

2021 Design Update

Executive Summary for the 20% Design Package

March 10, 2021

The original construction of I-5 and other urban renewal projects disrupted the historic Albina community and displaced Black Portlanders out of the neighborhood. Black residents and business owners lost their homes, livelihoods, and community networks.

Today, the Albina neighborhood is still physically separated from adjacent neighborhoods as the street grid around the highway remains disconnected. Local streets and highway on-ramps in Rose Quarter have safety and efficiency issues. I-5 in this area has the highest crash rate on an urban interstate in Oregon. The highway also experiences traffic congestion for 12 hours each day, is the top bottleneck in the State, and is the 19th worst freight bottleneck in the nation.

The [I-5 Rose Quarter Improvement Project](#) will reduce congestion and improve safety on I-5, redesign the multimodal local street network, and provide new community connections in the Albina area through:

- **Highway covers over I-5** that create new community spaces on top of I-5.
- **A new east-west roadway crossing** to connect NE Hancock Street over I-5.
- **A new pedestrian and bicycle bridge** from Clackamas Street to the Rose Quarter entertainment area.
- **Local street improvements** for all users, including new separated multi-use paths for people walking, biking, and rolling.
- **A new ramp-to-ramp connection**, or auxiliary lane, in each direction on I-5 between I-84 and I-405 to smooth traffic flow. This means safer merging and improved connections between interchanges in an area where three interstates meet.
- **Wider shoulders** in each direction on I-5 between I-84 and I-405. This will provide space for disabled motor vehicles to move out of traffic, allow emergency vehicles to respond to emergencies more quickly, and help buses avoid congestion and maintain reliability.

What is the 20% Design Package?

The 20% Design Package is a technical document describing the preliminary design concepts and solutions for the project elements described above. This Design Package reflects the current design assumptions at a particular point in time. At this early stage in the process, the general location and design concepts evolved from the initial conceptual design analyzed in the [Environmental Assessment](#) (at about a 5 percent design level). The 20% Design Package includes the design modifications made in response to community and project partner input, including the modifications made to the project as the environmental phase concluded with the release of the [Finding of No Significant Impact and Revised Environmental Assessment](#). Appendix A includes a glossary of terms used within the technical document for reference.

The 2021 design update is the result of extensive coordination with project partners. The 20% Design Package document includes information about the working design concepts and technical solutions informing project development work. The resulting design concept is an important tool for communicating technical design considerations and working design assumptions to the recently onboarded Construction Management/General Contractor. The construction contractor is using this information to begin identifying innovative solutions, better

reflect community input in design decisions, and evolve the disadvantaged business enterprise and on-the-job training program to meet project goals.

Our intent is to communicate these assumptions to project partners and the community to better inform future refinement of transportation safety and operational improvements and development of community placemaking decisions. The project is still early in the design phase, meaning that the design will continue to change and evolve moving forward. There is still much work to be done with the community, project partners, and construction contractor, project partners, and the community before solidifying any design elements.

Why is the 20% Design Package Needed?

The project team has developed the 20% Design Package document to further inform and engage the public in ongoing discussions about preliminary project design in order to work together in partnership to address issues, challenges and opportunities for design moving forward. Extensive outreach with the community and project advisory committees will continue through the design and construction phases of the project. Where the project is now and where it will be in the future is much more than technical – the project team is striving to build a something that not only meets traditional mobility needs, but honors the past while improving community life in the future. The 2021 design update will inform and initiate more comprehensive conversations with stakeholders around project area planning and urban design.

Community Involvement

We are committed to doing things differently and ensuring the historic Albina community benefits from the investment of this project. The project team is moving forward with a values-based approach focused on restorative justice, community input, mobility, and climate action and improved public health. With these values, we collectively seek to advance shared outcomes through our common set of values through an approach that builds trust and fosters collaborative partnerships. For a successful project and complimentary investment in the Albina community, organizations with transportation, land use and development authority will need to build and maintain strong partnerships with each other and the community.

Through a variety of mediums, project partners and community members have helped shape the project values that inform the project team’s work and directly influence the changes incorporated into the 2021 design update. The project team has been meeting and engaging with a variety of agencies, community-based organizations, business and property owners, and neighborhood residents to gather input on the project from stakeholders and the community. In addition to the public input received from [community outreach](#), including a recent online open house (late 2020), guidance on the project has been and/or will continue to be provided by three advisory committees:

- [Executive Steering Committee](#)
- [Community Oversight Advisory Committee](#)
- [Historic Albina Advisory Board](#)

The advisory committees guide the project in achieving positive project outcomes for the community through the intentional application of the following [values](#) in all aspects of the project, including the 2021 design update:

1. **Restorative justice** to advance social and racial equity resulting in positive change.
2. **Community input and transparent decision-making** to have community-informed and involved decision-making through a community-connected, transparent and inclusionary process.

3. **Mobility focus** to increase connectivity for the traveling public and local community.
4. **Climate action and improved public health** to reduce greenhouse gas emissions and meet local, regional, and statewide climate action goals.

These project values formed the basis for the design concept and input from stakeholders and the community directly led to the design changes that were incorporated. Using the 2021 design update as a stepping point, we can work together with the project advisory committees, stakeholders, and the community to address challenges and opportunities as the project design progresses. We are hopeful that this intentional engagement and collaboration will help us continue to build partnerships and community trust in our work and promote transparency and accountability as we move forward in the process.

What Design Elements Have Changed?

While project design will continue to evolve, our project values remain the same – with community at the core. In line with our values of restorative justice, community input, mobility and climate action, the major modifications to the preliminary design concept at the 20 percent design level include:

- increasing the highway cover space available to support community spaces, places, and connections;
- reducing impacts to the Eastbank Esplanade and the environment;
- adding pedestrian, bicycle, and transit infrastructure improvements to local streets increasing accessibility, connectivity, and safety for active transportation users;
- adding transit infrastructure improvements increasing travel time speed and reliability on both I-5 and local streets; and
- reducing impacts to transit service and highway traffic during construction.

What comes next?

The design phase of the project continues. Last year, in response to direction from the Governor and requests from project stakeholders, the Oregon Transportation Commission directed ODOT to retain a consultant team of local and national urban design, engineering, and environmental experts to conduct an independent assessment of the highway cover designs included in the I-5 Rose Quarter Improvement Project. The requests from Metro, Multnomah County, City of Portland, Portland Public Schools and Albina Vision Trust shaped the creation of the independent assessment process.

The goal for the independent team is to understand the vision and goals of stakeholders in the project area, generate potential highway cover scenarios, and assess the impacts and benefits of these scenarios. After the [Independent Cover Assessment](#) consultant team generates potential highway cover scenarios and assesses the impacts and benefits of each, the Oregon Transportation Commission will select a scenario in July 2021 based on a recommendation by the Executive Steering Committee and the Historic Albina Advisory Board.

The next step of the process will be to incorporate the highway cover design scenario and continue to make refinements in order to develop the 30 percent design concept by late 2021. The project's design phase will continue as we work to establish the concepts, refine solutions, and ultimately finalize design details until construction begins in 2023.

Accessibility Statement

Information is available in alternative formats upon request. Please call the project hotline at 503-731-4128 or Oregon Relay Service 7-1-1.

Appendix A

20% Design Package Glossary of Terms

Air Quality: The level of contaminants or polluting substances in the air that impact human health or welfare or produce other harmful environmental effects. About 90 percent of pollution impacting air quality is from everyday activities. Car and truck emissions are the largest source of pollution in Oregon. A transportation project's environmental analysis typically evaluates potential impacts to air quality that may occur as a result of completing a project.

Albina Area: A once vibrant cultural center, Albina is a Portland neighborhood east of the Willamette River and generally west of NE 24th Avenue that for much of the 20th century was home to the majority of the city's Black population. The Albina district includes all or parts of eight neighborhoods. During the 1940s and 1950s, the Black community was centered in Lower Albina, which consists of three neighborhoods: Eliot, Irvington, and Lloyd. During the late 1960s and early 1970s, urban redevelopment, Emanuel Hospital expansion and I-5 freeway construction forced residents to relocate northward, above Fremont Street, into Upper Albina. Since the 1970s, further displacement of Black Portlanders eastward has occurred.

Americans with Disabilities Act: Law prohibiting discrimination against people with disabilities in several areas, including employment, transportation, public accommodations, communications and access to state and local government programs and services. Title II specifically addresses making state services and facilities accessible to those with disabilities. Since the Americans with Disabilities Act became law, designing and constructing transportation and other facilities for public use that are not accessible by people with disabilities constitutes discrimination. <https://www.ada.gov/>

Arterial Road: A road with a high amount of traffic connecting people driving between a local road and a highway.

Auxiliary Lane: A section of highway that provides a direct connection between on and off-ramps to allow drivers more time and space to enter or exit a freeway without having to interact with traffic moving through the corridor. Auxiliary lanes reduce rear-end and sideswipe crashes. See ramp-to-ramp lanes.

Bicycle and Pedestrian Bridge: A bridge designed for and used by people walking, using mobility devices or biking. Motor vehicles are not permitted on a pedestrian and bicycle bridge.

Bottleneck: A local section of street, road, or highway that experiences reduced speeds and delays due to a roadway's physical condition (e.g., roadway design, traffic light timing) or a nonrecurring impacting event.

Bus on Shoulder Lane: A left or right shoulder of a highway that is used by buses during periods of traffic congestion to improve transit travel times and reliability.

Clackamas Bridge: A proposed new bicycle- and pedestrian-only bridge over I-5, from NE Clackamas Street to N Ramsay Way. A key part of a broader network of transportation routes dedicated to biking and walking, known as the City of Portland's Green Loop.

<https://www.i5rosequarter.org/clackamas-bike-pedestrian-crossing/>

Community-Based Organization: A public or private nonprofit organization that is representative of a community or a significant part of a community. Community-based organizations work at a local level with a goal to improve life for community members.

Community Oversight Advisory Committee: Project advisory committee composed of members with experience in diversity in contracting and other project-area representation to

advise the Executive Steering Committee and project team on the development of the disadvantaged business enterprise and on-the-job training program for the construction phase of the project. Committee members bring perspectives on community, social, economic and workforce issues in the project area and work collaboratively to provide feedback and recommendations during the entire project process. <https://www.i5rosequarter.org/community-opportunity-advisory-committee-coac/>

Congestion: Slower speeds and longer trip times for people driving, riding bikes or transit, using mobility devices, or walking due to the high number of people traveling, crashes or other incidents, and/or design issues that impact roads, sidewalks and bridges.

Construction Manager/General Contractor: A type of project delivery process where the owner of the project hires the construction manager early during the design phase to provide input about issues that may impact the project's construction phase.

Continuously Reinforced Concrete Pavement: A type of concrete pavement that does not require any transverse contraction joints.

Cover (or Lid): A concrete or steel platform that spans over a highway to create usable areas next to the streets above. A highway cover might provide features such as wider sidewalks, more room for bikes and/or opportunities for community activity spaces or other development.

Design – 15 Percent: An early milestone in the design process where some project elements are being refined and subject to change and early estimates of the project schedule and budget are made.

Design – 30 Percent: Stage of the design process where major elements of the project are well-defined, fatal flaws are identified and project partners are committed to the budget and schedule. At 30 percent design the land or property acquisition needs of the project are well known.

Design – 60 Percent: At this stage of design the project constructability has been confirmed and the plans meet the objectives of the project without the need for significant design changes.

Design – 90 Percent: Stage of the design process where project design, including plans and specifications, is finalized. The engineer's cost bid is prepared for construction bidding.

Design – 100 Percent: Project design and the design phase are complete and the construction phase is underway.

Economic Redevelopment Opportunities: Opportunities aiming to improve the economic well-being of a community, including converting existing buildings or vacant land into another use for job creation, job retention or other quality of life benefits. For example, a vacant property might be redeveloped into a building with stores and affordable apartments.

Eliot Viaduct: Bridge-like structure that carries both directions of I-5 traffic past Harriet Tubman Middle School.

Environmental Assessment: A process and analysis done to determine whether a project has a significant effect on the environment as defined by the National Environmental Policy Act (see below). If the findings of the [Environmental Assessment](#) determine that the project has a significant effect on the environment, then additional analysis would be required as part of an Environmental Impact Statement. If the findings of the Environmental Assessment determine that the project does not have a significant effect on the environment, then the Federal Highway Administration issues a Finding of No Significant Impact (see below) ending the environmental process. <https://www.epa.gov/nepa/national-environmental-policy-act-review-process>

Environmental Peer Review: A [review](#) of existing analysis by people with expert knowledge to determine the validity of the analysis' scientific methodology and documentation. For the I-5 Rose Quarter Improvement Project, a peer review was conducted for the Environmental Assessment's noise, air quality and greenhouse gas technical reports.

Executive Steering Committee: Project advisory committee composed of local government and agency officials and community-based organization leaders to advise the Oregon Transportation Commission and ODOT on major decisions related to the Project's design and construction. The Executive Steering Committee is charged with setting the Project's values to guide the design process and Project outcomes. The Oregon Transportation Commission convened the Executive Steering Committee, in consultation with ODOT and regional partners. Oregon Transportation Commission Vice Chair Alando Simpson is Executive Steering Committee chair. <https://www.i5rosequarter.org/get-involved/executive-steering-committee-esc/>

Federal Highway Administration: Federal agency providing stewardship over the construction, maintenance and preservation of the nation's highways, bridges and tunnels. The agency conducts research and provides technical assistance to state and local agencies to improve safety and mobility, as well as encourage innovation. The Federal Highway Administration is a federal project partner providing technical guidance for the project team related to design and construction. <https://highways.dot.gov/>

Final Design Phase (30 to 90 percent design): The final phase of project development which includes preparation of final construction and construction management plans, detailed specifications, construction cost estimates, and bid documents.

Finding of No Significant Impact: A document, based on an Environmental Assessment, describing why an agency has concluded that a project will not have significant environmental effects. The Federal Highway Administration issuing the [Finding of No Significant Impact](#) ends the Environmental Assessment process (see Environmental Assessment above and National Environmental Policy Act below). <https://www.epa.gov/nepa/national-environmental-policy-act-review-process>

Freight: Goods moved in bulk by truck, train, ship or airplane.

Full-Funding Grant Agreement: A document that defines the scope of a project, the Federal financial contribution to that project, and other terms and conditions that is agreed to by the participating agencies.

Gore Area: There are two types of gore areas on highways: "physical" and "theoretical". The physical gore area is an unpaved section between a highway's travel lanes and a ramp that merges on or off the highway. The theoretical gore is an area of pavement marked with paint between the painted highway travel lanes and the on- or off-ramp painted lines. Gore areas help organize traffic and improve safety by showing where vehicles should travel when entering or exiting a highway.

Green Loop: A City of Portland-planned six-mile park or pathway that will connect places in Portland's downtown to areas on the east side of the Willamette River with facilities for people walking, jogging, rolling, using mobility devices and biking. One Green Loop connection is proposed across I-5 connecting the Lloyd District to the Rose Quarter (see Clackamas Bridge). <http://www.pdxgreenloop.org/about-the-green-loop/>

Greenhouse Gases: Gases that trap heat in the atmosphere are called greenhouse gases. By trapping heat in the earth's atmosphere, greenhouse gases are believed to be causing a rise in the earth's temperature and related impacts such as extreme weather, wildfires and food supply interruptions. Greenhouse gases include carbon dioxide, methane, nitrous oxide and fluorinated

gases. These gases are produced by burning fossil fuels (coal, natural gas, oil), producing and transporting fossil fuels, and agricultural and industrial activities.

Highway Cover: See Cover.

Historic Albina Advisory Board: Project advisory committee composed of members with ties to historic Albina and strong connections to the Black community. Members represent a wide array of civic and community interests and include leaders and volunteers who work with and serve the Black community in Albina and Portland. The Board provides advise and project recommendations related to:

- Highway cover designs responsive to community needs and vision
- Connections improving mobility for people within and through the project area
- Partnership opportunities supporting wealth generation through project area redevelopment
<https://www.i5rosequarter.org/get-involved/historic-albina-advisory-board-haab/>

House Bill 2017: A \$5.3 billion package of taxes and fees to fund congestion-reducing projects, highway and bridge improvements, transit projects and more around the state. The I-5 Rose Quarter Improvement Project was funded through House Bill 2017.

Interchange: An intersection of roads where separated routes and ramps allow people traveling on at least one of the roads to pass through the area without stopping. Interchanges also allow people to exit or enter a highway without stopping.

Interstate Highway System: A system of roads and expressways that connect major U.S. cities, such as Interstate 5, which is the main north-south interstate along the west coast.
<https://www.fhwa.dot.gov/interstate/faq.cfm>

Independent Cover Assessment: A process convened by ODOT under direction from the Oregon Transportation Commission and in response to public and partner feedback to complete an independent assessment of the project's highway cover design. The purpose of this assessment is to make recommendations to the Oregon Transportation Commission about how ODOT can, within the scope of its authority, design and build highway covers that promote the redevelopment of the Albina neighborhood while creating economic opportunities for residents and minority-owned businesses. The third-party consultant team led by ZGF Architects will determine how the covers can best meet the community's vision for the new space, including considering:

- Opportunities that the current highway cover design concepts, as described in the Environmental Assessment, offer for community development,
- The community vision for the highway covers, how highway design concepts might be modified, and what it would take for the covers to deliver outcomes consistent with that community vision, and
- How various cover options can promote economic development and wealth generation for the historic Albina community, particularly for members of the African American community displaced by past public and private projects.

Lid: See Cover.

Local Street: A street owned and maintained by a town, city or other local jurisdiction.

Locally Preferred Alternative: An alternative evaluated through the local planning process, adopted as the desired alternative by the appropriate State and/or local agencies and official boards through a public process and identified as the preferred alternative in the National Environmental Policy Act process (see National Environmental Policy Act below).

Mainline: A principal highway or railroad line.

Metro: Agency authorized by Congress and the state of Oregon to coordinate and plan transportation system investments in Clackamas, Multnomah and Washington counties through the Regional Transportation Plan. The Metro regional government also oversees regional parks and natural spaces, garbage collection, and the urban growth boundary that separates urban land from rural land. The Metro Council includes an elected president and six councilors elected by district. <https://www.oregonmetro.gov/>

Mitigation: The reduction of negative impacts of a project. Mitigation must be considered during project development if environmental analysis identifies negative impacts. Federal rules outline several mitigation approaches: avoid the impact; minimize the impact, repair or restore the impacted area; use maintenance or other improvement measures to reduce or eliminate the impact over time; or compensate the impacted parties. See National Environmental Policy Act. https://www.environment.fhwa.dot.gov/nepa/trans_decisionmaking.aspx

Multimodal: Refers to a roadway or set of travel options that provide several different types of travel. Multimodal options include walking, biking, using mobility devices, skateboarding, using scooters, driving, and riding transit.

Multi-use Path: A one or two-way path wider than a typical sidewalk that provides space for use by people walking, using mobility devices, and riding bicycles. See also shared or shared use path.

National Environmental Policy Act: Federal law enacted in 1970 that requires agencies like ODOT to undertake an assessment of the environmental effects of a project on behalf of the federal government before completing design work and constructing a project. The National Environmental Policy Act process is designed to produce a better-informed project by requiring public input along with environmental analysis. The type of National Environmental Policy Act process that an agency conducts depends on an evaluation a project has a significant effect on the environment. A significant effect is a legal term that means the context and intensity of a project impact is very high. <https://www.epa.gov/nepa/national-environmental-policy-act-review-process>

Noise: Excessive noise from traffic is a type of pollution. A transportation project's environmental analysis typically includes a noise study that evaluates current noise conditions around a roadway and compares it to the future projected noise levels following completion of a project. See Noise Wall.

Noise Wall (or Sound Wall): A structure built along a roadway to lower noise levels produced by traffic. The need for a noise wall is determined during the environmental review process for a transportation project. A comparison of current traffic noise compared to post-project completion noise forecasts is used to determine if the future noise levels exceed local, state or federal allowable noise levels. A noise wall is built as part of the project if future noise levels are higher than acceptable levels and residents and/or businesses along the roadway desire the wall. See Noise.

On-grade: At ground level as opposed to above-grade (above ground level), below-grade (below ground level), or grade-separated (at different levels).

Oregon Department of Transportation (ODOT): State department responsible for maintaining, improving and/or developing programs for highways, roads, bridges, railways, public transportation services, vehicle licensing and motor carrier regulation in Oregon. The governor and the Oregon Transportation Commission guide ODOT in planning, development and management of the state's transportation system. ODOT is leading the I-5 Rose Quarter Improvement Project in coordination with project partner agencies. <https://www.oregon.gov/ODOT/Pages/index.aspx>

Oregon Transportation Commission: Five-member Governor-appointed commission that guides the planning, development and management of the state's transportation system, including ODOT programs, projects and funding. The governor appoints the five commissioners and ensures that different geographic regions of the state are represented. No more than three of the five members can belong to one political party. Oregon Transportation Commission meetings are open to the public and have a comment period. https://www.oregon.gov/odot/get-involved/pages/otc_main.aspx

Owner's Representative: A company that represents and provides resources to the owner of a building or facility and advises the owner to ensure project needs are met on time and budget.

Overcrossing: Bridge or viaduct designed for people driving, biking, walking, rolling or operating transit to safely cross over a road or other transportation facility.

Partner Agencies: Government agencies, non-profits, community-based organizations and other organizations that collaborate on projects.

Portland Bureau of Transportation: Bureau that oversees the city's transportation system. The bureau plans, builds, manages and maintains a system of city roads, bridges and parking facilities. <https://www.portlandoregon.gov/transportation/34753>

Portland Public Schools: A pre-kindergarten to 12th Grade school district in Portland. Portland Public Schools has more than 49,000 students in 81 schools. One PPS school – Harriet Tubman Middle School – is adjacent to the project on N Flint Avenue between I-5 and N Vancouver Avenue in North Portland's Eliot neighborhood. Harriet Tubman Middle School serves 6th to 8th graders. PPS is represented on the project Executive Steering Committee. <https://www.pps.net/domain/265>

Preliminary Design Phase (20% Design): This phase of the project process bridges the gap between the original design concept (baseline) and the more detailed design concept (30 percent design), most commonly in cases where the level of conceptualization achieved during the idea phase is not sufficient for full evaluation.

Preliminary Engineering: The process by which the scope of the proposed project is finalized, estimates of project costs, benefits and impacts are refined, environmental requirements are completed, project management plans and fleet management plans are further developed, and local funding commitments are in place.

Prime Contractor: The main company that has a contract with the owner of a project or job and is responsible for day-to-day oversight of the work.

Prosper Portland: The economic and urban development agency for the city of Portland. Prosper Portland provides economic development programs that support small businesses, access to workforce training and new jobs. The agency is headed by an executive director who reports to a five-member, volunteer board of local citizens appointed by the mayor and approved by City Council. <https://prosperportland.us/>

Public Spaces: Roads, sidewalks, plazas and parks that are owned and maintained by a local, county, state or federal jurisdiction and open and accessible for people to use.

Ramp-to-Ramp Lanes: See Auxiliary Lanes.

Rose Quarter: The term "Rose Quarter" was created in 1993 when the parking lot of Veterans Memorial Coliseum was redeveloped into Rose Garden Arena, now known as the Moda Center. Today the Rose Quarter includes Moda Center, Veterans Memorial Coliseum, parking garages and a TriMet transit center. The Rose Quarter sits on land once part of the historic Albina

neighborhood, which was home to the majority of the city's Black population in the 20th century. See Albina Area. <https://rosequarter.com/>

Rush Hour: Time of day when there are typically the most people driving, riding bikes, using mobility devices and walking. Usually during the morning and evening hours when people are commuting to and from work.

Safety Shoulder: Lane to the side of a highway used by emergency vehicles, and potentially buses, to bypass traffic to travel more quickly, or by broken-down vehicles to get out of the flow of traffic.

Separated Bike Facility: A bike lane or path that is physically separated from motor vehicle lanes.

Shared or Shared Use Path: See Multi-use Path.

Sidewalk Improvements: Building new sidewalks, rebuilding existing ones or making other enhancements to improve safety and/or comfort for people walking or using mobility devices along a paved path separated from motor vehicle lanes. Improvements can include wider sidewalks, the addition of trees or bushes or better ramps at street intersections, among others.

Sound Wall. See Noise Wall.

Statewide Transportation Improvement Program: A multi-year, statewide intermodal program of transportation projects consistent with the statewide transportation plan and planning processes as well as metropolitan plans, transportation improvement programs, and planning processes.

Subcontractors: A company or people hired by the prime contractor to complete specific tasks in an overall project.

Traffic Volume A count representing the total number of vehicles on a highway or road at a specific time. Traffic volume can represent the number of trucks, cars or bikes, or combination of vehicle types, depending on the type of count being performed.

TriMet: Agency providing bus, light rail and commuter rail transit services in the Portland region. TriMet is a partner on the I-5 Rose Quarter Improvement Project represented on the Executive Steering Committee and provides guidance for transit-related design. <https://trimet.org/>

Undercrossing: Structure providing people space to drive, bike, walk, roll, operate trains or transit under a road or other facility.

Vera Katz Eastbank Esplanade: Vera Katz Eastbank Esplanade is a 1.5-mile public path for people walking, rolling or biking on the east side of the Willamette River between the Hawthorne Bridge and the Steel Bridge.

Viaduct: A long bridge or series of bridges connected to one another by arch bridge structures that carries a road or a railway across a valley or a gorge.