	Airport Way over Pacific Railroad	City of Gresham	City of Gresham	Fair	Railroad	2nd	ODOT	Not Vulnerable	
06070A	Oswego Lake Outlet, McVey Ave	City of Lake Oswego	City of Lake Oswego	Fair	Waterway	Top	ODOT	Not Evaluated	
21150	Springwater Bike/Ped trail HWY 1E AT MP 4.67	City of Milwaukie	City of Milwaukie	Good	Other	Top	ODOT	Not Evaluated	
19119	Abernethy Creek, Washington St	City of Oregon City	City of Oregon City	Good	Waterway	Top	ODOT	Not Vulnerable	
25B04	Pedestrian Br over NE Columbia Blvd	City of Portland	City of Portland	Unknown	Other	2nd	ODOT	Not Evaluated	More Vulnerable
25B137	Columbia Slough, NE Airport Way	City of Portland	City of Portland	Good	Waterway	2nd	ODOT	Not Evaluated	Less Vulnerable
20708	Kelley Creek, SE Foster Rd NB 162nd Ave.	City of Portland	City of Portland	Good	Waterway	2nd	ODOT	Not Evaluated	Less Vulnerable
11086A	Johnson Creek, SE Foster Rd SB	City of Portland	City of Portland	Fair	Waterway	2nd	ODOT	Not Evaluated	Less Vulnerable
18997	Whitaker Slough, NE 47th Ave	City of Portland	City of Portland	Good	Waterway	2nd	ODOT	Not Evaluated	Less Vulnerable
51C07A	Columbia Slough, NE 47th Ave	City of Portland	City of Portland	Fair	Waterway	2nd	ODOT	Not Evaluated	Less Vulnerable
25B105	Columbia Slough, Rivergate/Lombard	City of Portland	City of Portland	Fair	Waterway	2nd	ODOT	Not Evaluated	Vulnerable
25B113	Columbia Slough, NE Alderwood Rd	City of Portland	City of Portland	Fair	Waterway	3rd	ODOT	Not Evaluated	Less Vulnerable
05239	Pedestrian Br (SW Hooker St) over Hwy 1W & Hwy 26	City of Portland	City of Portland	Fair	Other	Top	ODOT	Not Evaluated	Vulnerable
51C23	Pedestrian Br over NE 122nd Ave	City of Portland	City of Portland	Fair	Other	Top	ODOT	Not Evaluated	More Vulnerable
20133	NE 33rd Ave over Hwy 123 (NE Lombard St)	City of Portland	City of Portland	Fair	Road	Top	ODOT	Not Evaluated	Less Vulnerable
25B13	N Greeley Ave over N Going St	City of Portland	City of Portland	Fair	Road	Top	ODOT	Not Evaluated	Less Vulnerable
25B32	Pedestrian Br over N Going St	City of Portland	City of Portland	Unknown	Other	Top	ODOT	Not Evaluated	More Vulnerable
07026	NE Sandy Blvd over UPRR & N Access Road	City of Portland	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
08551	SW Slavin Rd Conn over Hwy 1W (SW Barbur Blvd)	City of Portland	City of Portland	Fair	Road	Top	ODOT	Not Evaluated	More Vulnerable
16330	Ped Br over Hwy 26 at SE 9th Ave & Powell Blvd	City of Portland	City of Portland	Fair	Other	Top	ODOT	Not Evaluated	More Vulnerable
19732	SE Bybee Blvd over Hwy 1E (SE McLoughlin Blvd)	City of Portland	City of Portland	Fair	Road	Top	ODOT	Not Evaluated	Less Vulnerable
	EAST COLUMBIA TO LOMBARD CONNECTOR	City of Portland	City of Portland	Unknown	Railroad	2nd	Other	Not Evaluated	Resilient
	W. BURNSIDE ST. TUNNEL	City of Portland	City of Portland	Unknown	Road	Top	Other	Not Evaluated	
16385	N Columbia Blvd over UPRR	City of Portland	City of Portland	Fair	Railroad	2nd	ODOT	Not Vulnerable	Less Vulnerable
17199	N Marine Dr over BNRR	City of Portland	City of Portland	Fair	Railroad	2nd	ODOT	Not Vulnerable	More Vulnerable
17965	Hwy 120 over UPRR	City of Portland	City of Portland	Good	Railroad	2nd	ODOT	Not Vulnerable	Vulnerable
19656	NORTH LOMBARD STREET (PORTLAND SECTION)	City of Portland	City of Portland	Fair	Railroad	2nd	ODOT	Not Vulnerable	Less Vulnerable
25B136	Columbia Slough, NE Airport Way	City of Portland	City of Portland	Fair	Waterway	2nd	ODOT	Not Vulnerable	Vulnerable
25B128	NW 1st Ave over Front Ave	City of Portland	City of Portland	Good	Road	Top	ODOT	Not Vulnerable	Less Vulnerable
13512	Hwy 59 (NE Sandy Blvd) over Hwy 64 @ MP 5.18	City of Portland	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
19667	HWY 1E At MP 1.15 OVER UPRR & SE DIVISION ST	City of Portland	City of Portland	Fair	Road	Top	ODOT	Not Vulnerable	Resilient
07042B	NE 39th Ave over Hwy 2 & UPRR & MAX LRT	City of Portland	City of Portland	Fair	Road	Top	ODOT	Not Vulnerable	Vulnerable
09752	Columbia Blvd over N Columbia Way	City of Portland	City of Portland	Fair	Road	2nd	ODOT	Potentially Vulnerable	Vulnerable
02484A	NE 33rd Ramp over NE Columbia Blvd	City of Portland	City of Portland	Fair	Road	2nd	ODOT	Potentially Vulnerable	More Vulnerable
09685A	NE Columbia Blvd over BNRR at MP 2.23	City of Portland	City of Portland	Fair	Railroad	2nd	ODOT	Potentially Vulnerable	More Vulnerable
51C33	Columbia Blvd over NE 33rd Ave	City of Portland	City of Portland	Fair	Road	2nd	ODOT	Potentially Vulnerable	Vulnerable
08549	Capitol Hwy Semi-Viaduct at MP 6.47	City of Portland	City of Portland	Fair	Other	Top	ODOT	Potentially Vulnerable	Less Vulnerable
08550	Capitol Hwy Semi-Viaduct at MP 6.62	City of Portland	City of Portland	Good	Other	Top	ODOT	Potentially Vulnerable	Vulnerable
08563	Capitol Hwy Semi-Viaduct at MP 6.55	City of Portland	City of Portland	Good	Other	Top	ODOT	Potentially Vulnerable	Less Vulnerable
09685	NE Columbia Blve over BNRR at MP 2.23	City of Portland	City of Portland	Poor	Railroad	2nd	ODOT	Vulnerable	Vulnerable
25B01	N Burgard St over UPRR/SPRR	City of Portland	City of Portland	Poor	Railroad	2nd	ODOT	Vulnerable	More Vulnerable

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
02485	NE 42nd Ave over Hwy 123 (NE Lombard St) & UPRR	City of Portland	City of Portland	Fair	Road	Top	ODOT	Vulnerable	More Vulnerable
25B12	N Going St over UPRR Yards	City of Portland	City of Portland	Fair	Railroad	Top	ODOT	Vulnerable	Less Vulnerable
25B77	NW Front Ave Semi-Viaduct	City of Portland	City of Portland	Fair	Other	Top	ODOT	Vulnerable	Less Vulnerable
04566B	Johnson Creek, Hwy 68 (SE 82nd Ave)	City of Portland	City of Portland	Fair	Waterway	Top	ODOT	Vulnerable	More Vulnerable
51C04	Johnson Creek, SE 45th Ave	City of Portland	City of Portland	Fair	Waterway	2nd	ODOT	Not Evaluated	Less Vulnerable
51C01	SE 32nd St over Springwater Trail	City of Portland	City of Portland	Fair	Other	2nd	ODOT	Not Evaluated	Vulnerable
17123	Johnson Creek, SE Tacoma St	City of Portland	City of Portland	Fair	Waterway	2nd	ODOT	Not Evaluated	Vulnerable
000000OH	GEE CREEK	City of Ridgefield	City of Ridgefield	Fair	Waterway	2nd	WSDOT	Not Evaluated	
08512400	FRUIT VALLEY RD OVERPASS	City of Vancouver	City of Vancouver	Fair	Railroad	2nd	WSDOT	Not Evaluated	
08823600	39th Street RR O/C	City of Vancouver	City of Vancouver	Good	Railroad	2nd	WSDOT	Not Evaluated	
08771900	BURTON ROAD	City of Vancouver	City of Vancouver	Good	Waterway	2nd	WSDOT	Not Evaluated	
0012986A	BNRR OC	City of Vancouver	City of Vancouver	Good	Railroad	Top	WSDOT	Not Evaluated	
0006786A	BNRR OC	City of Vancouver	City of Vancouver	Fair	Railroad	Top	WSDOT	Not Evaluated	
08602800	WASHOUGAL RIVER BRIDGE	City of Washougal	Clark County	Good	Waterway	2nd	WSDOT	Not Evaluated	
0007597A	BN/SF RR O/C	City of Washougal	Clark County	Fair	Railroad	Top	WSDOT	Not Evaluated	
20789	Seeley Ditch, Wilsonville Road	City of Wilsonville	City of Wilsonville	Good	Waterway	2nd	ODOT	Not Evaluated	
16627	BOECKMAN CREEK, WILSONVILLE RD AT MP 12.62	City of Wilsonville	City of Wilsonville	Fair	Waterway	2nd	ODOT	Not Vulnerable	
06512	Clear Creek, Springwater Rd	Clackamas County	Clackamas County	Fair	Waterway	2nd	ODOT	Not Evaluated	
06521A	Pudding River, Arndt Rd	Clackamas County	Clackamas County	Good	Waterway	2nd	ODOT	Not Evaluated	
06015	Corral Creek, Wilsonville Rd	Clackamas County	Clackamas County	Fair	Waterway	2nd	ODOT	Not Evaluated	
06287	Rock Creek, SE 172nd Ave	Clackamas County	Clackamas County	Fair	Waterway	2nd	ODOT	Not Evaluated	
06523	Rock Creek, Meridian Rd	Clackamas County	Clackamas County	Fair	Waterway	3rd	ODOT	Not Evaluated	
06025	Gribble Creek, Canby Marquam Hwy	Clackamas County	Clackamas County	Good	Waterway	3rd	ODOT	Not Evaluated	
06506	Rock Creek, Kropf Rd	Clackamas County	Clackamas County	Poor	Waterway	3rd	ODOT	Not Evaluated	
20779	BUCKNER CREEK, BEAVER CREEK ROAD	Clackamas County	Clackamas County	Good	Waterway	3rd	ODOT	Not Evaluated	
06040	Rock Creek, Foster Rd	Clackamas County	Clackamas County	Fair	Waterway	3rd	ODOT	Not Evaluated	
06198	Milk Creek, Beaver Creek Rd	Clackamas County	Clackamas County	Fair	Waterway	3rd	ODOT	Not Evaluated	
06190	Bear Creek, S Barnards Rd	Clackamas County	Clackamas County	Good	Waterway	3rd	ODOT	Not Evaluated	
06132	Gribble Creek, Lone Elder Rd	Clackamas County	Clackamas County	Fair	Waterway	3rd	ODOT	Not Evaluated	
20532	Rock Creek (Sunnyside Road) Bridge	Clackamas County	Clackamas County	Fair	Waterway	Top	ODOT	Not Evaluated	
19879	Mt Scott Creek, Sunnyside Rd	Clackamas County	Clackamas County	Fair	Waterway	Top	ODOT	Not Evaluated	
21160	Clackamas River, Springwater Rd	Clackamas County	Clackamas County	Good	Waterway	2nd	ODOT	Not Vulnerable	
06080A	Pudding River Overflow, Arndt Rd	Clackamas County	Clackamas County	Good	Waterway	2nd	ODOT	Not Vulnerable	
20992	Tualatin River, Stafford Road at MP 5.21	Clackamas County	Clackamas County	Good	Waterway	Top	ODOT	Not Vulnerable	
24051	Bear Cr_Canby Marquam Hwy_45.16815/122.68029	Clackamas County	Clackamas County	Good	Waterway	3rd	ODOT	Potentially Vulnerable	
06167	Marquam Creek, Monte Cristo Rd (West)	Clackamas County	Clackamas County	Fair	Waterway	3rd	ODOT	Potentially Vulnerable	
06168	Garret Creek, Monte Cristo Rd (East)	Clackamas County	Clackamas County	Fair	Waterway	3rd	ODOT	Potentially Vulnerable	
01214	Abernethy Creek, Redland Rd (West)	Clackamas County	Clackamas County	Fair	Waterway	2nd	ODOT	Vulnerable	
01215	Abernethy Creek. Redland Rd (East)	Clackamas County	Clackamas County	Fair	Waterway	2nd	ODOT	Vulnerable	
06299	Deep Creek, Amisigger Rd	Clackamas County	Clackamas County	Fair	Waterway	2nd	ODOT	Vulnerable	
06422	Bear Creek, Barlow Rd	Clackamas County	Clackamas County	Fair	Waterway	2nd	ODOT	Vulnerable	
06508	Clear Creek, Redland Rd	Clackamas County	Clackamas County	Fair	Waterway	2nd	ODOT	Vulnerable	
01515A	Molalla River, Canby-Marquam Hwy	Clackamas County	Clackamas County	Fair	Waterway	2nd	ODOT	Vulnerable	
22246	Pudding River, Whiskey Hill Rd Bridge	Clackamas County	Clackamas County	Good	Waterway	3rd	ODOT	Vulnerable	
06023	Rock Creek, Barlow Rd	Clackamas County	Clackamas County	Poor	Waterway	3rd	ODOT	Vulnerable	
06191	Pudding River Overflow, Whiskey Hill Rd	Clackamas County	Clackamas County	Fair	Waterway	3rd	ODOT	Vulnerable	
06543	Rock Creek, Whiskey Hill Rd	Clackamas County	Clackamas County	Good	Waterway	3rd	ODOT	Vulnerable	

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
0003606A	LITTLE WASHOUGAL	Clark County	Clark County	Good	Waterway	2nd	WSDOT	Not Evaluated	
0018573C	DOLLAR'S CORNER	Clark County	Clark County	Good	Waterway	2nd	WSDOT	Not Evaluated	
08068100	JC WARD	Clark County	Clark County	Fair	Waterway	2nd	WSDOT	Not Evaluated	
08241100	MORGAN	Clark County	Clark County	Fair	Waterway	2nd	WSDOT	Not Evaluated	
08412800	119TH CHINA	Clark County	Clark County	Fair	Waterway	2nd	WSDOT	Not Evaluated	
08611700	WILSON	Clark County	Clark County	Good	Waterway	2nd	WSDOT	Not Evaluated	
08849900	COUGAR CREEK	Clark County	Clark County	Good	Waterway	2nd	WSDOT	Not Evaluated	
08709100	JOHN CREEK CULVERT	Clark County	Clark County	Fair	Waterway	3rd	WSDOT	Not Evaluated	
08227700	DAYTON	Clark County	Clark County	Fair	Waterway	3rd	WSDOT	Not Evaluated	
07992900	ROCK CREEK	Clark County	Clark County	Fair	Waterway	3rd	WSDOT	Not Evaluated	
08162600	BIG TREE CREEK	Clark County	Clark County	Good	Waterway	3rd	WSDOT	Not Evaluated	
08275800	HUBER	Clark County	Clark County	Good	Waterway	3rd	WSDOT	Not Evaluated	
08276000	DAYBREAK	Clark County	Clark County	Fair	Waterway	3rd	WSDOT	Not Evaluated	
08335700	BLAIR ZEEK	Clark County	Clark County	Fair	Waterway	3rd	WSDOT	Not Evaluated	
08438900	LITTLE WASHOUGAL BLAIR	Clark County	Clark County	Fair	Waterway	3rd	WSDOT	Not Evaluated	
08874800	CURTAIN CREEK CULVERT	Clark County	Clark County	Good	Waterway	3rd	WSDOT	Not Evaluated	
08644000	PADDEN	Clark County	Clark County	Good	Road	Top	WSDOT	Not Evaluated	
08709000	PADDEN WEST CULVERTS	Clark County	Clark County	Good	Waterway	Top	WSDOT	Not Evaluated	
08814500	CHINA DITCH	Clark County	Clark County	Fair	Waterway	Top	WSDOT	Not Evaluated	
08771700	KLINELINE	Clark County	Clark County	Good	Waterway	Top	WSDOT	Not Evaluated	
08202500	GIBBONS CREEK	Clark County	Clark County	Fair	Waterway	Top	WSDOT	Not Evaluated	
08523200	CCRR UNDERCROSS - OLD 99	Clark County	Clark County	Fair	Railroad	Top	WSDOT	Not Evaluated	
21571	Elk Creek, Scappoose Vernonia Highway	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Not Evaluated	
20653	E Fork Nehalem R, Scappoose Vernonia Rd @ MP 4.85	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Not Evaluated	
20652	N Fk Scappoose Cr, Scappoose Vernonia Rd @ MP13.92	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Not Evaluated	
13763A	N Fk Scappoose Cr, Scappoose Vernonia Rd @ MP14.10	Columbia County	Columbia County	Good	Waterway	Top	ODOT	Not Evaluated	
21342	Oak Ranch Creek Apiary Rd. at MP 18.80	Columbia County	Columbia County	Poor	Waterway	Top	ODOT	Not Evaluated	
09C57	Beaver Creek, Old Hwy 30 at MP 6.96	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Not Evaluated	
24145	Archibald Cr_Apiary Rd_45.95033/123.13001	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Not Evaluated	
09C18	Scappoose-Vernonia Rd over Crown Z Rd	Columbia County	Columbia County	Poor	Road	Top	ODOT	Potentially Vulnerable	
13761A	N Fk Scappoose Cr, Scappoose Vernonia Rd @ MP15.84	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Potentially Vulnerable	
13762A	N Fk Scappoose Cr, Scappoose Vernonia Rd @ MP14.80	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Potentially Vulnerable	
01327A	East Fork Nehalem River, Timber Rd	Columbia County	Columbia County	Fair	Waterway	3rd	ODOT	Vulnerable	
01370A	Nehalem River, Timber Rd at MP 15.17	Columbia County	Columbia County	Fair	Waterway	3rd	ODOT	Vulnerable	
13350A	South Fork Scappoose Creek, Scappoose Vernonia Rd	Columbia County	Columbia County	Poor	Waterway	Top	ODOT	Vulnerable	
13352A	N Fk Scappoose Cr, Scappoose Vernonia Rd @ MP19.14	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Vulnerable	
13353A	N Fk Scappoose Cr, Scappoose Vernonia Rd @ MP17.83	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Vulnerable	
13354A	N Fk Scappoose Cr, Scappoose Vernonia Rd @ MP17.30	Columbia County	Columbia County	Fair	Waterway	Top	ODOT	Vulnerable	
13686A	East Fork Nehalem River, Scappoose Vernonia Rd	Columbia County	Columbia County	Poor	Waterway	Top	ODOT	Vulnerable	
06206A	Butte Creek, Minitor McKee Rd	Marion County	Marion County	Fair	Waterway	3rd	ODOT	Not Evaluated	
11113	Draw, FAS 656	Multnomah County	Multnomah County	Fair	Waterway	2nd	ODOT	Not Evaluated	
11112	Sandy River, Stark St.	Multnomah County	Multnomah County	Poor	Waterway	2nd	ODOT	Not Evaluated	
22507	cl_Beaver Cr_Stark St_45.51899/122.38870	Multnomah County	Multnomah County	Good	Waterway	2nd	ODOT	Not Evaluated	
02757D	Willamette River, SW Hawthorne Blvd (Hawthorne Br)	Multnomah County	Multnomah County	Fair	Road	Top	ODOT	Not Evaluated	
06757	Willamette River, Broadway St	Multnomah County	Multnomah County	Fair	Road	Top	ODOT	Not Evaluated	
17356	NE Arata Rd (NE 238th Ave) over UPRR	Multnomah County	Multnomah County	Good	Railroad	Top	ODOT	Not Evaluated	
06967A	Hwy 2 EB Conn #2 to Hwy 100 over UPRR (257th Dr)	Multnomah County	Multnomah County	Fair	Railroad	Top	ODOT	Not Evaluated	

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
09321	FAS A662 over NE 223rd Ave	Multnomah County	Multnomah County	Fair	Road	Top	ODOT	Potentially Vulnerable	
00511A	Burnside St West Approach over Naito Pkwy	Multnomah County	Multnomah County	Fair	Road	Top	ODOT	Vulnerable	
00511B	Burnside St (East Approach) over Hwy 1 & Conns	Multnomah County	Multnomah County	Fair	Road	Top	ODOT	Vulnerable	
02758B	W Morrison Br Conn over Hwy 1W (Front Ave) & Park	Multnomah County	Multnomah County	Fair	Road	Top	ODOT	Vulnerable	
00511	Willamette River, Burnside St (Burnside)	Multnomah County	Multnomah County	Fair	Waterway	Top	ODOT	Vulnerable	
21493	Willamette R & Hwy 3 NB, SE Tacoma St (Sellwood)	Multnomah County	Multnomah County	Good	Waterway	Top	ODOT	Not Vulnerable	
05308	Richardson Creek, Hwy 171	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
0M031	Davis Creek, Hwy 140 at MP 3.47	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
18344	Butternut Creek, Hwy 142 MP 7.14	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
0M068	Culvert, Hwy 29 at MP 22.44	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
00460	Dilley Creek, Hwy 29	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
0M028	Culvert, Hwy 29 at MP 22.77	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
03055	Little Cedar Creek, Hwy 161 at MP 27.69	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
03054	Little Cedar Creek, Hwy 161 at MP 27.51	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
03056A	Dubois Creek, Hwy 161	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
03048	Molalla River Oflow, Hwy 161	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
24212	Bear Creek_Hwy 160_MP15.86	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
03046	Bear Creek, Hwy 161	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
13507C	Flume/Bikepath over NE Airport Way & Conn to Hwy64	ODOT	ODOT	Fair	Other	2nd	ODOT	Not Evaluated	
05173	Culvert, Hwy 102 at MP 70.84	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
0P077	Culvert, Hwy 102 at MP 71.04	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
21403	Culvert, Hwy 102 R/W Lt at MP 81.30	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
04954	Hares Canyon (Williams Creek), Hwy 102	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
0M029	Culvert, Hwy 29 at MP 24.10	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
09496	Creek, Hwy 29 at MP 24.59	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
05174	Council Creek, Hwy 102	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Evaluated	
0P165	Culvert, Hwy 102 R/W Lt at MP 81.75	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
20137	CULVERT, HWY 102 AT MP 67.36	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
24223	Lundgren Cr_HWY 110_MP11.66	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
17995	Hwy 001NB over Willsonville Rd (Conn 001RD1)	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
17996	Hwy 001SB over Willsonville Rd (Conn 001RD1)	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
08205	Hwy 1W (SW Barbur Blvd) over Hwy 1	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
18674	Sylvan Conn (Skyline Blvd) over Hwy 47	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
09345	Hwy 47 EB AND WB over SW Cedar Hills Blvd	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
09770	NW 185th Ave Conn over Hwy 47	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
09722	NW Helvetia Rd Conn over Hwy 47	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
13507	Hwy 64 NB over NE Airport Way	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
20651	Columbia Blvd Ramp to Hwy 1 SB	ODOT	ODOT	Good	Road	2nd	ODOT	Not Evaluated	
08882	Hwy 1 over N Columbia Blvd & UPRR	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
24224	Lundgren Cr_HWY 110_MP11.67	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Evaluated	
18849	Butte Creek, Hwy 161	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Not Evaluated	
05307	Goose Creek, Hwy 171	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Not Evaluated	
03053	Milk Creek, Hwy 161	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Not Evaluated	
03051	Bull Creek, Hwy 161	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Not Evaluated	
21281	Butte Creek, Hwy 160 (Jacks Bridge)	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Not Evaluated	
21746	Creek, Hwy 160 At MP 21.66	ODOT	ODOT	Good	Waterway	3rd	ODOT	Not Evaluated	
18866	Gus Creek, Hwy 102	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Not Evaluated	

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
0P480	Newell Creek, Hwy 160	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
03039	Beaver Creek, Hwy 160	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
16071	Phillips Creek, Hwy 68 (SE 82nd Ave) at MP 9.06	ODOT	ODOT	Good	Waterway	Top	ODOT	Not Evaluated	
09936	Currin Creek, Hwy 171	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
22403	Crystal Springs Cr_HWY 081_MP3.51	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
0M218	Culvert, Hwy 29 at MP 4.22	ODOT	ODOT	Good	Waterway	Top	ODOT	Not Evaluated	
05051	Mt Scott Cr, Hwy 68 (82nd) @ MP 9.55 (Phillips Cr)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
13502	Culvert, Hwy 171 at MP 21.43	ODOT	ODOT	Good	Waterway	Top	ODOT	Not Evaluated	
13503	Wade Creek, Hwy 171	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
03061	Goose Creek, Hwy 172	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
07085	Tickle Creek, Hwy 172	ODOT	ODOT	Good	Waterway	Top	ODOT	Not Evaluated	
0P169	North Fork Johnson Creek, Hwy 26	ODOT	ODOT	Poor	Waterway	Top	ODOT	Not Evaluated	
09134	Johnson Creek, Hwy 26	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
09865	Abernethy Creek, Hwy 81 (McLoughlin Blvd)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
16070	Phillips Creek, Hwy 68 (SE 82nd Ave) at MP 8.53	ODOT	ODOT	Good	Waterway	Top	ODOT	Not Evaluated	
16926	SE Tacoma St over Hwy 81 (SE McLoughlin Blvd)	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
00620	Beaverton Creek (Hall Cr), Hwy 29 (SW Canyon Rd)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
06004A	Fanno Creek, Hwy 40	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
0P173	Sylvan Creek, Hwy 40	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
18734	Cook Creek, Hwy 102	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
07579A	Hwy 141 (SW Elligsen Rd, Stafford Rd) over Hwy 1	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
09403R	Hwy 64 NB Conn #1 to Hwy 81 (West Linn Intchg)	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
09750	Parkplace Conn over Hwy 64	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
07582A	SW Nyberg Road over Hwy 1	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
05050	Dean Creek, Hwy 68 (SE 82nd Ave)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Evaluated	
13538	Hwy 64 NB over SE Woodstock Blvd & SE Foster Rd	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
13538A	Hwy 64 SB over SE Woodstock Blvd & SE Foster Rd	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
13531	Hwy 64 over Hwy 26 (SE Powell Blvd)	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
19234	MulltiUse Path over Hwy 26 (Powell Bd) at MP 5.69	ODOT	ODOT	Fair	Other	Top	ODOT	Not Evaluated	
22299	Hwy 1W over Ped Tunnel	ODOT	ODOT	Fair	Other	Top	ODOT	Not Evaluated	
21629	SE 17th Ave over Hwy 26 (SE Powell Blvd)	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
06895	Hwy 1W over Hwy 26 EB & SW Grover St	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
06767A	Hwy 26 over Hwy 1E (McLoughlin Bd) (Ross Is Appr)	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
09153	Hwy 91 over Hwy 61	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
19199	Hwy 47 over Hwy 29 WB (SW Canyon Rd) (Sylvan)	ODOT	ODOT	Good	Road	Top	ODOT	Not Evaluated	
02733B	Hwy 1W Conn over Front Ave (Steel Br Everett Ramp)	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
06683A	Hwy 1W Conn over Front Ave & UPRR (Steel Br Ramp)	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
07026A	Hwy 59 (NE Sandy Blvd) over Hwy 2 & UPRR & MAX LRT	ODOT	ODOT	Good	Road	Top	ODOT	Not Evaluated	
09268	Hwy 61 over NW Front Ave & RR (W Fremont Approach)	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
07089A	Hwy 2 over NE 181st Ave	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
21816	Hwy 2 over Marine Dr	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
22516	Hwy 2 EB over NW Graham Rd	ODOT	ODOT	Good	Road	Top	ODOT	Not Evaluated	
07043A	Hwy 2 over NE 122nd Ave	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
13507A	Hwy 64 SB over NE Airport Way	ODOT	ODOT	Fair	Road	Top	ODOT	Not Evaluated	
05272A	North Fork Clackamas River, Hwy 171	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Vulnerable	
17355	Molalla River, Hwy 161 (Meadowbrook)	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Vulnerable	
18277	Rock Creek, Hwy 160	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Vulnerable	

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
20666	Milk Creek Hwy 160 at MP 10.81	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Vulnerable	
20804	Fish Passage Culvert HWY 110 at MP 1.25	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Vulnerable	
02067A	Dairy Creek Overflow, Hwy 102	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Vulnerable	
04953A	Cummings Creek, Hwy 102	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Vulnerable	
18615	Culvert, Hwy 102 at MP 88.82	ODOT	ODOT	Good	Waterway	2nd	ODOT	Not Vulnerable	
18618	Culvert, Hwy 102 at MP 89.66	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Vulnerable	
19896	Christensen Creek (Campbells Bridge), Hwy 140	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Vulnerable	
20316	Overflow, Hwy 102 at MP 81.94	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Not Vulnerable	
01802C	Rock Creek, Hwy 161	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Not Vulnerable	
03044A	Marquam Creek, Hwy 160	ODOT	ODOT	Good	Waterway	3rd	ODOT	Not Vulnerable	
01748A	Oak Ranch Creek, Hwy 102	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Not Vulnerable	
19874	Battle Creek, Hwy 102 AT MP 48.63	ODOT	ODOT	Good	Waterway	3rd	ODOT	Not Vulnerable	
17356	NE Arata Rd (NE 238th Ave) over Hwy 2	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
01618A	Hwy 81 over Clackamette Park Conn	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
09135	North Fork Deep Creek, Hwy 26	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Vulnerable	
09669A	Hwy 171AA to Hwy 1E NB over Hwy 1E NB	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
09831	Mt Scott Creek, Hwy 171	ODOT	ODOT	Good	Waterway	Top	ODOT	Not Vulnerable	
16522	Hwy 160 over Redland Rd & Abernethy Crk	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
16523	Holcomb Blvd (Oregon City) over Hwy 160	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
21417	Hwy 160 (OR 213) over Washington St at MP 0.01	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
21869	Hwy 75 over UPRR	ODOT	ODOT	Good	Railroad	Top	ODOT	Not Vulnerable	
21870	Hwy 075 over Private Streetcar Track	ODOT	ODOT	Good	Railroad	Top	ODOT	Not Vulnerable	
21871	SE 82nd Dr. Conn. to Hwy 068 Over Hwy 64	ODOT	ODOT	Good	Road	Top	ODOT	Not Vulnerable	
02008A	Johnson Creek, Hwy 81 (SE McLoughlin Blvd)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Vulnerable	
05195B	SW Barbur Blvd over Hwy 1W SB	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
06896	Hwy 1W over Hwy 26 WB Conn #1 to Hwy 1W SB	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
07031A	Hwy 68 (NE 82nd Ave) over Hwy 2 and EB MAX LRT	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
07297	Hwy 1E over NE 6th Dr	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
07298	Hwy1E (MLK Blvd) over N Vancouver Way (Schmeer Rd)	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
07400A	Hwy 1E over Marine Drive Conn	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
08995C	Hwy 1E (NE MLK Blvd) over Hwy 1 & Conns	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
09666	Hwy 123 (NE Killingsworth St) over Hwy 64	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
13521	E Burnside St over Hwy 64	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
13522	SE Stark Street over Hwy 64	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
01386	Beaverton Creek, Hwy 29	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Vulnerable	
06735A	NW Cornelius Pass Rd Conn over Hwy 47	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
08404A	NW Murray Blvd Conn over Hwy 47	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
08910A	NW Cornell Rd Conn over Hwy 47	ODOT	ODOT	Fair	Road	Top	ODOT	Not Vulnerable	
0P461	Johnson Creek, Hwy 29 (Twin Pipes)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Vulnerable	
16185	Hwy 29 over PNWR	ODOT	ODOT	Good	Railroad	Top	ODOT	Not Vulnerable	
01352A	Molalla River, Hwy 160 (Wrights)	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
07624A	Boones Ferry Road over Hwy 1 & Hwy 51	ODOT	ODOT	Fair	Road	2nd	ODOT	Potentially Vulnerable	
08401B	NE Columbia Blvd over Hwy 68 (NE 82nd Ave)	ODOT	ODOT	Fair	Road	2nd	ODOT	Potentially Vulnerable	
09059	Hwy 123 (NE Sandy Blvd) over NE 122nd Ave	ODOT	ODOT	Fair	Road	2nd	ODOT	Potentially Vulnerable	
00810A	Tualatin River, Hwy 29 (Gaston)	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
02742A	Burris Creek, Hwy 140 (Christensen Farm)	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
04962A	Jackson Bottom Slough, Hwy 140	ODOT	ODOT	Poor	Waterway	2nd	ODOT	Potentially Vulnerable	

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
04966A	McFee Creek, Hwy 140 (Bonner)	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
09494	Scoggin Creek & PNWR, Hwy 29	ODOT	ODOT	Poor	Railroad	2nd	ODOT	Potentially Vulnerable	
09497	Creek, Hwy 29 at MP 24.97	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
09498	Creek, Hwy 29 at MP 25.30	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
09637	Gales Creek, Hwy 29	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
09638	Carpenter Creek, Hwy 29	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
09672	Hwy 143 over Hwy 144 @ MP 4.27	ODOT	ODOT	Fair	Road	2nd	ODOT	Potentially Vulnerable	
16129	Gales Creek Oflow # 1, Hwy 29 at MP 19.43	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
16130	Gales Creek Oflow # 2, Hwy 29 at MP 19.72	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Potentially Vulnerable	
03060B	Eagle Creek, Hwy 171	ODOT	ODOT	Fair	Waterway	Top	ODOT	Potentially Vulnerable	
09381	Boring Rd over Hwy 26	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09386	Hwy 171 over Hwy 68 (SE 82nd Ave) (Lake Rd Intchg)	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09554	Hwy 171 over UPRR AND SE 26TH AVE.	ODOT	ODOT	Fair	Railroad	Top	ODOT	Potentially Vulnerable	
09623	Lake Rd (Harmony Rd) over Hwy 171	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09668	Hwy 171 (Milw Expy) over Hwy 1E (McLoughlin Blvd)	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09670A	Johnson Creek, Hwy 81 SB Conn to Hwy 171	ODOT	ODOT	Fair	Waterway	Top	ODOT	Potentially Vulnerable	
09715	SE Sunnyside Rd over Hwy 64	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09718	Hwy 171 Conn (SE 82nd Dr) over Hwy 64	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09719	Hwy 64 NB Conn to Hwy 68 NB & Hwy171 WB over Hwy64	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09727	HWY064 Frtg Rd over UPRR_45.31328/122.58465	ODOT	ODOT	Fair	Railroad	Top	ODOT	Potentially Vulnerable	
09739	Stafford Rd over Hwy 64	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
02237A	SE Milwaukie Ave over Hwy 1E	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
08996	Hwy 123 (N Lombard St) over Hwy 1 & Conns	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09159	SW Broadway Conn #6 to Hwy 61 SB over Hwy 61	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09160	SW Broadway Conn #4 over Hwy 61	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09281	W Burnside St over Hwy 61	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
01754A	Dawson Creek, Hwy 29 (Rock Creek)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Potentially Vulnerable	
09611	Hwy 144 over Hwy 29 (SW Canyon Rd)	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
09612	Hwy 144 over Hwy 40	ODOT	ODOT	Fair	Road	Top	ODOT	Potentially Vulnerable	
01607A	Clear Creek, Hwy 161	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
02208	Clackamas River, Hwy 161 (Estacada)	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
01415	East Fork Nehalem River, Hwy 102 at MP 57.14	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
01508	Rock Creek, Hwy 102	ODOT	ODOT	Poor	Waterway	2nd	ODOT	Vulnerable	
02301	Beaver Creek, Hwy 102 at MP 64.60	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
02323	Nehalem River, Hwy 102 at MP 61.28	ODOT	ODOT	Poor	Waterway	2nd	ODOT	Vulnerable	
02598A	Nehalem River, Hwy 102 at MP 63.65	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
03145A	Nehalem River, Hwy 102 at MP 57.68	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
03146A	Nehalem River, Hwy 102 at MP 59.58	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
03148	Beaver Creek, Hwy 102 at MP 64.21	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
03151	Beaver Creek, Hwy 102 at MP 65.22	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
03156A	Beaver Creek, Hwy 102 at MP 69.03	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
01726	Columbia Slough, Hwy 120	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
01983	SW Newbury St Viaduct, Hwy 1W	ODOT	ODOT	Fair	Other	2nd	ODOT	Vulnerable	
01984	SW Vermont St Viaduct , Hwy 1W	ODOT	ODOT	Fair	Other	2nd	ODOT	Vulnerable	
02010	Hwy 1W over SW Multnomah Blvd	ODOT	ODOT	Fair	Road	2nd	ODOT	Vulnerable	
04518	Hwy 1W over N Columbia Blvd & UPRR	ODOT	ODOT	Fair	Road	2nd	ODOT	Vulnerable	
08322	Hwy 1W over SW 26th Ave	ODOT	ODOT	Fair	Road	2nd	ODOT	Vulnerable	

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
01081	Tualatin River, Hwy 140	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
01760	Beaver Creek, Hwy 102 at MP 70.51	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
23961	West Fork Dairy Cr_HWY 102_MP 82.65	ODOT	ODOT	Good	Waterway	2nd	ODOT	Vulnerable	
02347	West Fork Dairy Creek, Hwy 102 at MP 86.34	ODOT	ODOT	Fair	Waterway	2nd	ODOT	Vulnerable	
02363	Hwy 47 over Hwy 102 & POTB RR (Davies)	ODOT	ODOT	Fair	Road	2nd	ODOT	Vulnerable	
22562	Beaver Creek, Hwy 102 at MP 69.79	ODOT	ODOT	Good	Waterway	2nd	ODOT	Vulnerable	
04960A	South Fork Dairy Creek, Hwy 102	ODOT	ODOT	Good	Waterway	2nd	ODOT	Vulnerable	
08033	Hwy 37 over Hwy 102	ODOT	ODOT	Fair	Road	2nd	ODOT	Vulnerable	
01608A	Canyon Creek, Hwy 161	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Vulnerable	
02082A	Deep Creek, Hwy 171	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Vulnerable	
03043A	Garrett Creek, Hwy 160	ODOT	ODOT	Fair	Waterway	3rd	ODOT	Vulnerable	
01617	Clackamas River, Hwy 1E (McLoughlin Br)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Vulnerable	
01949	Kellogg Lake Outlet, Hwy 81 (SE McLoughlin Blvd)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Vulnerable	
02135A	Mt Scott Creek & UPRR, Hwy 68 (82nd Ave) @ MP 9.67	ODOT	ODOT	Fair	Railroad	Top	ODOT	Vulnerable	
03062	Deep Creek, Hwy 172	ODOT	ODOT	Fair	Waterway	Top	ODOT	Vulnerable	
02046	Columbia R, Hwy 2W Conn (Lewis & Clark, Longview)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Vulnerable	
01377C	Columbia Slough, Hwy 1E	ODOT	ODOT	Fair	Waterway	Top	ODOT	Vulnerable	
01994	Hwy 68 (NE 82nd Ave) over UPRR & WB MAX LRT	ODOT	ODOT	Fair	Railroad	Top	ODOT	Vulnerable	
02097	SE Grand Ave Viaduct, Hwy 81	ODOT	ODOT	Fair	Other	Top	ODOT	Vulnerable	
02350A	Hwy 1E (SE MLK Blvd) over Hwy 2 & UPRR	ODOT	ODOT	Fair	Road	Top	ODOT	Vulnerable	
05194	Hwy 1W over SW Arthur St	ODOT	ODOT	Fair	Road	Top	ODOT	Vulnerable	
05195A	Harbor Drive Viaduct, Hwy 1W NB	ODOT	ODOT	Fair	Other	Top	ODOT	Vulnerable	
05290	Hwy 1E over UPRR (at N Baldwin St)	ODOT	ODOT	Fair	Railroad	Top	ODOT	Vulnerable	
06497	Willamette R & Hwy 2W NB & UPRR, Hwy123 (St Johns)	ODOT	ODOT	Fair	Waterway	Top	ODOT	Vulnerable	
07040	Hwy 1E NB (NE Grand Ave) over Hwy 2 Conns & UPRR	ODOT	ODOT	Fair	Road	Top	ODOT	Vulnerable	
07999	Hwy68 Conn (NE Halsey St) over Hwy68 (NE 82nd Ave)	ODOT	ODOT	Fair	Road	Top	ODOT	Vulnerable	
08402	Hwy123 (NE Killingsworth St) over Hwy68 (82nd Ave)	ODOT	ODOT	Fair	Road	Top	ODOT	Vulnerable	
00744B	Dairy Creek, Hwy 29	ODOT	ODOT	Fair	Waterway	Top	ODOT	Vulnerable	
17082	Johnson Creek, Hwy 81 Conn to SE Tacoma St	ODOT	ODOT	Fair	Waterway	Top	ODOT	Not Vulnerable	
17124	SE Tacoma St over UPRR	ODOT	ODOT	Fair	Railroad	2nd	ODOT	Not Vulnerable	
08591A	Hwy 61 SB to Hwy 1 NB over Hwy 1 (W Marquam Int)	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
08591D	Hwy 1 NB over SW Moody Ave (West Marquam Intchg)	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
08591B	Hwy 1 SB to Hwy 61 NB over Streets (W Marquam Int)	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
08591C	Hwy 1 SB over Hwy1 NB to Hwy 61 (W Marquam Intchg)	ODOT	ODOT	Fair	Road	2nd	ODOT	Not Evaluated	
21763	OHSU Viaduct_Campus Way	Oregon - Other State Agenc	Oregon - Other State Agenc	Fair	Other	Top	ODOT	Not Evaluated	
02003	Steel Bridge over Hwy 102 at Trail 10.6	Oregon State Park	Oregon State Park	Fair	Other	2nd	ODOT	Not Evaluated	
04951	Tophill Trestle over Hwy 102 at Trail MP: 12.1	Oregon State Park	Oregon State Park	Poor	Other	2nd	ODOT	Not Evaluated	
22258	Willamette R, Portland Milwauk Lt Rail (Tilikum)	Other Local Agency	Other Local Agency	Fair	Waterway	2nd	ODOT	Not Evaluated	
21666	TRIMET MAX LRT, over HWY 081 @ 6.25	Other Local Agency	Other Local Agency	Good	Railroad	Top	ODOT	Not Evaluated	
20700	Stark Street Over Trimet I-205 LRT	Other Local Agency	Other Local Agency	Fair	Railroad	Top	ODOT	Not Evaluated	
22472	LRT over Hwy 26 (Tri-Met Powell Blvd Bridge)	Other Local Agency	Other Local Agency	Good	Railroad	Top	ODOT	Not Evaluated	
21662	LRT over Hwy 26@17th (Tri-Met Powell Blvd Bridge)	Other Local Agency	Other Local Agency	Fair	Railroad	Top	ODOT	Not Evaluated	
20199	NE Mt Hood Ave. over NE Airport Way (PDX)	Other Local Agency	Other Local Agency	Fair	Road	Top	ODOT	Not Vulnerable	
21282	Departures Bridge PDX Airport (Port of Portland)	Other Local Agency	Other Local Agency	Fair	Road	Top	ODOT	Potentially Vulnerable	
21664	TRIMET MAX LRT, over HWY 081BQ	Other Local Agency	Other Local Agency	Good	Railroad	Top	ODOT	Not Evaluated	
22259	SW Harbor Viaduct, SW Riv, SW Harb, SW Sher	Other Local Agency	Other Local Agency	Fair	Railroad	2nd	ODOT	Not Evaluated	
16109	BNSF over Hwy 120	Railroad	Railroad	Fair	Railroad	2nd	ODOT	Not Evaluated	

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
19197	BNSF over Hwy 120	Railroad	Railroad	Good	Railroad	2nd	ODOT	Not Evaluated	
04952	POTB over Hwy 102	Railroad	Railroad	Poor	Railroad	2nd	ODOT	Not Evaluated	
0M089	Hwy 123 (N Lombard St) over BNSF	Railroad	Railroad	Poor	Railroad	Top	ODOT	Not Evaluated	
01772	PNWR over Hwy 81 (SE McLoughlin Blvd)	Railroad	Railroad	Fair	Railroad	Top	ODOT	Not Evaluated	
08401A	UPRR over Hwy 68 (NE 82nd Ave)	Railroad	Railroad	Fair	Railroad	Top	ODOT	Not Evaluated	
16109	BNSF over Hwy 120	Railroad	Railroad	Fair	Railroad	Top	ODOT	Not Evaluated	More Vulnerable
09917	UPRR over Hwy 26 (SE Powell Blvd)	Railroad	Railroad	Fair	Railroad	Top	ODOT	Not Evaluated	
	UPRR over NE 122nd Ave	Railroad	Railroad	Unknown	Railroad	Top	Other	Not Evaluated	
	Columbia Slough culvert on NE 122nd Ave	Unknown	Unknown	Unknown	Waterway	Top	Other	Not Evaluated	
21748	Fanno Creek, Scholls Ferry Rd	Washington County	Washington County	Fair	Waterway	2nd	ODOT	Not Evaluated	
671331	Beaverton Creek, SW 185th Ave	Washington County	Washington County	Fair	Waterway	2nd	ODOT	Not Evaluated	
671330	Willow Creek, SW 185th Ave & Baseline Rd	Washington County	Washington County	Fair	Waterway	2nd	ODOT	Not Evaluated	
671420	Fanno Creek, Scholls Ferry Rd.	Washington County	Washington County	Fair	Waterway	2nd	ODOT	Not Evaluated	
0P082	Johnson Creek, Hwy 142	Washington County	Washington County	Good	Waterway	2nd	ODOT	Not Evaluated	
06656	Creek, Hwy 142 at MP 2.90	Washington County	Washington County	Good	Waterway	3rd	ODOT	Not Evaluated	
06657	Dry Wash, Hwy 142 at MP 3.34	Washington County	Washington County	Good	Waterway	3rd	ODOT	Not Evaluated	
20296	Nehalem River, Vernonia Rd	Washington County	Washington County	Fair	Waterway	3rd	ODOT	Not Evaluated	
21363	Hall Creek, Cornelius Pass Rd at MP 1.70	Washington County	Washington County	Fair	Waterway	Top	ODOT	Not Evaluated	
21696	Rock Creek, Cornelius Pass Rd at MP 2.40	Washington County	Washington County	Fair	Waterway	Top	ODOT	Not Evaluated	
671343	Rock Creek, Cornelius Pass Rd at MP 8.37	Washington County	Washington County	Fair	Waterway	Top	ODOT	Not Evaluated	
671355	Cedar Mill Creek, SW Murray Blvd	Washington County	Washington County	Good	Waterway	Top	ODOT	Not Evaluated	
20970	Rock Creek, River Rd	Washington County	Washington County	Good	Waterway	Top	ODOT	Not Evaluated	
19185	Rock Creek Overflow, Cornell Rd	Washington County	Washington County	Good	Waterway	Top	ODOT	Not Evaluated	
19186	Rock Creek, Cornell Rd	Washington County	Washington County	Fair	Waterway	Top	ODOT	Not Evaluated	
22383	SW Basalt Creek Pkwy O'Xing PWRR	Washington County	Washington County	Fair	Railroad	Top	ODOT	Not Evaluated	
19191	Tualatin River Tributary, Roy Rogers Rd at MP 2.30	Washington County	Washington County	Fair	Waterway	Top	ODOT	Not Evaluated	
19032	Chicken Creek, Roy Rogers Rd at MP 3.70	Washington County	Washington County	Fair	Waterway	Top	ODOT	Not Evaluated	
19192	Tualatin River Tributary, Roy Rogers Rd at MP 2.30	Washington County	Washington County	Good	Waterway	Top	ODOT	Not Evaluated	
20304	NW Barnes Road over Cedar Mill Creek	Washington County	Washington County	Fair	Waterway	Top	ODOT	Not Evaluated	
24012	Rock Cr_Tualatin-Sherwood Rd_45.36786/122.82875	Washington County	Washington County	Fair	Waterway	Top	ODOT	Not Evaluated	
671211	Nyberg Creek, SW 65th Ave	Washington County	Washington County	Good	Waterway	Top	ODOT	Not Evaluated	
20295	Tualatin River, Scholls Ferry Rd	Washington County	Washington County	Fair	Waterway	2nd	ODOT	Not Vulnerable	
20069	Tualatin River, Farmington Rd. (Phillip Harris)	Washington County	Washington County	Good	Waterway	3rd	ODOT	Not Vulnerable	
671417	Robinson Creek, Vernonia Rd	Washington County	Washington County	Fair	Waterway	3rd	ODOT	Not Vulnerable	
19188	SW Murray Blvd over TriMet & Terman Rd	Washington County	Washington County	Fair	Road	Top	ODOT	Not Vulnerable	
671217	Tualatin River, Roy Rogers Rd at MP 2.60	Washington County	Washington County	Fair	Waterway	Top	ODOT	Potentially Vulnerable	
671408	SW Murray Blvd over TriMet & Terman Road	Washington County	Washington County	Fair	Road	Top	ODOT	Potentially Vulnerable	
0014285A	SR 500 OVER ANDRESEN RD	WSDOT	WSDOT	Good	Road	2nd	WSDOT	Not Evaluated	
0009241G	I-205 OVER ST JOHNS RD	WSDOT	WSDOT	Fair	Road	2nd	WSDOT	Not Evaluated	
0009241L	I-205 OVER ST JOHNS RD	WSDOT	WSDOT	Fair	Road	2nd	WSDOT	Not Evaluated	
0009448D	I-205 OVER BURTON RD	WSDOT	WSDOT	Fair	Road	2nd	WSDOT	Not Evaluated	
0009448E	I-205 OVER BURTON RD	WSDOT	WSDOT	Fair	Road	2nd	WSDOT	Not Evaluated	
0014329A	I-5 OVER NE 99TH ST	WSDOT	WSDOT	Fair	Road	2nd	WSDOT	Not Evaluated	
0016625A	SR 500 OVER NE GHER RD	WSDOT	WSDOT	Fair	Road	2nd	WSDOT	Not Evaluated	
0018079A	ST JOHNS BLVD OVER SR 500	WSDOT	WSDOT	Good	Road	2nd	WSDOT	Not Evaluated	
0018311A	NE 139TH ST OVER I-5/I-205	WSDOT	WSDOT	Good	Road	2nd	WSDOT	Not Evaluated	
0008055B	NE 199TH ST OVER I-5	WSDOT	WSDOT	Good	Road	3rd	WSDOT	Not Evaluated	

Regional Emergncy Transportation Routes Phase 2
Bridge Table

BRIDGE ID	BRIDGE NAME	BRIDGE OWNER	BRIDGE MAINTAINER	BRIDGE CONDITION	CROSSING TYPE	RETR TIER	DATA SOURCE	ODOT SEISMIC VULNERABILITY	PBOT SEISMIC VULNERABILITY
0009106A	NE 119TH ST OVER I-205	WSDOT	WSDOT	Fair	Road	3rd	WSDOT	Not Evaluated	
0016610A	I5 OVER NE 117TH ST	WSDOT	WSDOT	Good	Road	3rd	WSDOT	Not Evaluated	
0016610B	I5 OVER NE 117TH ST	WSDOT	WSDOT	Good	Road	3rd	WSDOT	Not Evaluated	
00TA2311	142ND PED OVER SR 500	WSDOT	WSDOT	Good	Other	Top	WSDOT	Not Evaluated	
0009241B	PADDEN PKWY OVER I-205	WSDOT	WSDOT	Fair	Road	Top	WSDOT	Not Evaluated	
0009241A	PADDEN PKWY OVER I-205	WSDOT	WSDOT	Fair	Road	Top	WSDOT	Not Evaluated	
0009737B	MILL PLAIN BLVD OVER I-205	WSDOT	WSDOT	Fair	Road	Top	WSDOT	Not Evaluated	
8702800	NE 130TH OVER SR 500	WSDOT	WSDOT	Good	Road	Top	WSDOT	Not Evaluated	
0009448A	FOURTH PLAIN OVER SR 500	WSDOT	WSDOT	Good	Road	Top	WSDOT	Not Evaluated	
0009448B	FOURTH PLAIN OVER I-205	WSDOT	WSDOT	Fair	Road	Top	WSDOT	Not Evaluated	
0015661G	I-5 OVER NE 78TH ST	WSDOT	WSDOT	Fair	Road	Top	WSDOT	Not Evaluated	
0015661B	MAIN ST OVER I-5	WSDOT	WSDOT	Good	Road	Top	WSDOT	Not Evaluated	
0011193D	I-5 NB RAMP OVER MILL PLAIN	WSDOT	WSDOT	Good	Road	Top	WSDOT	Not Evaluated	
0011193C	I-5 OVER SR 501/MILL PLAIN	WSDOT	WSDOT	Good	Road	Top	WSDOT	Not Evaluated	
0011193B	I-5 OVER SR 501/MILL PLAIN	WSDOT	WSDOT	Good	Road	Top	WSDOT	Not Evaluated	
0016115A	192ND AVE OVER SR 14	WSDOT	WSDOT	Good	Road	Top	WSDOT	Not Evaluated	
0015661E	S-S RAMP OVER BIKE/PED	WSDOT	WSDOT	Good	Road	Top	WSDOT	Not Evaluated	
0018311C	S-S RAMP OVER NE 16TH AVE	WSDOT	WSDOT	Good	Road	Top	WSDOT	Not Evaluated	

Appendix E. Table of Route Tier Changes made following final (11/12/25) technical workshop

Comment #	Group	Route(s) Name (in map)	Route Name	Extents	Original Tier	New Tier	Rationale	Type of Change	Outcome	Additional Notes/Follow-Up
1	Group 1: Clackamas County	R-X-102-00-Highway211_01, R-X-102-00-Highway211_02	Hwy 211	HWY 26 in Sandy to Hwy 224/211 Junction in Estacada	T2	T1	Primary debris management site will probably be at the Barton Stockpile and there are other options in/out of Molalla other than Hwy 213. Also, Hwy 211 not only serves local communities but could be considered an indirect connection to Multnomah County. They noted that In Operations/Maintenance, they treat Beavercreek, Redland and Springwater very similar and most of the time it depends on the event or other circumstances; it makes sense for Redland and Springwater to be the same Tier (even if that's Tier 2). They don't envision spending a lot of time deciphering the difference between a Tier 1 or Tier 2 Primary in an event,	Tier Upgrade	Upgrade to Tier 1	
2	Group 1: Clackamas County	R-X-269-00-65th_Nyberg_TualatinSherwood_01	Tualatin-Sherwood/Nyberg/65th	65th Ave to 124th Ave	T1 Alternate	T1 Primary	Serves a hospital and provides better route spacing by providing a route in an area with very few east/west routes	Tier Upgrade	Convert to Primary	
3	Group 1: Clackamas County	R-X-149-00-Beavercreek_01;R-X-149-00-Beavercreek_02	Beavercreek Rd	Leland to Spangler	Not tiered	T1	Clackamas County staff identified an error in the shapefile provided to Metro in Phase 1 of the REtR Project. The Beavercreek route in rural Clackamas county appears to not be mapped correctly; Please fix route so that it stays on Beavercreek and does not go alongKamrath Road. It should stay on Beavercreek so that it connects to the fire station #10 located at 22310 S Beavercreek Rd, Beavercreek, OR 97004. https://clackamasfire.com/fire-stations/station-10-beavercreek/	Map error fix	Fix error in linework	
4	Group 1: Clackamas County	Multiple	Redland Rd/Hwy 224/Springwater Rd/Hwy211	Hwy 212 to Estacada	T2	NA	From Clackamas map and email thread. Hwy 224/Springwater Rd/Hwy211 (Hwy 212 to Estacada) In Operations/Maintenance, we treat Beavercreek, Redland and Springwater very similar and most of the time it depends on the event or other circumstances; it makes sense for Redland and Springwater to be the same Tier (even if that's Tier 2). I don't see us spending a lot of time deciphering the difference between a Tier 1 or Tier 2 Primary in an event, we'll probably be looking at primary and alternative routes to keep people moving.	General Note	No change	
5	Group 1: Clackamas County		Redland Rd/Springwater Rd/Hwy 211	Hwy 213 to Estacada	T2	NA	Redland Rd/Springwater Rd/Hwy 211 (Hwy 213 to Estacada) In Operations/Maintenance, we treat Beavercreek, Redland and Springwater very similar and most of the time it depends on the event or other circumstances; it makes sense for Redland and Springwater to be the same Tier (even if that's Tier 2). I don't see us spending a lot of time deciphering the difference between a Tier 1 or Tier 2 Primary in an event, we'll probably be looking at primary and alternative routes to keep people moving.	General Note	Duplicate	duplicate with #4 note above
6	Group 1: Clackamas County	R-X-149-00-Beavercreek_02; R-X-149-00-Beavercreek_03	Beavercreek Rd	From where current tier 1 designation ends at Carus Rd to Hwy 211	T3	Potential Upgrade	Beavercreek Rd (from where current tier 1 designation ends at Carus Rd to Hwy 211 "In Operations/Maintenance, we treat Beavercreek, Redland and Springwater very similar and most of the time it depends on the event or other circumstances; it makes sense for Redland and Springwater to be the same Tier (even if that's Tier 2). I don't see us spending a lot of time deciphering the difference between a Tier 1 or Tier 2 Primary in an event, we'll probably be looking at primary and alternative routes to keep people moving. "	General Note	No change	
7	Group 1: Clackamas County	R-X-135-00-Highway213_03; R-X-135-00-Highway213_04	Hwy 213	From where current tier 1 designation ends at Carus Rd to Hwy 211	T2	Potential Upgrade	Discussed during November work group. In email with Clackamas County, the county expressed that there are other options in/out of Mollala other than Hwy 213.	General Note	No change	Note: current segment splits at Barnardo Rd so would need to update the extents to match this
8	Group 2: Columbia/Washington County	R-X-123-00-Murray_01; R-X-123-00-Murray_02	Murray Road	Scholls Ferry to Cedar hills	T2	T1	Wide roadway with lots of space and connection to public facilities. Is an arterial, wider streets, things are set back. Elevated segments through Beaverton. Connects to additional SVI top third tracts	Tier Upgrade	Upgrade to Tier 1	Also on Map
9	Group 2: Columbia/Washington County	R-X-117-01-CorneliusPass_02	Cornelius Pass Rd	TV Hwy to US 30?	T1	NA	Incredibly important route, main I-5 access and for freight	General Note	No change	
10	Group 2: Columbia/Washington County	R-X-148-00-Farmington_01	Farmington Road in SW County/219 (Hillsboro Hwy)	SW 209 to Hillsboro Hwy	T3	T2, T1	Generally, it would be helpful to have another T1 route around this SW area near Beaverton and Hillsboro, but acknowledges that there is not as much to meet the criteria proposed (density/amentiies/etc).There's some concern about the lack of ETR connections because while this area isn't the densest there is a lot of space that is not covered.	Tier Upgrade	No change	Possible tier upgrade. No route ID but based on comments, seems to be about R-X-148-00-Farmington_01. We are already proposing to elevate Scholls Ferry, which is parallel to this to the south (see #18).

11	Group 2: Columbia/Washington County	R-X-111-00-Highway219_01	Hillsboro Highway	SE Baseline Street to SW Farmington Road	T1	T2	Partners note that T1 primarily should apply within the UGB. However given that the majority of the segment falls outside the UGB, Washington County has noted that internally they support downgrading this segment.	Tier Downgrade	Downgrade to Tier 2	Looks like UGB ends at the intersection of Hillsboro Hwy and Tualatin River (eyeballing the map, looks to be about 1/4-1/3 of the entire segment is within the UGB. The majority is outside of it. Would it make sense to downgrade the entire segment if we're not able to "split"? Dyami and Mike H said they had internal WashCo convos, and are okay with all being T2. Need to reconcile the outcome of comments 11, 18, and 19
12	Group 2: Columbia/Washington County	R-X-115-01-Brookwood_01	Brookwood Parkway	Near Hillsboro Airport and NE Evergreen Rd	T1	T2	Downgrade this segment unless we could also upgrade Evergreen and 25th. This segment is not as ideally connected around the airport and there are other preferred alternatives. Helps with tier 1 distribution in multiple parallel segments that are right there (i.e., balances # tier 1 vs lower tiers). Hillsboro's public works facility and future fire HQ are still further west on Evergreen (not directly on ETR) so would choose to keep other parallel segments as tier 1 instead of this one at this time. Can still connect to airport via Cornell to the south (tier 1), and PW and fire facilities are the same-ish distance from an existing ETR whether from the south or via Brookwood. Would consider proposing a change to what is an ETR around the airport at a future opportunity.	Tier Downgrade	Downgrade to Tier 2	Also on Map
13	Group 2: Columbia/Washington County	R-X-105-00-Highway47_05; R-X-105-00-Highway47_06	Highway 47 (Nehalem Hwy)/Timber Rd		T3	T2	Provides a connection and access for vulnerable populations in Columbia County	Tier Upgrade	Upgrade to Tier 2	Need to review rationalle further Are these duplicates? See #22. Need to reconcile conflicting info between notes and maps.
14	Group 2: Columbia/Washington County	R-X-125-00-CedarHills_01	Cedar Hills Blvd	US 26 to TV Hwy	T1	T2	Potentially downgrade to prioritize other connections. Received "points" due to being within 1 mile of facilities but those facilities not actually on that segment. Downgrading also helps with the density of tier 1 routes in that immediate area.	Tier Downgrade	Downgrade to Tier 2	Also on Map
15	Group 2: Columbia/Washington County	R-X-152-02-Cornell_Barnes_01	Cornell Road	US 26 going towards Barnes Rd	T2 Alternate	T1 Primary	Should be a top tier instead of an alternative; upgrade to tier 1 to complete an East-West T1 connection; there are concerns about number of bridges, etc. on 26 in that area.	Tier Upgrade	Convert to Primary	
16	Group 2: Columbia/Washington County	R-X-119-00-185th_01	185th Ave	US 26 to TV Hwy	T1	T2	Downgrade 185th to focus/upgrade Murray instead which has more facilities. Helps with distribution of tier 1 vs tier 2 in that immediate area. Fewer critical locations directly on this route vs others.	Tier Downgrade	Downgrade to Tier 2	
17	Group 2: Columbia/Washington County	R-X-123-00-Murray_01	Murray Blvd	Scholls Ferry to TV Highway	T2	T1	Upgrade this as the prioritized route instead of 185th because it is a wide roadway with larger amounts of space and public facility access	Tier Upgrade	Duplicate	Duplicate of #8
18	Group 2: Columbia/Washington County	R-X-120-02-SchollsFerry_03	Scholl's Ferry Road	Hillsboro Hwy to 175th	T3	T2 (from Hillsboro Hwy to where Schools Ferry and River Road meet), T1 (from where River Road and Scholls Ferry meet and SW Roy Rogers)	Break up this segment into two segments: one would be where Scholls Ferry is N/S from Hillsboro Hwy to River Road, second would be where Schools ferry is E/W from River Road to Roy Rogers. Elevates route near South Cooper Mountain, an area that is rapidly developing, and creates a connected tier 2 loop in an area where a few had minor concerns about access. Creates a connect T1 loop between Roy Rogers Rd and TV Hwy (via Scholls and River Road - see Comment 64). Washington County noted importance of maintaining access to Clean Water Services facilities, including a tratment plant on River Road. There is also an airpark on River Road near the intersection with Scholls Ferry.	Tier Upgrade	Break up this segment at the roundabout where Scholls Ferry Rd makes a hard left to continue south; upgrade the N/S segment to Tier 2; upgrade the E/W segment to Tier 1	Need to reconcile the outcome of comments 11, 18, and 19
19	Group 2: Columbia/Washington County		Scholl's Ferry Road		T2,T1	T1	Have this entire route be a T1 .The T2 portion has most dense area in Beaverton and Cooper Mountain is also seeing increasing density. Could also consider altering due to the UGB.	Tier Upgrade	duplicate; otherwise addressed in 18	Need to reconcile the outcome of comments 11, 18, and 19 Need to clarify extents that were recommended for upgrade
20	Group 2: Columbia/Washington County	NA	Evergreen Rd	NE 25 to Brookwood	Not tiered	NA	Upgrade as providing better access to airport and other critical public works/ uniformed service infrastructure that is new within the last few years.	New or Altered Route	Not making additions at this time	Off R-X-115-01-Brookwood_01: add ETR continuing west on NE Evergreen and then south on NE 25. This will connect to Hillsboro's newer Public Works facility that houses operations and fleet, and eventually facilities. A new police HQ will be built near Evergreen/25th. If this change is made, remove ETR from NE Evergreen to Cornell (R-X-115-02-Brookwood_01).

21	Group 2: Columbia/Washington County	NA	25th Ave	NE Evergreen to Cornell	Not tiered	NA	Upgrade as providing better access to airport and other critical public works/ uniformed service infrastructure that is new within the last few years.	New or Altered Route	Not making additions at this time	See also Brookwood Pkwy. Off R-X-115-01-Brookwood_01: add ETR continuing west on NE Evergreen and then south on NE 25. This will connect to Hillsboro's newer Public Works facility that houses operations and fleet, and eventually facilities. A new police HQ will be built near Evergreen/25th. If this change is made, remove ETR from NE Evergreen to Cornell (R-X-115-02-Brookwood_01).
22	Group 2: Columbia/Washington County	R-X-105-00-Highway47_05; R-X-105-00-Highway47_06	Hwy 47	Vernonia south to US 26	T3	T2	Elevates another N/S connector between Washington and Columbia counties. Provides a connection and access for vulnerable populations in Columbia County	Tier Upgrade	Upgrade to Tier 2	Are these duplicates? See #13. Need to reconcile conflicting info between notes and maps.
23	Group 3: Multnomah County	R-X-178-02-Stark_01	Stark Street	NE Hogan Drive and Historic Columbia River Highway	T2	T1	Senior access and several hazards	Tier Upgrade	No change	
24	Group 3: Multnomah County	R-X-196-00-Highway20Bypass_01	St Johns Bridge	N Lombard St to NW Bridge Ave	T2	T1	It is important to make sure there are no small gaps on Tier 1 routes.	Tier Upgrade	Upgrade to Tier 1	
25	Group 3: Multnomah County	R-X-209-00-182nd_01	SE 181st Ave	E Burnside St to SE Stark ST	T2	T1	It is important to make sure there are no small gaps on Tier 1 routes.	Tier Upgrade	No change to tiering need, revised geometry slightly to change break point from Burnside to Stark to retain Tier 1 network connectivity	
26	Group 3: Multnomah County	R-X-176-01-Highway26_02	NW Burnside Rd	NE Hogan Dr and county boundary	T2	T1	Connects out to Sandy and rest of central state (Redmond resources?) Need better access for senior population to hospitals Area is very susceptible to landslides and liquefaction	Tier Upgrade	Upgrade to Tier 1	Possibly also highlighted in map. Is this Burnside or Stark?
27	Group 3: Multnomah County	R-X-164-01-Powell_01; R-X-164-02-Powell_01	SE Powell Boulevard	East of I-205	T2	NA	Powell as Tier 2 is fine.	General Note	No change	Does this contradict with the Hwy 26 notes?
28	Group 3: Multnomah County	R-X-160-02-Foster_02	SE Foster Road near Johnson Creek	I-205 to SE Jenne Rd	T2	T1	The area is low-income and low-lying/prone to flash floods	Tier Upgrade	Split Foster segment at 172nd, west segment merged to Tier 2 segment, east segment merged with Tier 3 segment. No upgrades to Tier 1.	Need to review extents
29	Group 3: Multnomah County	R-X-200-00-Lombard_03	N Lombard St	I-5 to NE 82nd Ave	T2	T1	Lombard is Tier 1 up to I-5 but switches to Tier 2 from I-5 to I-205. For funding purposes (and inclusion in the TSP/RTP), all of Lombard should be Tier 1 (i.e., upgrading that Tier 2 section to Tier 1). Lombard is easier to access, and fewer structures may obstruct access. St. John's residents are very concerned about the St. John's bridge falling during disaster.	Tier Upgrade	Upgrade to Tier 1	Also highlighted somewhat differently on the map. Make changes to extents so tail end of Lombard is added to the Lombard segment and removed from Columbia segment.
30	Group 3: Multnomah County	R-X-202-00-Columbia_01	NE Columbia Blvd	NE Martin Luther King Blvd to NE Sandy Blvd	T1	T2	Runs parallel to Lombard, make Lombard T1 all the way along and downgrade Columbia Blvd	Tier Downgrade	Downgrade to Tier 2	Make changes to extents so tail end of Lombard is added to the Lombard segment and removed from Columbia segment.
31	Group 3: Multnomah County	R-X-190-00-SwanIsland_01	N Going Street	Swan Island to I-5	Alternative	NA	Highlighted on map: Why is this an alternative route? The city fleet is located near here. Swan Island is coded as a top tier alternative route. What is it alternative to? The City of Portland fleet and fueling may be moving to Swan Island. Would like to have consistent tiering.	General Note	Convert to Primary	Highlighted by group on map but no direct action listed. Duplicate of #57 (with outcome proposed).
32	Group 3: Multnomah County	R-X-210-02-Airport_01 OR R-X-193-02-82nd_01;R-X-193-03-82nd_01	Airport Way and 82nd Avenue	Airport to I-205 OR Airport to Columbia Blvd	T2	T1	Airport Way and 82nd Avenue are both seen as critical, and both need to be upgraded to Tier 1.	Tier Upgrade	Make both Tier 1	ID's on map
33	Group 3: Multnomah County	R-X-233-00-47th_Cornfoot_Airtrans_01	47th Ave/Cornfoot Rd	North of NE Columbia Blvd	T2	NA	From a regional perspective, 47th to Cornfoot as access to south side of the airport (for the National Guard). (See disjointed, crooked Tier 2 line near the airport.)	General Note	No change	ID's on map
34	Group 3: Multnomah County	R-X-176-02-Highway26_01	Highway 26	South of the Multnomah/Clackamas County boundary	T2	T1	Upgrade Highway 26 to Tier 1.	Tier Upgrade	Upgrade to Tier 1	Need to review extents
35	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)	R-X-128-00-WildcatMountain_01	SE Wildcat Mountain Drive	Hwy 224 to Firwood Road	T3 Primary	T3 Alternate	Clackamas; should it be a primary or alternate? See also Firwood Road	Alternative Route Discussion	no change	Makes sense to keep both as either primary or alternate. Decided to have both be primary; same tiering.

36	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)	R-X-161-00-Firwood_01	SE Firwood Road	SE Wildcat Mountain to Hwy 26	T3 Alternate	NA	Clackamas; should it be a primary or alternate? See also Firwood Road	Alternative Route Discussion	Convert to Primary	Makes sense to keep both as either primary or alternate. Decided to have both be primary; same tiering.
37	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)		Hwy 211		T2, T3		Connects to I-5	Tier Upgrade	no change	Addressed in a separate conversation with Clackamas County
38	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)	R-X-135-00-Highway213_03; R-X-135-00-Highway213_04; R-X-135-00-Highway213_05	Hwy 213		T1, T2, T3	T1	213 shows variable tiering and should ideally be consistently one tier	Tier Upgrade	duplicate	Overlap with Group 1 comment, Gradually goes to a lower tier as becomes more rural, not necessarily an issue
39	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)	R-X-108-00-LoneElder_01	Lone Elder Road	99 East to S Hwy 170	T3	T2	Is the only connectivity in the area (Tier 2 vs. Tier 3?)	Tier Upgrade	no change	
40	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)	NA	1st and Glencoe Road	US 26 to Baseline?	Not tiered	Tiering	Hillsboro north side access is important for future planning	New or Altered Route	Not making additions at this time	review extents
41	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)		Cornelius Pass Rd					New Route	duplicate	Duplication with Group 2
42	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)		Burnside/Stark	205 to SE 182nd?	T2/T1		Duplications in routes: would we want such close proximity? Should a tier change?	General Note	duplicate	Duplication with Group 3 discussion
43	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)	R-X-145-00-Highway99W_01	99/I-5	I-5/Hwy 217 interchange to Bancroft Street	T1	T2	Duplications in routes: would we want such close proximity?	General Note	Split, added northern segment to neighboring Naito segment (tier 1), downgraded bottom section to Tier 2	99W/Barbur? Review with comment #52
44	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)		Borand Bridge/NE County				Increase Connections to other areas in NE County	General Note	No change	Followed up with Arini, this overlaps with another note and can be removed.
45	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)	NA	Halsey Street		NA	Tiering	Halsey Street has more critical assets than Sandy Blvd, suggest use Halsey instead of Sandy? (Sandy dead ends at Wood Village) More priority for access into Corbett (3 fire and police, Troutdale public works)	Tier Upgrade	No change, Halsey is not currently an ETR but document for consideration in future update	Review extents. After 181st?
46	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)		Sandy Blvd		T2, T1		Halsey Street has more critical assets than Sandy Blvd, suggest use Halsey instead of Sandy? (Sandy dead ends at Wood Village) More priority for access into Corbett (3 fire and police, Troutdale public works)	Tier Downgrade	No change, Halsey is not currently an ETR but document for consideration in future update	Review extents. After 181st?
47	Group 4: Virtual Group A (Multnomah, Clackamas, Washington, Troutdale, Fairview, Tigard, Street Trust)	R-X-200-00-Lombard_01	N Lombard St	St. Johns Bridge to Port of Portland/Marine Drive	T2	T1	Concern about the Tier 1 route that dead ends in Saint Johns at Lombard. Should extend further into Saint Johns given the vulnerable community highlighted at the NW most corner	Tier Upgrade	No change	
48	Group 5: Virtual Group B		Brookwood Pkwy/Access to Hillsboro Airport	Towards US 26	T1, T2	T2	Concerns about segmentation of the network. The tier 1 connection is logical but then shifts. Is curious about impact of jurisdiction.	General Note	Duplicate	No route ID, but seems to be about R-X-115-02-Brookwood_01; R-X-115-01-Brookwood_01 which is duplicate of # 12. Some crossover with Group 2

49	Group 5: Virtual Group B		Cedar Hills Boulevard		T1	T2?	This route includes some city and county jurisdictions along it and might be a bit of an odd T1 route. See also SE Murray Blvd as an alternative	General Note	Duplicate	No route ID but based on comments, seems to be about R-X-125-00-CedarHills_01, which is duplicate of #14. Duplication with Group 2
50	Group 5: Virtual Group B		Murray Boulevard		T2	T1			Duplicate	No route ID but based on comments, seems to be about R-X-123-00-Murray_01 and R-X-123-00-Murray_02, which is duplicate of #8. Duplication with Group 2
51	Group 5: Virtual Group B	R-X-265-00-LewisClarkBridge_01	Lewis and Clark Bridge	Bridge	T3	T1	Upgrade as it's an alternate connection across the Columbia River, gives access to hospital for Columbia County residents For Columbia County, their hospital sits in Washington state. And so, while it's not part of this RDPO group, we have this very important hospital for, uh, part of Oregon that's actually in Washington state. So I don't know how we call that out, because it's not part of the network we are looking at. But it's a lot closer for folks in Rainier and some of and Scappoose, some of those locations than driving to Portland.	Tier Upgrade	Upgrade to Tier 1	
52	Group 5: Virtual Group B	R-X-156-01-Highway10_01	Beaverton Hillsdale Highway	Scholls Ferry Road to Barbur Blvd	T2	T1	The Beaverton Hillsdale Highway connection to the OHSU campus. Seems like that might be another tier 1 priority.	Tier Upgrade	Upgrade to Tier 1	Review with comment #43
53	Other (Multnomah County)	R-X-171-00-Broadway_Terwilliger_01	SW Broadway / Terwilliger Blvd	SW Market Street to OHSU	T1 Alternate	T1 Primary	Only road up to a cluster of hospitals, including large OHSU campus, in SW Portland. The current primary ETR to this area (R-X-162-00-AerialTram_01) is slated/ recommended for removal from regional ETR network.	Tier Upgrade	Convert to Primary	See R-X-162-00-AerialTram_01
54	Other (Multnomah County)	R-X-162-00-AerialTram_01	Aerial Tram	Tram	T2 Primary	Remove from network	Feels odds that this is the only segment in entire network that is not a surface road. Tram is low capacity, has other challenges, and hospitals themselves don't really have it as any significant part of their own planning.	New or Altered Route	Remove from RETR network	See R-X-171-00-Broadway_Terwilliger_01
55	Group 2: Columbia/Washington County	R-X-120-02-SchollsFerry_02 (but only the western segment)	Scholl's Ferry	175th to Murray	T2	T1 (only a segment)	City response from Beaverton would come along Allen road onto Murray and then this route would help connect to Scholls Ferry and Roy Rogers. Forms a connected Tier 1 N-S route from Murry along this new segment then to Roy Rogers. Also closes a Tier 1 loop along Scholls Ferry.	Tier Upgrade	Break segment at Murray. Upgrade Scholls Ferry from Roy Rogers to Murry to Tier 1. Keep Scholls Ferry from Murry to 217 as Tier 2.	
56	Other (Multnomah County)	R-X-186-00-Front_01	NW Front Ave	NW 15th	T1 Alternate	T1 Primary	Access to Critical Energy Infrastructure Hub. Yes, there is a SSLR running parallel, but given how critical that area is and expected impacts, want redundancy to allow for access to and from.	Tier Upgrade	Convert to Primary	
57	Other (Multnomah County)	R-X-190-00-SwanIsland_01	Swan Island/N Going	Swan Island to I-5	T1 Alternate	T1 Primary	City of Portland fleet and fueling assets are on Swan Island. Also provides access to CEI hub from the water.	Tier Upgrade	Convert to Primary	Duplicate with #31
58	Other (Multnomah County)	R-X-249-00-Chautauqua_01	N Chautauqua Blvd	N Columbia to N Lombard	T2 Alternate	T2 Primary	Given concerns about how cut off St. John's, etc will be, more options where there are already few options is preferred. Oregon National Guard Armory is also near University Park off Chautauqua.	Tier Upgrade	Convert to Primary	Not quite close to where "the cut" is. Will including this be a benefit with those concerns?
59	Other (Multnomah County)	R-X-207-00-112th-CherryBlossom_01	SE 112th Ave / SE Cherry Blossom Dr	SE Stark to SE Powell	T2 Alternate	T1 Primary	Leads to OHSU Adventist Portland; also amidst several areas of high social vulnerability	Tier Upgrade	No change (per PMT discussion)	Convert to Primary -- T1 if following "reach hospital" step, but there are several other T1s nearby. -- another possibility is to convert to permanent ETR but keep as T2?
60	Other (Multnomah County)	N/A	N/A	N/A	N/A	N/A	Consider adding route that allows for Portland VA Medical Center (on Marquam Hill) to be <0.5 mi of a T1 or state route. Currently, would a road connection will be a windy, longer section past the other hospitals on the hill (that are already off a T1 route). Proposed extending the existing T1 or adding routes from the south and I-5	New or Altered Route	Not making additions at this time	
61	Other (Clackamas County)	N/A	N/A	N/A	N/A	N/A	Consider adding a route that brings T1 or state connection closer to Providence Willamette Falls hospital. Currently there does not seem to be an easy route off of the freeway. Division Street is not prioritized nor has a current back-up.	New or Altered Route	Not making additions at this time	
62	Other (Washington County)	N/A	N/A	N/A	N/A	N/A	Washington County elevates NW Cornelius Schefflin Road / NW Zion Church Road internally. It has been improved to a higher standard than other roads in the area, wider shoulders, some center lanes, etc.	New or Altered Route	Not making additions at this time	
63	Other (Washington County)	N/A	N/A	N/A	N/A	N/A	Since end of phase 1, Washington County has added water storage in the area around Cooper Mountain Nature Park.	New or Altered Route	Not making additions at this time	

64	Other (Washington County)	R-X-113-00-River_02	River Rd	Farmington Rd to Scholls Ferry Rd	T3	T1	When combined with upgrading e/w portin of scholls Ferry to T1 (described in Comment 18) this creates a connected T1 loop between Roy Rogers Rd and TV Hwy (via Scholls and River Road). Washington County noted importance of maintaining access to Clean Water Services facilities, including a tratment plant on River Road. There is also an airpark on River Road near the intersection with Scholls Ferry.	tier upgrade	upgrade to tier 1
65		R-X-142-00-Sellwood_Tacoma_01, R-X-144-00-JohnsonCreek_01	Sellwood Brg / Tacoma St, SE Johnson Creek Blvd		T1 Alternate, T2 Alternate	T1 Primary, T2 Primary	Provides vital Willamette crossing on a Non-seismically-vulnerable bridge, and connects the route network so R-X-191-02-CesarChavez_01 no longer dead ends	Alternative Route Discussion	Convert to Primary
66	NA	R-X-167-00-Moody_01	Moody Avenue	Tillikum Crossing to Naito Parkway	T2 Alternate	T2 Primary	Connects Tillikum to the RETR network on the west side of the river	Alternative Route Discussion	Convert to Primary

Appendix F. Southwest Washinton RTC Methodology and Maps

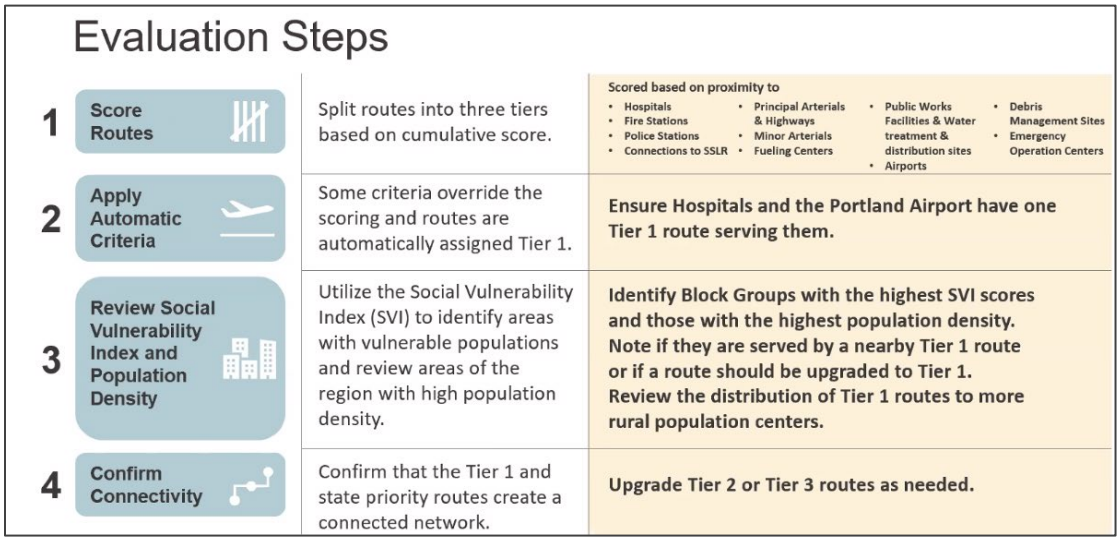
SWRTC ROUTE PRIORITIZATION

This document summarizes the draft route priorities for SWRTC. The draft priorities build on the Metro Regional Emergency Transportation Routes (RETR) framework draft priorities (Metro ETR Phase 2 Tiering), which follows the evaluation of the methodology shown in Figure 1. This draft will be reviewed by SWRTC and its partner agencies to further refine the recommended priorities.

This document is accompanied by two figures:

- SWRTC Prioritization – DRAFT
- SWRTC Prioritization with Critical Facilities - DRAFT

Figure 1. Metro RETR Evaluation Steps



PRIORITY DISCREPENCIES

Table 1 describes discrepancies in Metro's proposed prioritization of priority routes identified by SWRTC and its partner agencies.

Table 1. SWRTC's Identified Discrepancies *(Discrepancies were resolved with Metro)*

SWRTC - Discrepancies	
Metro's RETR	**Clark County's RETR**
Original RETR – per Phase 1 of Metro's process	Expanded RETR suggested by local agencies (those identified in green – shown in the Regional Emergency Routes map)
164th = Medium ranking	164th = High ranking
192nd = Low ranking	192nd = High ranking
78th St/Padden Pkwy (between I 5 and I 205) = Medium ranking	78th St (between I 5 and I 205) = High ranking
HWY 99 (between 78th and 134th) = Medium ranking	HWY 99 (between 78th and 134th) = High ranking

SWRTC - Discrepancies	
Metro's RETR	**Clark County's RETR**
Evergreen Way = Alternate High* *Metro added an alternate layer. Only alternative route on our side of the river	Evergreen Way = High ranking
SE Mill Plain Blvd (I-205 to SE 164th Ave) = Medium ranking	Elevated to high ranking to support consistent connectivity across highest-ranking routes

ADDITIONAL ROUTES

Table 2 presents draft prioritization framework for the priority routes added by SWRTC as an addition to Metro's RETR routes. The table presents key considerations for each route, such as proximity to critical infrastructure and overall network connectivity to highest priority routes and population centers. The following information was used to inform the priorities:

- Clark County Hazard Mitigation Plan - Figure 4-2 Critical Facilities & Infrastructure
- Local Emergency Snow Routes – Most of the additional routes are arterials and all defined high priorities in local route networks
- School locations
- Clark County REST – GIS data of critical facilities
- Metro ETR Phase 2 initial draft tiering
- Metro ETR Emergency Transportation Routes Phase 1 report
- Clark County Emergency Transportation Routes

Screenshots of the map resources are provided after the table.

Table 2. Additional Routes - DRAFT Prioritization

Additional Routes		
Route Name	**Considerations**	**DRAFT Prioritization**
SE Blair Rd (NE 267th to SE Washougal River Rd)	■ Alternative E-W connection to NE Washougal River Rd	3rd Tier
NW Bratton Rd/ NW 389th St/ NE 399th St/ NE Sorrenson Rd (NE Hayes Rd to NE 379th St)	■ Direct connection to fire station	3rd Tier
Cowlitz Way (NW 31st to NW 41st Ave)	■ Provides connection to tribal facilities	3rd Tier
Cowlitz Bypass Rd	■ Provides emergency route to tribal facilities	3rd Tier (Proposed New Connection)
Eaton Blvd/ NE 199th St (SR 503 to Risto Rd)	■ Direct connection to several schools and Heye Meyer Substation	2nd Tier
S Hillhurst Rd/NW 31st Ave/ NW 209th St/ NW 41st Ave (Pioneer St to NW 199th)	■ Provides additional N-S connection west of I-5 ■ Connects to multiple schools, fire station	2nd Tier
NW La Center Rd (I-5 to NE Timmen Rd)	■ Provides connection to key population center	2nd Tier

Additional Routes		
Route Name	**Considerations**	**DRAFT Prioritization**
NW Lake Rd (NE 192nd Ave to SR 500/ NE Everett St)	■ Provides E-S connection between Top Tier route and SR in Camas ■ Connection to local streets in Camas that provide access to schools, emergency services	2nd Tier
W Mill Plain Blvd (NW 32nd Ave to NW Lower River Rd)	■ Connection to CPU River Road Generation Plant, freight ports/ barge lines ■ Clark County emergency transportation route	Top Tier
SE Mill Plain Blvd (SE 164th Ave to SE 192nd Ave)	■ Completes E-W connection to Top Tier routes ■ Connection to local streets that connect to schools, Vancouver Fire Dept Station 9	2nd Tier
Pioneer St (Port to I-5)	■ Direct connection to Ridgefield facilities including schools, emergency services, Port of Ridgefield (intermodal facility), public works facility on Railroad Ave	2nd Tier
NE Railroad Ave (NE Lucia Yacolt boundary to SR 503)	■ Key route to Yacolt community (emergency services, school) ■ Direct connection to fire station	2nd Tier
N Royle Rd/ NW 31st Ave (Pioneer St to Cowlitz Way)	■ Additional N-S route on the west side of I-5	3rd Tier
NE St James Rd (SR 500 to NE St Johns Rd)	■ Connects to school ■ Additional N-S connection to County public works facilities, fuel stations	2nd Tier
NE St Johns Rd (SR 500 to NE 72nd Ave)	■ Connects to school ■ Additional N-S connection to County public works facilities, fuel stations	2nd Tier
NE Ward Rd/ NE 182nd Ave (NE 172nd Ave to NE Risto Rd)	■ Connection to Hockinson services – Fire stations, schools ■ N-S alternative to SR 503, connection to Battle Ground population center, Hockinson population center ■ Connection to NE Ward Rd (Top Tier route)	2nd Tier
SE Washougal River Rd (Evergreen Way to east county boundary)	■ Connections to critical facilities outside of county boundary in Molfait Tracts ■ Connections to services in Washougal ■ Alternative E-W route connection to SR14	3rd Tier
NE 10th Ave/ NE Timmen Rd (NE 179th St to NW La Center Rd)	■ Direction connection to two substations ■ Route alternative to I-5 to Lacenter and Ridgefield east of I-5 ■ Connection provides access to local roads that connect to La Center Waste Water Treatment on NW La Center Rd	2nd Tier
E 18th St (NE 65th Ave to NE Andreson Rd)	■ Connection to C-TRAN maintenance facility	Top Tier
NE 28th St/ NE Burton Rd (NE Andreson Rd to NE 162nd Ave)	■ Direct connections to schools, substation facilities	2nd Tier

Additional Routes		
Route Name	**Considerations**	**DRAFT Prioritization**
NE 29th St/ 82nd Ave/ NE Mason Creek Rd/ NE 102nd Ave/ NE Gable Ave/ NE 359th St (from NE 72nd Ave to SR 503)	■ Additional connection to SR 503 and Fargher Lake North County EMS Station #2 and Clark County Fire District #10 Station 105 ■ Additional connection to sub-station at NE 37th St	3rd Tier
NE 65th Ave (NE Fourth Plain Blvd to E 18th St)	■ Connection to C-TRAN maintenance facility	Top Tier
NE 72nd Ave (NE 78th to NE 259th St)	■ Direct connection to multiple sub-stations ■ Direct connection to Clark-Cowlitz Fire Rescue Station 26 and Vancouver Fire Department Station 7 ■ Additional connection to Top Tier route (NE 78th St)	2nd Tier
NE 99th St (NW Lakeshore Ave to NE St. Johns Rd)	■ Connection to multiple sub stations and schools	2nd Tier
NE 112th Ave (SE Mill Plain Blvd to SR 503)	■ Direct connections to fire station, substation facilities	2nd Tier
NW 119th St/ NW 117th St (NW 39th Ave to SR 503)	■ Connection to schools and to substations east of SR 503	3rd Tier
NW 119th St (SR 503 to NE 182nd Ave)	■ Direct connection to substations	2nd Tier
NE 119th Ave (NE 379th St to NE 359th St)	■ Direct connection to Clark County Fire District #10	2nd Tier
NE 139th (NE 20th Ave to I-5)	■ C-TRAN Route (purple line)	2nd Tier
NE 139th (I-5 to NE 23rd Ave)	■ Connection to Legacy Salmon Creek Medical Center	Top Tier
NW 199th St (NE 41st Ave to SR 503)	■ Direct connection to several schools ■ E-W route alternative to SR 502	3rd Tier
NE 152nd Ave/ NE Lucia Falls Rd/ Railroad Ave (SR 503 to Yacolt boundary)	■ Connection to Clark Public Utilities – Harrison Substation on NE 172nd (Heisson Rd) ■ Additional connection to Yacolt community ■ No critical facilities identified in Metro RETR map	3rd Tier
NE 379th St (NE Sorrenson Rd to NE 119th Ave)	■ Direct connection to substation	2nd Tier

DATA RESOURCE MAPS

Figure 2. Clark County Hazard Mitigation Plan - Critical Facilities & Infrastructure

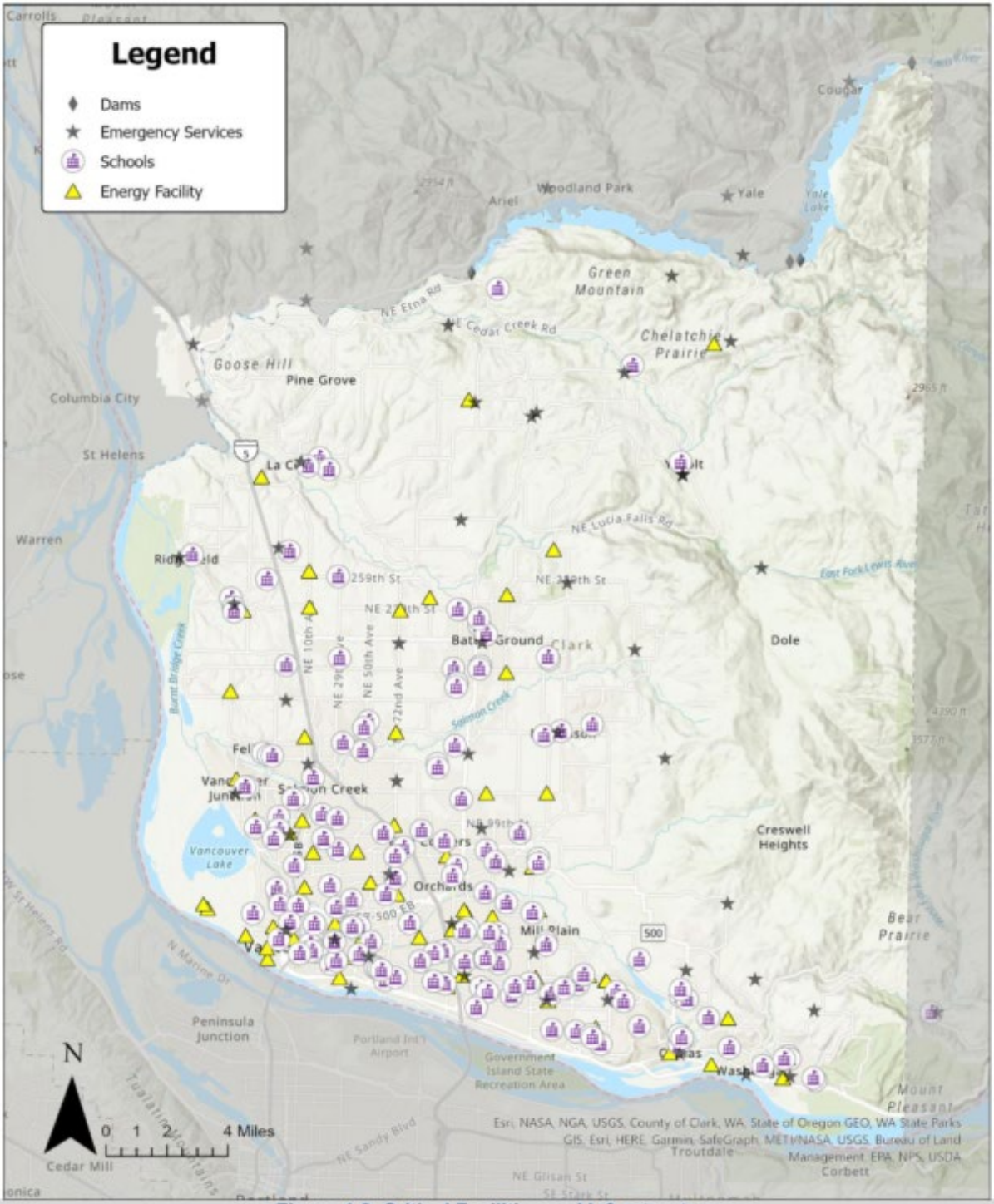


Figure 4-2. Critical Facilities and Infrastructure

Figure 3. Regional Emergency Transportation Routes Update - Critical Infrastructure and Essential Facilities

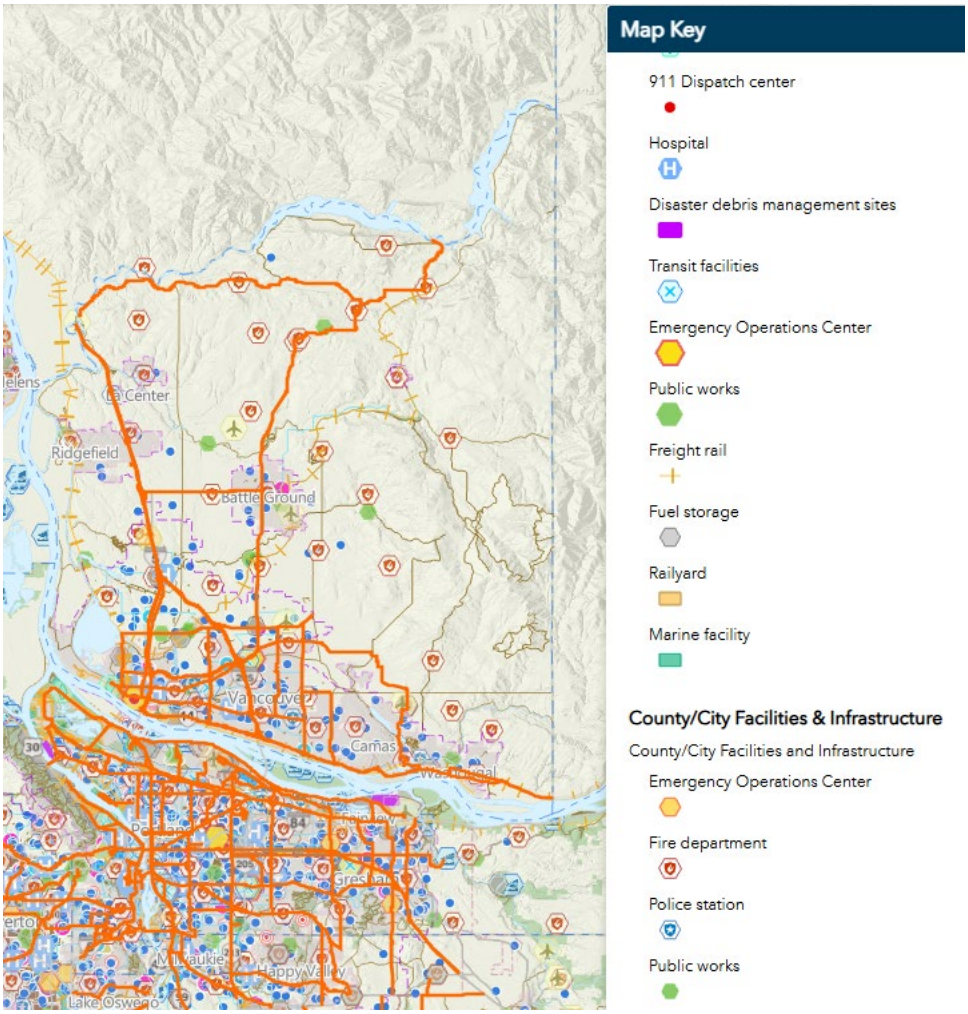


Figure 4. Metro ETR Phase 2 Draft 1 - Critical Infrastructure

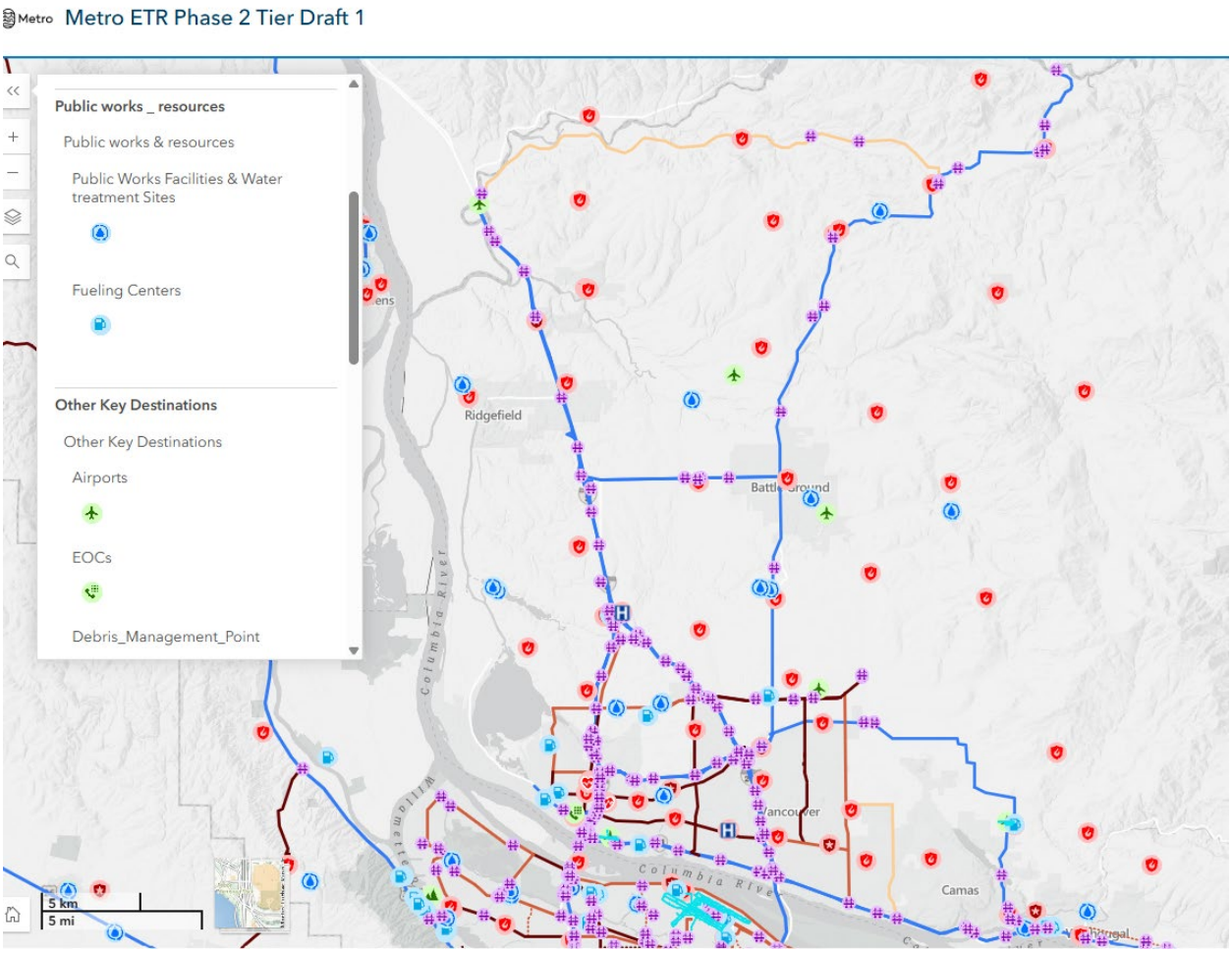
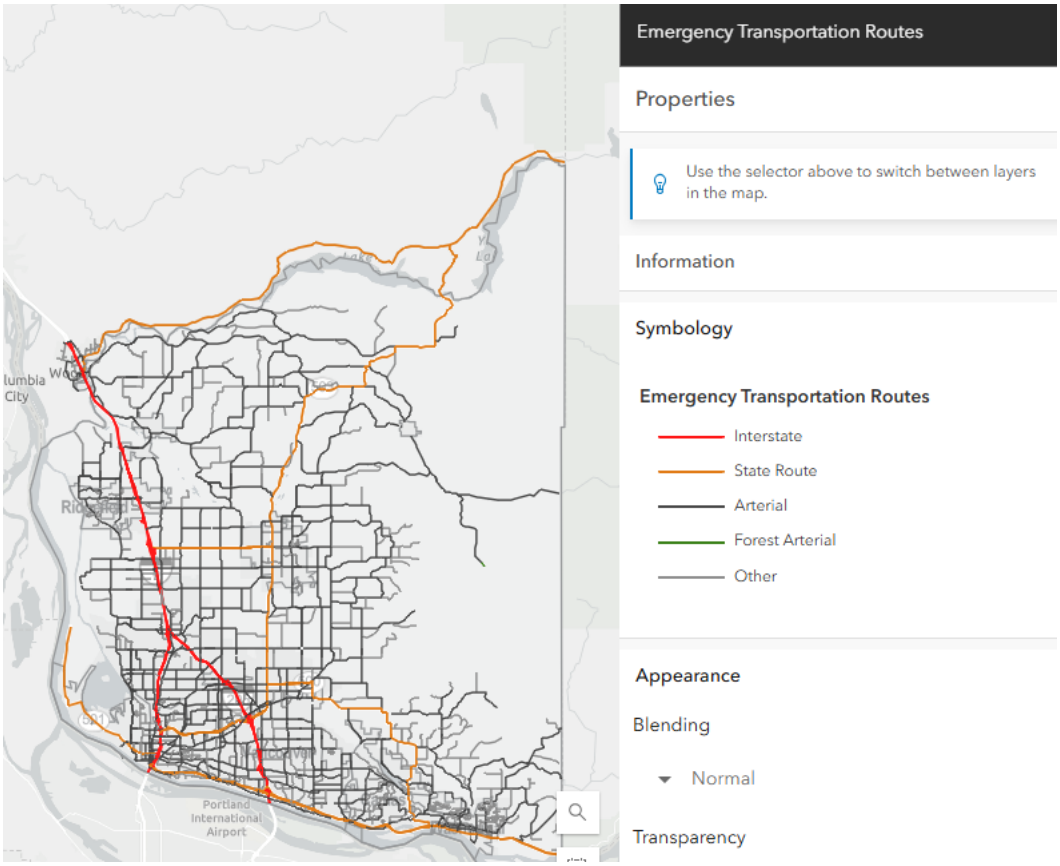
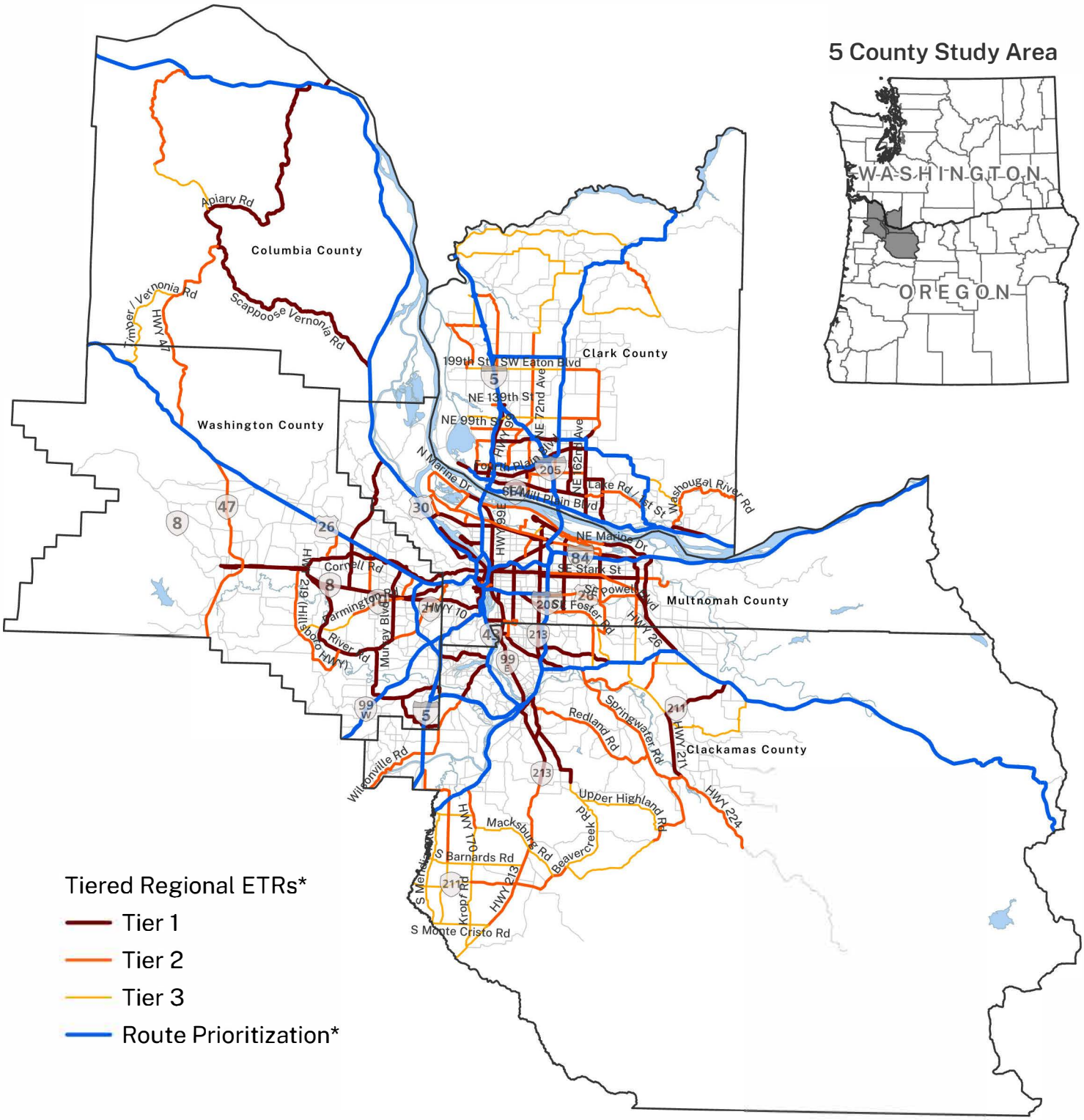


Figure 5. Clark County Emergency Transportation Routes



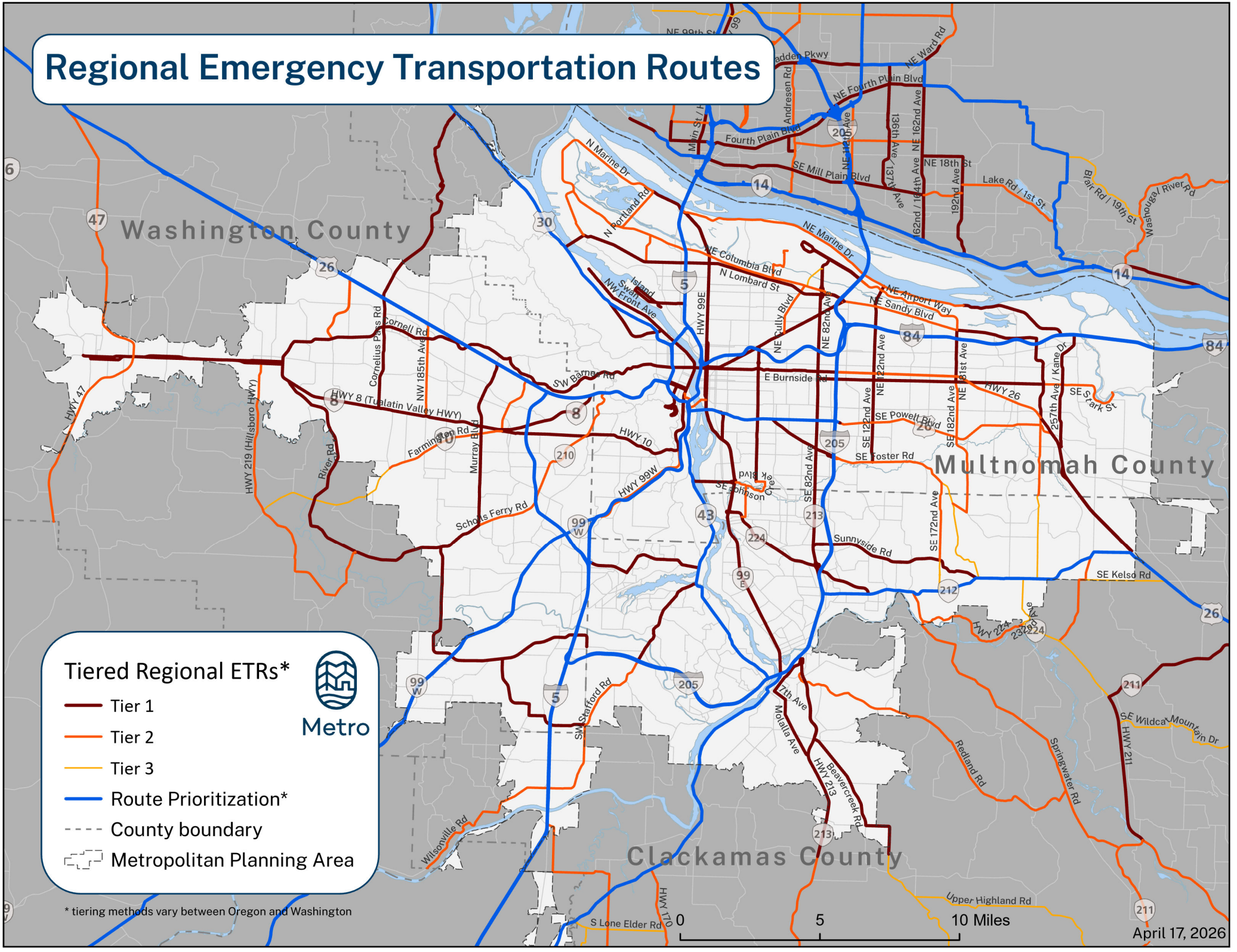
Appendix G. Additional Maps

Regional Emergency Transportation Routes



* tiering methods vary between Oregon and Washington

April 17, 2026


Regional Emergency Transportation Routes
Washington County
Multnomah County
Clackamas County
Tiered Regional ETRs*
Tier 1
Tier 2
Tier 3
Route Prioritization*
County boundary
Metropolitan Planning Area
Metro
* tiering methods vary between Oregon and Washington
0
5
10 Miles
April 17, 2026

Regional Emergency Transportation Routes