



CITY OF OREGON CITY CITY COMMISSION REGULAR MEETING - VIRTUAL ONLY AGENDA

VIRTUAL ONLY via Zoom
Wednesday, January 17, 2024 at 7:00 PM

EXECUTIVE SESSION OF THE CITY COMMISSION:

The Executive Session will begin after the adjournment of the City Commission Regular Meeting.

- Pursuant to ORS 192.660(2)(h): To consult with counsel concerning the legal rights and duties of a public body with regard to current litigation or litigation likely to be filed.

REGULAR MEETING OF THE CITY COMMISSION

Ways to participate in this public meeting:

- Register to provide electronic testimony (email recorderteam@orcity.org or call 503-496-1509 by 3:00 PM on the day of the meeting to register)*
- Email recorderteam@orcity.org (deadline to submit written testimony via email is 3:00 PM on the day of the meeting)*
- Mail to City of Oregon City, Attn: City Recorder, P.O. Box 3040, Oregon City, OR 97045*

- 1. CONVENE MEETING AND ROLL CALL**
- 2. FLAG SALUTE**
- 3. CEREMONIES AND PROCLAMATIONS**

[3a.](#) Oath of Office for New Oregon City Police Officer

[3b.](#) School Board Appreciation Month - January 2024

- 4. CITIZEN COMMENTS**

Citizens are allowed up to 3 minutes to present information relevant to the City but not listed as an item on the agenda. Prior to speaking, citizens shall complete a comment form and deliver it to the City Recorder. The City Commission does not generally engage in dialog with those making comments but may refer the issue to the City Manager. Complaints shall first be addressed at the department level prior to addressing the City Commission.

5. PRESENTATIONS

[5a.](#) Presentation by the Homeless Solutions Coalition of Clackamas County

6. ADOPTION OF THE AGENDA

7. CONSENT AGENDA

This section allows the City Commission to consider routine items that require no discussion and can be approved in one comprehensive motion. An item may only be discussed if it is pulled from the consent agenda.

[7a.](#) Resolution No. 23-06, Establishing Oregon City Street Design Standards

[7b.](#) Resolution No. 24-02, Temporarily Exempting Construction Activities at 701 Molalla Avenue From the Prohibition Against Unlawful Noises

[7c.](#) Resolution 24-04, appointing Municipal Court Judge Amy Lingren as code hearings officer

[7d.](#) OLCC: Liquor License Application – Off-Premises, 7-Eleven #20349D (dba Zara Enterprises, Inc.), 705 Washington Street, Oregon City

[7e.](#) Personal Services Agreement with 3J Consulting for the Barclay Hills Storm Pond and Drainage Improvements Project (CI 23-014)

8. PUBLIC HEARINGS

[8a.](#) First Reading of Ordinance Number 23-1010, Adopting the Oregon City Loop Trail Refinement Plan into the Oregon City Transportation System Plan, an ancillary document to the Comprehensive Plan (GLUA 23-000033/LEG-23-00002)

9. GENERAL BUSINESS

[9a.](#) Memorandum of Agreement (MOA) with Oregon City School District and Clackamas County for the Implementation of a Student Library Card Program

[9b.](#) Climate Friendly and Equitable Communities (CFEC) Parking Reforms

[9c.](#) First Reading of Ordinance 24-1001, Adopting City Code Amendments for Regulation of Rubbish, Construction Hours, Garage Sales, Graffiti, and Parking

10. COMMUNICATIONS

City Manager

[a.](#) McLoughlin Boulevard Enhancements Project Update (CI 22-002)

Commissioners

Mayor

11. ADJOURNMENT

ORDINANCE NOTICE

If an ordinance is noticed above in this agenda, the text of the ordinance is available online with the posted agenda packet. In addition, three copies are provided for public review in the Office of the City Recorder upon request.

PUBLIC COMMENT GUIDELINES

Complete a Comment Card prior to the meeting and submit it to the City Recorder. When the Mayor/Chair calls your name, proceed to the speaker table, and state your name and city of residence into the microphone. Each speaker is given three (3) minutes to speak. To assist in tracking your speaking time, refer to the timer on the table.

As a general practice, the City Commission does not engage in discussion with those making comments.

Electronic presentations are permitted but shall be delivered to the City Recorder 48 hours in advance of the meeting.

ADA NOTICE

The location is ADA accessible. Hearing devices may be requested from the City Recorder prior to the meeting. Individuals requiring other assistance must make their request known 48 hours preceding the meeting by contacting the City Recorder's Office at 503-657-0891.

Agenda Posted at City Hall, Pioneer Community Center, Library, City Website.

Video Streaming & Broadcasts: The meeting is streamed live on the Oregon City's website at www.orcity.org and available on demand following the meeting. The meeting can be viewed on Willamette Falls Television channel 28 for Oregon City area residents as a rebroadcast. Please contact WFMC at 503-650-0275 for a programming schedule.

OATH OF OFFICE

Sworn Police Officer
Oregon City Police Department

*I, **Matthew Pavey**, do solemnly swear that I will uphold the law, and support the Constitution of the United States and the State of Oregon. I will abide by the Law Enforcement Code of Ethics, and the department's rules and regulations, while faithfully performing my duties as a Police Officer for Oregon City, Oregon.*

GIVEN THIS 17TH DAY OF JANUARY 2024

Denyse C. McGriff, Mayor

SUBSCRIBED AND SWORN to before me this 17th day of January 2024.

Notary Public
State of Oregon
My commission expires: _____

PROCLAMATION

SCHOOL BOARD APPRECIATION MONTH

Whereas, school board members are elected to sit in trust for their diverse communities, and in that capacity they are charged with meeting the community's expectations and aspirations for the public education of their students; and

Whereas, school board members are entrusted with the guardianship and wise expenditure of scarce tax dollars, and they are responsible for maintaining and preserving the buildings, grounds, and other areas of the school district that the community has put in their trust; and

Whereas, school board members are responsible for providing leadership that ensures a clear and shared vision of public education for their schools, that sets high standards for the education of all students, and requires the effective and efficient operation of their districts; and

Whereas, school board members adopt policies to give voice to that leadership, employ a superintendent to administer board policy, and are also responsible for the regular monitoring of the district's performance and compliance with policies; and

Whereas, the board members elected to school board positions deserve recognition and thanks for their countless hours of volunteer service to public education and to the students of our state; and

Now, Therefore, the City Commission of the City of Oregon City does hereby proclaim:

January 2024

As

School Board Appreciation Month

Further, we declare our appreciation for the members of the Oregon City School Board, and we ask all citizens to join us in recognizing their dedication and hard work to create an education system that meets the needs of both today's and tomorrow's students.

In Witness Whereof, I have hereunto set my hand this 17th day of January 2024.

DENYSE C. McGRIFF, Mayor



CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission
From: City Manager Tony Konkol

Agenda Date: 1/17/2024

SUBJECT:

Presentation by the Homeless Solutions Coalition of Clackamas County

STAFF RECOMENDATION:

Staff recommends the City Commission receive the presentation, ask any follow-up questions, and engage in a dialogue with representatives from the Homeless Solutions Coalition of Clackamas County.

EXECUTVE SUMMARY:

The Homeless Solutions Coalition of Clackamas County will be providing the City Commission with an update about homelessness successes, needs, and plans for 2024. The presentation will provide data concerning changes in the homeless population, achievements over the last 12 months, current challenges, and safety concerns. The presentation will also provide an update on the proposed Resource Center, including how it is meant to impact the homeless population, neighborhoods, Oregon City and Clackamas County. Design ideas, renderings, and proposed programming of the Center will be presented as well as an update on upcoming plans for community meetings with community members.

BACKGROUND:

The Homeless Solutions Coalition of Clackamas County (HSCCC) formed in 2016 when a group of concerned citizens gathered to learn about homelessness, and how to reduce it, and lessen its impact on the community. For additional information about HSCCC please visit their website at hsccc.org.

OPTIONS:

1. Provide staff direction as necessary based on the presentation.



Commercial Division
INVESTMENT CONCEPTS, INC.



1667 East Lincoln Avenue • Orange, California 92865 • Phone (714) 283-5800 • Fax (714) 637-6015

January 5, 2024

Re: Proposal for the NAVIGATION CENTER located at 1516 MAIN STREET,
OREGON CITY, OR

The arguments against proposing a Navigation Center in a neighborhood are the same throughout the West Coast region. The local residents and businesses fear elevated neighborhood crime, attraction of more homeless persons to the area, negative effects on property values, and municipal costs for ineffectual homeless programs. All these factors are cause for concern by Oregon City Ctr, LLC which has owned and operated Oregon City Shopping Center since 2009. Like many local businesses hit by COVID-19, many of OCSC's tenants have struggled since early 2020. Some of Center's tenants are just starting to regain their footings, while others have simply closed their doors; the Center currently has seven vacancies, totaling more than 17, 000 square feet, in excess of 7% of the Center. Rite Aid, which occupies an additional 16% of the Center, is currently in bankruptcy, and has threatened to close shop at this location unless rent is reduced significantly. There is no question that the loss of a big box tenant will also negatively impact the smaller family businesses in the Center. The Center naturally opposes any public project which threatens the financial stability of its tenants and itself.

In addition, this particular site has a more complicated history in that the 2.6-acre site was used for over four decades as a fiberglass production facility. The site cannot be utilized or demolished until the hazardous waste has been removed or contained. Even after removal or containment, suitability for use as a Navigation Center is questionable in that the site probably should never be used for food and shelter, even if deemed safe for industrial or light industrial purposes. The proposed use of the site potentially exposes the service providers and patrons to health concerns, while exposing the Clackamas County (and perhaps other government agencies) to environmental litigation with attendant environmental liabilities.

In summary, the Downtown area of Oregon City cannot afford another financial setback and the Miles Fiberglass Building site is not a suitable site for a homeless facility.

OREGON CITY CTR, LLC

By Its Sole Member:

INVESTMENT CONCEPTS, INC.-OREGON
an Oregon corporation

By: George Mobayed
George Mobayed, President



CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission
From: Public Works Director John M. Lewis, PE

Agenda Date: 1/17/2024

SUBJECT:

Resolution No. 23-06, Establishing Oregon City Street Design Standards

STAFF RECOMMENDATION:

Staff recommends approval of Resolution No. 23-06 adopting Oregon City Street Design Standards.

EXECUTIVE SUMMARY:

The City created the Oregon City Street Design Standards (consistent with local, regional and state guidelines, as well as City Code, Policies, and City Transportation Planning documents). These Street Design Standards will supplement the existing documents of the City. Street Design Standards address items such as pavement design, street lighting design, roadway geometrics, and many others.

An overview of the Street Design Standards was presented to the Commission in October 2022. Revisions were made and comments were addressed during the Commission Work Session in March 2023. In the April 2023 City Commission meeting, the Commission requested additional information concerning street lighting. The street lighting revisions are incorporated in the standards submitted for adoption (via Resolution No. 23-06).

Staff recommends approval of Resolution No. 23-06, adopting the Oregon City Street Design Standards.

BACKGROUND:

On August 18, 2021, the City Commission approved a contract with Kittelson & Associates to prepare Street Design Standards for the City of Oregon City. Kittelson drafted standards, through coordination and review, by several City divisions and departments including Engineering, Streets, Sewers, Water, Planning, Construction, and Permitting. Public input was gathered using social media, the City webpage, the Transportation Advisory Committee, and the Development Stakeholders Group. The

draft standards were then revised, to incorporate/add/edit items addressed by all parties. Once a final draft was complete, all parties reviewed the changes and stated that their comments had been adequately addressed.

The City uses technical design standards to ensure consistency within the City's public infrastructure and to follow current practices and standards within the industry. The City currently has Design Standards for Public Water, Public Sanitary Sewer, and Stormwater and Grading Design; however, does not have technical standards for the roadway system (with exception to some policies and transportation planning documents).

The Street Design Standards will supplement the existing City documents. These Street Design Standards address items, such as pavement design, street lighting design, and roadway geometrics.

A response memo (to the April 2023 City Commission meeting) is included in this submittal, as well as a redline version and final "clean" version of the Street Design Standards for the Commission's review. Minor revisions to website links and small grammatical edits were also completed. The resolution to adopt the Oregon City Street Design Standards is included as well. Exhibits OC536 and OC536C are included for reference.

OPTIONS:

1. Adopt Resolution No. 23-06, Establishing Oregon City Street Design Standards.
2. Request additional revisions and seek adoption of revised standards at a future City Commission meeting.

BUDGET IMPACT:

Amount: \$0.00

Fiscal Year(s): N/A

Funding Source(s): N/A

RESOLUTION NO. 23-06

A RESOLUTION ESTABLISHING OREGON CITY STREET DESIGN STANDARDS

WHEREAS, the City of Oregon City has jurisdiction over various roads, rights-of-way, and multi-use paths within the city commonly called the Transportation System; and

WHEREAS, the City of Oregon City operates and maintains 144 miles of streets and 164 miles of sidewalks which consist of 961 acres of rights-of-way; and

WHEREAS, the City of Oregon City contains 50 signalized intersections; and

WHEREAS, the City of Oregon City operates and maintains over 375 street lights; and

WHEREAS, the City finds it necessary to establish and implement uniform engineering design standards for all Public Works Transportation projects in the interest of health, safety, and welfare of the residents of Oregon City; and

WHEREAS, the design standards will supplement existing Standard Drawings, Municipal Code, Concept Plans, Design Standards and Manuals; and

WHEREAS, the design standards will incorporate the existing Molalla Streetscape Standards; and

NOW, THEREFORE, OREGON CITY RESOLVES AS FOLLOWS:

- Section 1.** The Commission, by this Resolution, adopts the Public Works Street Design Standards, attached to this Resolution as Exhibit A, for application to all City-owned and maintained right-of-way and transportation-related improvements.
- Section 2.** This Resolution shall take effect immediately upon its adoption by the City Commission.
- Section 3.** The Commission, by this Resolution, empowers the City Engineer to periodically update these Street Design Standards as needed to maintain currency with municipal code, concept plans, and standard engineering practices and standards.

Approved and adopted at a regular meeting of the City Commission held on the 17th day of January 2024.

Denyse C. McGriff, Mayor

Attested to this 17th day of January 2024:

Approved as to legal sufficiency:

Jakob Wiley, City Recorder

City Attorney

Attachment: Exhibit A – Street Design Standards

Street Design Standards

City of Oregon City



January 2024

Oregon City Street Design Standards

January 2024

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1.0 INTRODUCTION

Chapter 1 introduces the *Oregon City Street Design Standards (Standards)* by describing the purpose, intended use, and project team roles. Additional relevant resources support the material provided in the *Standards*. Chapter 1 also includes an overview of overarching topics, such as performance-based design, context-based design, equitable development of climate friendly neighborhoods, and green streets.

1.1 PURPOSE AND INTENDED USE

The *Standards* intend to implement Oregon City Municipal Code (OCMC), guide private development, and provide criteria for capital improvement projects. The *Standards* include engineering guidelines for constructing public and private improvements, serving new and future developments, and reconstructing existing facilities to upgrade existing infrastructure. These *Standards* apply to all public improvements within the existing public right-of-way (ROW) or any recorded easements, all improvements from new developments required within the proposed public rights-of-way or public easements, all improvements intended for maintenance by the City of Oregon City (City), and all other improvements that require the City's approval. The City Standard Drawings provide additional construction details required for a permit or a set of plans.

The *Standards* are available online at:

[Oregon City Street Design Standards](https://www.orcity.org/1057/Street-Design-Standards)

<https://www.orcity.org/1057/Street-Design-Standards> This website will contain the most recently adopted *Standards*, the Standard Drawings, Americans with Disabilities Act (ADA) design and inspection checklists, the Design Modification Request form, and other materials. The City of Oregon City Municipal Code takes precedence if conflict exists with these *Standards*.

All webpage links throughout the document are active as of January 2024.

1.2 CHAPTER OVERVIEW

Table 1-1 provides an overview of each chapter in the *Standards*.

Table 1-1: Chapter Overview

Chapter	Overview
Chapter 1: Introduction	Provides purpose and intended use, references to support the Standards, and includes encouragement and guidance to use green street designs and climate friendly approaches to future designs.
Chapter 2: General Policies and Standards	Discusses the modification process, the permitting process, as well as overviews of right-of-way management, survey monumentation, and a note about historic districts.
Chapter 3: Geometric Design	Provides technical requirements for curves, intersections, and cul-de-sacs. Safety items such as sight distance, roadside clearance and traffic calming are also discussed. Private improvements such as driveways, alleys, and private streets follow public improvement design standards. There is also a section on Fire Department Standards.
Chapter 4: Multimodal Design	Includes guidance on how practitioners should include all modes of transportation when designing new or expanded roadways. This includes shared use paths, bicycle facilities, sidewalks, transit, and freight.
Chapter 5: Traffic Engineering	Provides design requirements for speeds, stop signs, traffic signals, signage, pavement markings and any special standards.
Chapter 6: Pavement Design	Includes technical requirements for thickness of pavement.
Chapter 7: Stormwater	References the Stormwater and Grading Design Standards and reminds users that stormwater management must be incorporated into street design.
Chapter 8: Utilities	Provides users technical guidance on how to address electric, gas, telephone, cable, telecom, and fiber networks within the right-of-way and associated easements.
Chapter 9: Street Lighting	Provides design standards for decorative street light fixtures and poles as well as the use of PGE related designs and associated electrical equipment.
Chapter 10: Landscape Design	Describes the furniture zone and reminds designers how to design the right-of-way for stormwater management, pedestrian use, and an urban landscape.
Appendices	Provides references, forms, and checklists that can be used during the design process.

1.3 ROLES

The City's policy requires compliance with Oregon Revised Statute (ORS) 672 for professional engineers.

All engineering plans, reports, or documents shall be prepared by a registered professional engineer or a subordinate employee under the engineer's direction and shall be signed by the engineer and stamped with the engineer's seal to indicate the engineer's responsibility for them. For design and construction projects, a private development or City contracted Engineer of Record is responsible for preparing project documentation and plans based on City standards. The City Project Engineer or City Project Manager is responsible for reviewing any proposed public facility addition, extension, modification, or other type of project within the city to determine if the proposal is permissible, if it meets City standards, and if there are any special requirements before or during engineering or other proposed design work.

City comments or approval of the plans and any related documents for any job does not in any way relieve the Engineer of Record of their responsibility to meet all City requirements or obligation to protect the life, health, and property of the public. The plan for any project shall be revised or supplemented at any time it is determined that the City's full requirements have not been met.

Specific titles and roles of those involved in preparing, reviewing, and approving plans and design decisions for City projects are described below.

A. Development Personnel

1. **Applicant:** Property owner or person designated by the property owner to be the representative for an application for a development proposal, permit, or approval. May be referred to as "owner" or "developer."
2. **Engineer of Record/Inspecting Engineer:** A professional engineer with civil engineering expertise holding a valid license from the State of Oregon that is responsible for stamping plans and documents prepared for a project and/or primary inspection of construction for a project. This person is part of a consulting engineering company working for either the Applicant or the City.

B. City Personnel

1. **City Engineer:** Oversees the Engineering Group and provides final direction and approval for City projects. May designate a subordinate to make decisions required of the City Engineer.
2. **Engineering Group:** A group led by the City Engineer that provides professional engineering services to various City departments and the general public; includes the following groups:
 - a. *Engineering Services:* Manages capital projects and right-of-way management; provides erosion control inspection.
 - b. *Development Services:* Manages public and private development.
 - c. *Construction and Right-of-Way Management:* Provides inspection services for permits and provides permitting and oversight to the right-of-way.
3. **Community Development Department:** A group led by the Community Development Director that consists of Planning and Building.

- a. *Planning*: Staff members who provide planning, zoning, and land use services for the City.
 - b. *Building*: Staff members who provide building permit and building inspection services for the City.
4. **Project Engineer/Project Manager**: The staff person who manages a City project or provides oversight and permitting to a private development project.
5. **City Inspector**: Provides secondary oversight and inspection to private development.

1.4 RELEVANT RESOURCES

The *Standards* are supported by and may be used in conjunction with other associated City, Clackamas County (County), Oregon Department of Transportation (ODOT), and national street design resources and publications. Where the *Standards* contained in this document do not address a particular situation, the standards contained in these other associated resources shall apply. The primary City, County, State, and national resources are below. Additional resources are in Appendix A.

City resources include:

- A. Oregon City Municipal Code (OCMC)
- B. Oregon City Concept Plans
 1. Thimble Creek (Beavercreek Road) Concept Plan
 2. Park Place Concept Plan
 3. South End Concept Plan
- C. Oregon City Corridor Plans and Studies
- D. Oregon City Standard Drawings (Street Standard Drawings 500 Series)

NOTE: Standard Drawings will be noted as "Std. Dwg. OC####" throughout the *Standards*.

- E. Oregon City Existing Design Standards and Manuals:
 1. Transportation System Plan (TSP)
 2. Sanitary Sewer Design Standards
 3. Stormwater and Grading Design Standards
 4. Water Distribution System Design Standards
 5. Sewage Pump Station and Force Main Design Standards
 6. Pavement Cut Standards
 7. Erosion Prevention and Sediment Control Planning and Design Manual
 8. Trails Master Plan

9. City Transportation Demand Management Plan 2017, Final Report

The *Standards* presented in this document provide technical criteria to support the Oregon City Concept Plans, Corridor Plans, and Studies. The *Standards* do not intend to change the vision and goals presented in existing plans and studies. The *Standards* take precedence over technical criteria presented in other City plans and studies, if conflicts exist. The City Engineer will provide final direction if there are interpretation questions or if there are any conflicts between documents. Projects should also review and consider the information provided in specific Oregon City Concept Plans. City plans and studies may introduce the need for additional design flexibility on projects to meet the vision and goals for the community. In these cases, the City's design modification process presented in Chapter 2, Section 2.1 can support the decision-making process and documentation.

County, State, and national resources include:

- A. *Clackamas County Roadway Standards*
- B. *ODOT Blueprint for Urban Design*
- C. *ODOT Highway Design Manual*
- D. *ODOT Traffic Signal Guidelines*
- E. American Association of State Highway Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets (AASHTO Green Book)*
- F. *AASHTO Roadside Design Guide*
- G. Federal Highway Administration (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways with Oregon Supplement*
- H. Oregon Standard Specifications for Construction and Standard Drawings
- I. Chapter 333 Oregon Administrative Rules
- J. Oregon Fire Code
- K. Oregon Certification Office for Business Inclusion and Diversity (COBID)
- L. Oregon Metro Designing Livable Streets and Trails
- M. Oregon Highway Plan
- N. *ODOT Speed Zone Manual*
- O. FHWA Intersection Control Evaluations

1.5 PERFORMANCE-BASED AND CONTEXT-BASED DESIGN

Integrating a performance-based and context-based design approach into project decision-making can verify that each City project meets the City Commission's goals and vision. Performance-based design establishes project goals early in the project and verifies that project decisions throughout the project's various stages align with the original goals.

Goals may address:

- A. The vision of the community, including existing characteristics and desired future lane-use patterns and growth.
- B. The role and function of the street within the network.
- C. The users of the street based on the surrounding land uses, future vision, and role of the street.

Project performance metrics are identified to evaluate alternatives based on the project goals. For each project, performance measures should be tailored to evaluate an alternative's ability to respond to the specific needs of the users and should relate directly to the project's documented goals. For example, a community may want to implement bicycle lanes on an arterial while minimally impacting traffic mobility. Bicycle level of traffic stress (LTS) or multimodal level of service (MMLOS) could be used to measure impacts to bicyclists, while the traditional vehicle volume-to-capacity (v/c) ratio could still be considered for traffic mobility.

The ODOT *Blueprint for Urban Design* provides additional guidance on how to identify project goals and performance metrics and how to implement a performance-based design approach. National activities and associated publications, such as FHWA's Performance-Based Practical Design initiatives and *NCHRP Report 785: Performance-Based Analysis of Geometric Design of Highways and Streets* (NCHRP Report 785), have resulted in a framework for executing this project approach. As presented in the AASHTO *Green Book*, this approach shapes how designers deliver projects in a variety of contexts and project stages. In addition, the ODOT *Blueprint for Urban Design* supports this approach and details how it may apply to a variety of projects.

The following section provides an overview of this approach, consistent with FHWA and ODOT roadway design approaches.

1.5.1 Performance-Based Design

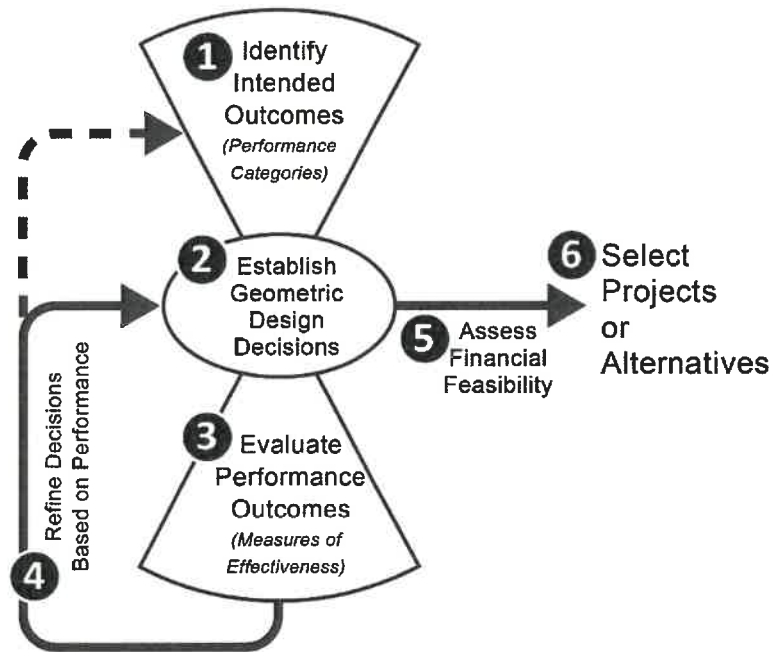
Performance-based design is a decision-making approach for guiding and documenting planning and design decisions. This approach:

- A. Emphasizes the outcomes of planning and design decisions as the primary measure for design effectiveness and project success.
- B. Guides practitioners to clearly outline intended project outcomes and select performance measures that align with those outcomes.
- C. Creates a method for documenting planning and design choices to allow agencies to make informed design decisions.
- D. Supports risk management and tort liability by providing a decision-making framework for documenting planning and design decisions and solutions.

The performance-based design approach includes frameworks that can help project teams evaluate the trade-offs of various design decisions. Making decisions based on the context and roadway users can help verify that project outcomes align with the current and/or future land use vision.

Figure 1-1 provides an overview of the performance-based approach from NCHRP Report 785.

Figure 1-1: Performance-Based Design Approach
Identify Issues to Solve



This performance-based approach considers:

1. Identifying desired project outcomes and performance metrics.
2. Establishing design decisions based on the desired outcomes.
3. Evaluating the performance of the design.
4. Iterating and refining the design to align solutions with desired outcomes.
5. Assessing the financial feasibility of the alternatives.
6. Selecting a preferred alternative that aligns with the desired outcomes.
7. Potentially reassessing desired outcomes if no acceptable solution is identified.

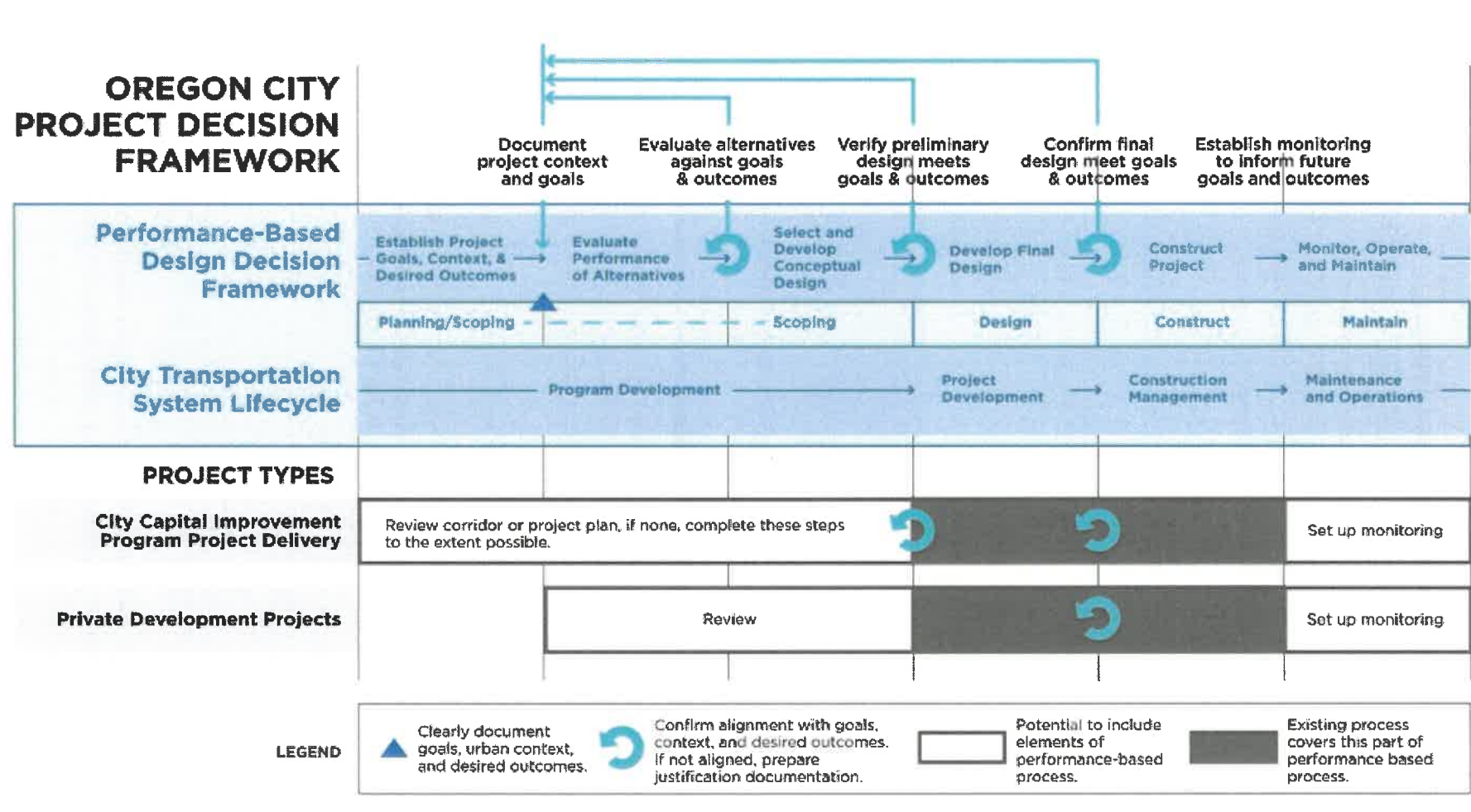
The performance-based framework is founded on three basic steps:

1. **Project Initialization:** Understand context classification (Section 1.3.2 and Section 1.3.3) and project context considerations to help establish intended project outcomes.
2. **Concept Development:** Generate specific alternatives best suited for the identified project needs and outcomes.
3. **Evaluation and Selection:** Use project-specific performance metrics to assess, refine, and advance the alternative.

Figure 1-2 provides a decision-making framework to guide practitioners through an iterative process that allows for flexibility in the design, continuous verification of desired project outcomes, and documentation of design decisions throughout each stage of the process.

The blue circular arrow symbols highlight milestones where the project goals and desired project outcomes should be revisited to verify that the planning and design decisions, alternatives development, and designs align with the original intent of the project and serve user needs. These are also milestones that require documenting planning and design decisions. If design decisions, project team discussions, and alternative evaluations have led to any changes in the performance measures or project goals, this information and the project team decisions should be clearly documented.

Figure 1-2: City Project Decision-Making Framework



1.5.2 City Functional Classifications and Street Types

Oregon City classifies the street system into a hierarchy organized by street function and type. These classifications ensure that streets reflect the neighborhoods through which they pass and consist of a scale and design appropriate to the character of abutting properties and land uses. The classifications also provide for and balance the needs of all travel modes, including pedestrians, bicyclists, transit riders, motor vehicles, and freight. The City's multimodal street system is detailed in the Oregon City TSP.

The functional classifications include:

- A. Major arterial
- B. Minor arterial
- C. Collector
- D. Local street

The street types include:

- A. Commercial
- B. Industrial
- C. Residential
- D. Mixed-use

1.5.3 Oregon Statewide Context-Based Design

In addition to the functional classifications and street types identified by the City, ODOT has established statewide urban context classifications. Project teams should consider how the City project may fit within the surrounding context established by the state, particularly if state facilities are adjacent to or are intersecting with the City streets within the project.

The ODOT *Blueprint for Urban Design* has identified six urban context classifications, including:

- A. **Traditional Downtown/Central Business District (CBD):** Areas with the highest development and building heights in an urban area. Typically, a few square blocks. Buildings have mixed land uses, are built up to the roadway, and are within a well-connected roadway network.
- B. **Urban Mix:** Mix of land uses within a well-connected roadway network. May extend long distances. Commercial uses front the street, with residential neighborhoods on top or immediately behind land uses.
- C. **Commercial Corridor:** Mostly commercial and industrial uses with large building footprints and large parking lots set within large blocks and a disconnected or sparse roadway network.
- D. **Residential Corridor:** Mostly residential uses within a well-connected or somewhat-connected roadway network. May extend long distances. Single-family homes may have direct access to the state roadway.

- E. **Suburban Fringe:** Sparsely developed lands, typically at the edge of an urban growth boundary. May be large-lot residential, small-scale farms, or have intermittent commercial or industrial uses.
- F. **Rural Community:** Small concentrations of developed areas immediately surrounded by rural, undeveloped areas.

The ODOT *Blueprint for Urban Design* (Chapters 2 and 3) provides additional information about designing roadways within each of the contexts that may help support City decisions for projects within these areas. Projects that integrate context considerations can help project teams:

- A. Understand the effects of existing and future land uses.
- B. Efficiently serve existing and emerging communities and the various users traveling along and crossing the streets.
- C. Provide better tools for streets transitioning between communities.

As projects consider design decisions to align with the project-specific needs, the statewide concepts for context classification should be used to evaluate tradeoffs and inform decision-making. Any decisions that result in designs outside of the City *Standards* need to be processed through a City Design Modification Process for Capital Improvement Program Projects or a Public Improvement Modification Process for Private Development Projects. Additional information on modifications is described in Section 2.1.

1.6 EQUITABLE DEVELOPMENT OF CLIMATE FRIENDLY NEIGHBORHOODS

In alignment with the City Commission goals, the City supports equitable development of climate friendly neighborhoods. Greenhouse gas emissions from motor vehicles and serious traffic crashes are two of the most pressing transportation issues; addressing these issues will require a transportation system designed to serve multiple modes of travel, including walking, bicycling, and accessing public transit. To enhance community livability, streets must function not only as corridors for moving people, goods, and services but as community gathering spots, public spaces, and stormwater management facilities. Street design determines how safe, sustainable, resilient, multimodal, and economically beneficial streets are. All projects should consider how to effectively integrate design features that align with community values.

In addition, the City is supportive of contracts, including those from minority-owned, women-owned, service-disabled veteran-owned businesses as well as emerging small businesses. Certified businesses using the Certification Office for Business Inclusion and Diversity (COBID) are encouraged.

1.7 GREEN STREETS

To limit how much stormwater and pollutants eventually make their way into vulnerable natural waterways, all streets must manage stormwater, treat runoff to reduce pollution, and infiltrate water into the ground. The City encourages projects to incorporate green infrastructure treatments, such as vegetated medians, planters, curb extensions, and street trees. This allows streets to not only manage stormwater but to mitigate the harmful impacts of transportation on air, water, and wildlife habitat and connectivity. This street function supports human and environmental health. Oregon Metro's *Designing Livable Streets and Trails Guide* provides additional information on green streets.

2.0 GENERAL POLICIES AND STANDARDS

Chapter 2 provides an overview of City general policies and standards. Specific information regarding design modification documentation is included to support decision-making.

2.1 DESIGN DECISIONS AND MODIFICATIONS

A performance-based design approach will help the design team consider the project context and the intended project outcomes when establishing the design controls and associated design criteria on a project-by-project basis. The design team for each project within the City is responsible for making every reasonable effort to meet these *Standards*. However, this will not always be practical or appropriate. These *Standards* are not meant to limit creative engineering efforts to provide alternate solutions to specific constrained areas or to relieve the responsibility for professional engineering judgment. When standards are not met, designers can document their design decisions through design modifications. Practical design modifications that preserve the function and safety of the street system and offer benefits to aesthetics, resource protection, ease of maintenance, and livability are encouraged.

Types of modifications are described below.

- A. The City's design modification processes should be used for capital improvement projects and represent a means for the design team to identify, justify, and implement design features that do not fall within the designated design standards established by the City.
- B. Private development projects should use the Public Improvement Modification process outlined in OCMC 16.12.013.
- C. The Americans with Disabilities Act (ADA) Modification Process follows the procedures detailed in Section 2.3.1.

When the City is providing maintenance to existing infrastructure and seeking to complete maintenance in a way that is contrary to the typical standards, it should follow the City Design Modification Process.

2.1.1 Design Modification Process for Capital Improvement Projects

If a capital improvement project cannot meet these *Standards* or those outlined in OCMC, a design modification is required to propose improvements less than or in contrast with the requirements. Requests to modify design standards shall use the City Design Modification form in Appendix B.

2.1.1.1 Criteria for Design Modifications to Standards

The City may grant a modification when doing so does not compromise public safety or the intent of the City's *Standards* if any one of the following conditions are met:

- A. The subject standard is deemed not applicable.
- B. Topographic, right-of-way, overlay districts (e.g., natural resource overlay district, historic, Willamette Greenway, and geologic hazards), or other geographic conditions impose an environmental concern or constrain constructability and an equivalent alternative that can accomplish the same design intent is available.

- C. A minor change to the standard is required to address a specific design or construction constraint that, if not enacted, will result in an undue hardship.
- D. The proposed modification does not compromise safety, function, appearance, and maintainability based on sound engineering and technical judgment.
- E. The modification does not conflict with land use requirements.

2.1.1.2 Review for Design Modifications to Standards

Design modifications are typically submitted before land use application approval or early in the design process when related to capital improvement projects.

- A. Modifications include but are not limited to:
 - 1. Geometric design and the modification or omission of standard roadway cross section elements
 - 2. Sight distance
 - 3. Access spacing
 - 4. Number of accesses
 - 5. Intersection angle
- B. The City Engineer will review a request to modify design standards and will make one of the following decisions:
 - 1. Approve as proposed
 - 2. Approve with changes
 - 3. Deny with an explanation
- C. Design modification approval does not constitute a precedent for use at other locations.

2.1.2 Public Improvement Modification Process for Private Development

If a private development cannot meet these *Standards* or those outlined in OCMC, a public improvement modification is required to propose improvements less than or in contrast with the requirements. Often, this modification is requested to reduce the required right-of-way dedication, reduce the size of the pavement required, eliminate a street parking requirement, or address other requirements outlined in the OCMC 16.12.016.

Land use conditions of approval are commonly written so that there is little flexibility after land use approval, so it is imperative to address design modification requests before land use approval. If a design modification is requested after the land use conditions of approval are issued, an additional application for a modification of the conditions of approval or a new land use application through the Planning and Zoning Division may be required.

2.1.2.1 Criteria for Public Improvement Modifications to Standards

The OCMC 16.12.013 outlines five criteria that shall be met for the City to support a change to the OCMC or these *Standards*:

- A. The modification meets the intent of the *Standard*.
- B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists, and freight.
- C. The modification is consistent with an adopted transportation and/or utility master plan.
- D. The modification is complementary to a surrounding street design.
- E. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the State or Federal constitution. The City is under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.

2.1.2.2 Review for Public Improvement Modifications to Standards

- A. A Public Improvement Modification is processed as a Type I or Type II Land Use Decision.
 - 1. Type I, including driveways and sidewalks, is processed through Public Works.
 - 2. Type II is processed through the Planning Division using the Land Use Application Form.
- B. If a property seeks a modification to the requirements on driveways found in OCMC 16.12.035 (the number of driveways, width of driveways, or spacing of driveways), the modification is processed through a Type I Decision through the Engineering Group using the Public Improvement Modification Application (see Appendix B).
- C. In either case, the five criteria in OCMC 16.12.013 shall be met, or the modification request will be denied. An appeal of denial is allowed per OCMC 17.50.190.

2.1.3 Americans with Disability Act (ADA) Modifications

All project designs shall comply with Title III of the Americans with Disabilities Act (ADA) of 1990 and the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG). The City uses the PROWAG standards for ADA accessibility within the public rights-of-way and easements under the City's jurisdiction. PROWAG justifies modifications to the standards for new construction and alterations to existing ADA accessibility features. Modifications are required for any accessibility feature that cannot meet the requirements due to a physical constraint identified in the following sections. Crosswalk closures are also reviewed under the ADA modifications process.

2.1.3.1 Modifications for New ADA Accessibility Features

Modifications to full compliance with PROWAG standards can only be granted for a limited number of physical constraints preventing full compliance. If a modification is required for a particular feature, efforts shall be made to ensure that other elements are accessible. Modifications for non-compliance PROWAG standards for new ADA

accessibility features can only be approved when full compliance cannot be achieved due to terrain or historic features. Where the Historic Review Board determines that compliance with a requirement would threaten or destroy historically significant features of a qualified historic facility, compliance is required to the extent that it does not threaten or destroy the facility's historically significant features (PROWAG R202.3.4).

2.1.3.2 Modifications for Alterations to Existing ADA Accessibility Features

Where existing physical constraints make it impracticable for altered facilities to fully comply with ADA requirements, compliance may not be required within the scope of the project. Existing physical constraints include but are not limited to underlying terrain, right-of-way availability, underground structures, adjacent developed facilities, drainage, or the presence of a notable natural or historic feature (PROWAG R202.3.1).

2.1.3.3 ADA Modification Request Submittal

Modification requests must be submitted using the ADA Modification Request form (see Appendix B) at the following points in the process:

- A. Requests for modifications to waive the requirement for a new ADA accessibility feature as part of a private development should be submitted and acted upon before land use approval since land use conditions are typically written with little or no flexibility.
- B. Requests for modifications to requirements for a particular element should be submitted during the first plan review and shall be acted upon before permit issuance.
- C. Requests for modification to requirements may be submitted during construction if physical constraints that were not included in the design are identified. In such situations, the Engineer of Record or City Project Manager shall prepare a revised design that maintains accessibility to the greatest extent practicable, and that modification shall be acted upon before constructing the accessibility feature.
- D. Modifications should not be provided for non-compliant features after construction.

The City Engineer will review all modification requests and approve or deny the requested modification.

2.2 PERMITTING/APPROVAL PROCESS

2.2.1 Private Development

The contract plans developed for the project act as the permit documentation required. For additional details and requirements on private development, refer to the OCMC 17.50.

Permits for private development are valid for three (3) months. If construction has not begun on site improvements or public improvements within three (3) months of approval, plans and documents are subject to additional review and revisions to meet any standards that have been updated since the time of plan approval. Installation of erosion and sediment control or early grading do not constitute the beginning of construction.

Approval of plans does not constitute a perfect adherence to these standards. Approval constitutes the City's best review of the plans at the time. While revisions are expected to be kept to a minimum, the City may require additional revisions during construction if standards are found to not be adhered to onsite or in the permitted plans.

2.2.2 Capital Improvement Projects

City capital project permitting and bond requirements are contained in the contract documents for each project.

2.3 CONSTRUCTION INSPECTION

2.3.1 Private Development

The Applicant shall provide the City with access to the facility for inspection of the work in accordance with the requirements and intent of the plans, specifications, permit conditions, and land use requirements (collectively known as “the permit”). Refer to the OCMC and Private Development Minimum Inspection Requirements for additional information and the checklist form on the City’s website (shown in Appendix C).

2.3.2 Capital Improvement Projects

City capital project inspection requirements are contained in the contract documents for each project.

2.3.3 General Requirements

- A. The City’s Construction Inspector shall be present at all public improvement inspections as noted on the Private Development Minimum Inspection Requirements.
- B. The City’s inspection services do not relieve the Engineer of Record or Contractor of their responsibility to properly comply with these *Standards*.
- C. City inspection services do not constitute approval of any modification to the approved construction plans.

2.3.3.1 City Responsibilities

Inspection services provided by the City Construction Inspector include:

- A. Acting as a liaison between the designated Engineer of Record and the City.
- B. Monitoring both work progress and performance testing results.
- C. Performing administrative and coordination activities as required for supporting the processing and completion of the project.
- D. Issuing a Stop-Work Order by notice to the designated Engineer of Record, Contractor, and Applicant, if required.

2.3.3.2 Applicant Responsibilities

Refer to the Oregon City Minimum Guidelines for Inspection/Observation and Construction of Public Improvements. Inspection services provided by the Applicant include:

- A. Obtaining and using a copy of City-approved construction plans and specifications (the permit) and a copy of these *Standards*.

- B. Reviewing and approving all pipe, pavement, concrete, and other materials to ensure compliance with *City Standards*.
- C. Approving all plan or specification changes in writing and obtaining City approval (see City Inspection Services above). The City must re-approve all changes to the approved plans or specifications before commencing work affected by the revision.
- D. Monitoring construction activities to ensure work meets City specifications.
- E. Performing (or having performed) material, composition, and other tests required to ensure City specifications are met.
- F. Providing inspection reports to the City at the end of each week.
- G. Certifying that all necessary public improvements have been installed and accepted in compliance with the City-approved permit construction plans. This certification should take place before requesting building occupancy on commercial, multi-family, and/or other projects with concurrent site development and building permits or before platting of subdivisions or partitions. This certification must also indicate that all items required through the land use process—including but not limited to the payment of all fees, recording of all public utility easements, and obtaining maintenance bonds—have been completed at or before occupancy of the first building or recording of the plat.

2.4 ACCESS MANAGEMENT

This section includes general requirements for access management and the City's access spacing standards. Refer to OCMC 17.52.090 for loading area requirements.

2.4.1 General Requirements

Access management for private accesses or public intersections is required to improve the safety and efficiency of traffic flow for transportation network users and to balance those needs with livability, economic, and community values. Managing roadway access benefits the overall roadway system by increasing safety, reducing conflicts for all users, increasing capacity, and reducing travel times. Controlling access must not become too restrictive; however, local businesses and homeowners deserve access to the roadway system. Overall, access management must balance the needs of through traffic, localized traffic, and pedestrians and bicyclists on a particular roadway.

The location and number of roadway intersections and other access points must be planned, coordinated, and controlled by the City. By the nature of the roadway functional classification system, higher-speed arterial streets require the highest level of access management restriction and tend toward less access. Lower-speed collector streets and connector streets require less restrictive access management. Local streets require very few access management restrictions and tend toward more frequent access.

Accesses are subject to the sight distance standards outlined in Section 3.5, and non-compliant accesses may not be approved. To comply with these requirements, existing accesses may require removal or modification due to safety issues.

2.4.2 Access Spacing Standards

The Oregon City TSP identifies the minimum and maximum street intersection spacing and minimum driveway spacing standards for streets in Oregon City (shown in Table 2-1). Additional information on driveway spacing requirements is described in the OCMC 16.12.035. Per OCMC 16.12.035, the distance from a street corner to a driveway is measured along the right-of-way line from the edge of the intersection (on the same side of the road) to the nearest portion of the driveway. The distance between driveways is measured at the nearest portions of the driveways (or from edge to edge). Block spacing between streets is measured between the right-of-way centerlines.

Any changes to the spacing standards require a Type I Driveway Modification, further described in Section 2.1. Additional City plans, such as the *Beavercreek Road Access Management Plan*, provide additional information on driveways that will be closed and combined.

Table 2-1: Spacing Standards

	Mixed-Use or Residential				Commercial or Industrial			
	Major Arterial	Minor Arterial	Collector	Local	Major Arterial	Minor Arterial	Collector	Local
Maximum Block Size (Street to Street)*	530'	530'	530'	530'	530'	530'	530'	530'
Minimum Block Size (Street to Street)	150'	150'	150'	150'	150'	150'	150'	150'
Minimum Driveway Spacing (Street to Driveway and Driveway-to-Driveway)**	175'	175'	100'	25'	175'	175'	100'	25'

* Maximum except in zones General Industrial (GI), Campus Industrial (CI), Mixed Use Employment (MUE), Institutional (I), and Willamette Falls Downtown District (WFDD), where appropriate street spacing will be determined by the City Engineer. If the maximum block size is exceeded, midblock pedestrian and bicycle accessways must be provided at spacing no more than 330 feet, unless the connection is impractical due to existing development, topography, or environmental constraints. Alternatively, off-street pedestrian and bicycle accessways spaced 500 feet from a street may supplement block lengths exceeding 530 feet.

**Single-family dwellings are exempt from the driveway-to-driveway spacing standard.

When a property is zoned MUC-1, driveways for loading zones shall be separated from customer/employee access driveways when feasible. Access spacing is exempt for those properties and should be coordinated with the City Engineer (as determined by the City Engineer).

2.5 RIGHT-OF-WAY AND PUBLIC EASEMENTS

Refer to the City of Oregon City Municipal Code, which takes precedence if conflict exists within these *Standards*. Projects that do not meet the standards noted in this section and in the Code require a Design Modification (Refer to Section 2.1).

2.5.1 Requirement for Right-of-Way and Public Easements

As a condition of approval for a development, the City may require dedicating additional road right-of-way or other public easements in support of the proposed development to meet standard cross sectional elements. The City will determine the right-of-way and easement widths and types after reviewing the development with the requirements for dedications identified via land use requirements or as identified in the dedication review processes.

2.5.2 Minimum Width Requirements for Rights-of-Way and Easements

- A. Definition of standard road right-of-way widths by roadway functional classification is provided in OCMC 16.12.016 for required typical sections.
- B. Some corridor plans and concept plans require road designs specific to certain areas. Details specific to these can be found in the respective plans. Contact the City Engineering Group to verify details and standards for those areas.
- C. If dedicating a Permanent Public Utility Easement (PUE) or a combination of another easement that includes a PUE is required, an easement must be dedicated along the entire abutting right-of-way of all front lot lines (see Section 8.3).
- D. Additional easements for signing, slopes, and pedestrian facilities may be required via land use requirements or during construction plan review. This should also be considered for CIP projects.

2.5.3 Right-of-Way and Public Easement Dedication Process

Refer to OCMC 16.12.085 for details on the public rights-of-way and easement dedication processes and types of easements. Also refer to the Street and Easement Vacation Standard Operating Policy and Procedure. An overview of the process is below.

- A. Typical easements that may be required for dedication may include but are not limited to:
 - 1. Permanent Right-of-Way Dedication
 - 2. Permanent Public Utility Easement (see Section 8.3)
 - 3. Permanent Sign, Slope, Public Utility, and Sidewalk Easement
 - 4. Permanent Storm Drainage, Sanitary Sewer, or Water Easement (See Section 8.3)
 - 5. Temporary Construction Easement
 - 6. Unusual Facility Easement
 - 7. Watercourse Easement
 - 8. Resource Protection Easement
- B. Depending on the project's requirements, one or more of the above easement dedications may be required.

- C. An Applicant may be required to provide proof of recorded access from a public road or public easement through the proposed development to an abutting parcel.
- D. If proof of access easement cannot be provided or has not been previously created, then an Applicant will be required to dedicate a permanent public easement for the benefit of the abutting parcel on the face of the plat.

2.5.4 Street, Alley, and Easement Vacations

A street vacation is the termination of the public interest in a right-of-way, and it extinguishes the easement for public travel that the right-of-way represents. Whenever any street, alley, or public way is vacated by official action, the zoning districts adjoining the side of such public way shall automatically be extended to the side or sides to which such lands revert to include the right-of-way thus vacated, which shall henceforth be subject to all regulations of the extended district or districts. Refer to OCMC 17.06.035.

The following factors will be evaluated when considering whether the vacation will impact the public interest:

- A. The area proposed to be vacated is not presently needed and is not identified in any adopted plan for public services, transportation functions, utility functions, stormwater functions, view corridors and/or viewpoints, tree planting/retention, pedestrian amenities, community uses, or commercial uses.
- B. The vacation does not prevent the extension or retention of public services, transportation functions, utility functions, stormwater functions, view corridors and/or viewpoints.
- C. Public services, transportation functions, or utilities can be extended in an orderly and efficient way in another location.
- D. The vacation does not impede the future best use of, development of, or access to abutting property.
- E. The area of the vacation is not presently (or will not in the future be) needed as part of an interconnected system of public streets that is generally consistent with the street connection and bicycle/pedestrian spacing requirements.
- F. The vacation does not impact a Historic District.

When approving a petition to vacate a street, whether fully or in part, the City may make reservations or conditions, including:

- A. The maintenance and use of underground public utilities or service facilities in the portion vacated.
- B. Limits to using the area above and adjacent to underground utilities or service facilities.
- C. Moving the utility or service facilities either below, on, or above the surface at the petitioner's expense.
- D. Constructing, extending, or relocating sidewalks and curbs, shared-use paths, trails, or other similar pedestrian or bicycle facilities.
- E. Grading or pavement extensions.
- F. Dedication for street use or another area instead of the area to be vacated.
- G. Replat.

- H. Any other matter of like or different nature relating to the vacated area and remaining or relocated street area adjacent to the petitioner's property or area dedicated instead of the vacation area.

See Street and Easement Vacation Standard Operating Policy and Procedure for further information about policy and process of street and alley vacations.

2.5.5 Annexations

All annexations shall include the adjacent existing roadway in total. Annexations shall not stop at the centerline.

2.5.6 Obstructions

It is unlawful for any person to place or maintain any obstruction (permanent obstruction) other than a temporary obstruction in any public street or alley in the city without obtaining approval for a right-of-way permit from the City Commission by passage of a resolution.

A temporary obstruction is defined as an object placed in a public street, sidewalk, road, or alley that is not permanently anchored to another surface, such as the pavement, the sidewalk, or a building. A temporary obstruction includes but is not limited to moving containers, debris dumpsters, and seating. A short-term temporary obstruction is allowed for a period of no more than 60 consecutive calendar days and is permitted with a temporary obstruction in the right-of-way permit. A long-term temporary obstruction is allowed for no more than 1 year, and it is permitted with a renewable right-of-way permit.

To allow the City Commission to adequately consider whether to allow the placement of an obstruction and whether any conditions may be attached, the following information is required:

- A. Site plan showing right-of-way, utilities, and driveways.
- B. Sight distance per OCMC 10.32, Traffic Sight Obstructions.
- C. Traffic control plan including parking per the MUTCD.
- D. Alternative routes (if necessary).
- E. Minimized obstruction area.
- F. Hold harmless/maintenance agreement.

If the City Commission adopts a resolution allowing the placement of a permanent obstruction in the right-of-way, the City Engineer shall issue a right-of-way permit with any conditions deemed necessary by the City Commission. Signage that acts as an obstruction is approved through OCMC 15.28. While awnings are considered an obstruction, they may be allowed if the conditions in the Awning Standard Operating Procedure is met.

In determining whether to issue a right-of-way permit to allow a temporary obstruction, the City Engineer may issue such a permit only after finding that the following criteria have been satisfied:

- A. The obstruction will not unreasonably impair the safety of people using the right-of-way and nearby residents.
- B. The obstruction will not unreasonably hinder the efficiency of traffic affected by the obstruction.
- C. No alternative locations are available that would not require use of the public right-of-way.

- D. ADA standards are maintained.
- E. Any other factor that the City Engineer deems relevant.

OCMC 12.04.120 outlines requirements for temporary and permanent obstructions.

2.6 SURVEY/MONUMENTATION

The *Oregon Standard Specifications for Construction* and ORS 209.140155 define the requirements for the protection of existing survey monuments during any construction and the setting of new survey monuments following the construction of new roadways.

Refer to the *Clackamas County Roadway Standards*, Section 150 for Survey and Monumentation standards.

2.7 HISTORIC DISTRICTS AND DOWNTOWN

Oregon City has two local historic districts:

- A. McLoughlin Conservation District
- B. Canemah National Register District

Additional information for each district is provided at the districts' websites. OCMC 17.40 provides information on the Historic Overlay District for the City, including construction details for projects within this area. Refer to the Historic Design Guidelines for New Construction.

Downtown Oregon City is not a Historic District, but the downtown has specific guidelines to preserve this area. According to the 1999 *City Downtown Plan*, the City intends to verify that new construction and improvements are guided by a set of historic design guidelines that enhance and preserve this part of the City. Within this area, pedestrian-oriented design features are emphasized, including:

- A. Pedestrian crossings
- B. Street furniture
- C. Wider sidewalks
- D. River viewpoints
- E. Decorative railings

3.0 GEOMETRIC DESIGN

Chapter 3 provides the geometric building blocks for planning and designing a road by describing the typical cross section elements, outlining parameters associated with horizontal and vertical alignments, providing an overview of intersection design, discussing various sight distance needs, highlighting the assessment of roadside design, and providing features for traffic calming and additional design features. This chapter is consistent with the geometric design principles outlined in the AASHTO *Green Book* and the ODOT *Blueprint for Urban Design*. If the guidance in this section cannot be obtained, then a design modification is required for approval by City Engineer.

3.1 CROSS SECTION

Typical roadway cross sections vary based on functional classification. Roadway functional classifications are established in the Oregon City TSP. Table 16.12.016 from OCMC 16.12.016 implements the Oregon City TSP and illustrates the maximum design standards. These standards may be reduced with an alternative street design, which may be approved based on the modification criteria in OCMC 16.12.013. For the Downtown District, Washington Street, 7th Street, and Molalla Avenue, refer to Section 5.8. When required as a condition of development, half-street improvements must include the entire area between the centerline and the edge of right-of-way. Table 3-1 provides general guidance and an overview on the typical uses for each cross sectional element and where to find additional information.

Table 3-1: Typical Uses for Cross Sectional Elements

Cross sectional Element	Description
Travelway	Travelway width varies by functional classification—see Std. Dwg. OC 500-OC502. The number of travel lanes is determined by the Oregon City TSP.
Two-Way Left-Turn Lane/Median	Medians are to provide for left-turn lanes (e.g., two-way left-turn [TWLT]) as needed and used only on collector and arterial streets. Medians can be narrower if there is no need for left-turns and/or refuge islands for pedestrian crossings. Medians can be raised and landscaped; rocked medians should be provided in locations that need sight distance and where pedestrian crossings are present. Section 10.0 provides information on landscaped medians. Refer to Oregon City area-specific planning documents for guidance on where medians are required. Medians (and sometimes “pork chop” islands) are also used for access management purposes and to prohibit specific movements (e.g., right-in/right-out).
Parking	On-street parking shall be parallel along the curb per OCMC 16.12.016. Angled on-street parking is discouraged and shall only be implemented on a case-by-case basis with City Engineer approval.
Bicycle Facilities	Bicycle facilities are required on all roads City streets classified as collector streets or higher. The standard bicycle lane width is 6 feet based on the OCMC. However, when possible, it is desirable on collectors and arterials to have on-street buffered bicycle lanes (6-foot bicycle lane with a 2-foot buffer). Separated bicycle facilities may be necessary in higher-speed environments to improve bicyclists’ safety and comfort. The minimum bicycle facility requirement is on-street buffered bicycle lanes, but the preferred solution is to provide separated bicycle facilities. Alternative applications may include raised bicycle facilities or shared-use paths. For guidance, refer to Oregon City area-specific planning documents, such as the Oregon City TSP, which outlines future bicycle route connectivity throughout the City.
Curb and Gutter	The Std. Dwg. OC511 requires a 6” curb with an 18” gutter.
Landscaping	When required, landscaping can be installed on medians or between the curb and sidewalk. See Std. Dwg. OC530 for street tree planting details and OCMC 12.08 for street tree requirements. Refer to Chapter 10 for additional landscaping details.
Sidewalks	Typical sidewalk widths shall be per OCMC 16.12.016, Oregon City concept plans or other adopted plans.

3.1.1 Lane Widths

The Oregon City TSP provides guidance on how to determine lane widths based on functional classification. The City has four key considerations when deciding lane widths:

- A. Lane widths should be kept as narrow as possible.
- B. Wider lane widths should be considered when the mix of heavy vehicles is greater.
- C. When no bicycle facility or shoulder is present, a shy distance from a vertical curb should be considered.
- D. If the purpose of the design is a lower-speed environment, narrower travel lanes should be selected.

Oregon City TSP provides additional information on determining the lane arrangement and width of the street based on functional classification and potential route designations, such as freight and transit routes, as summarized below.

- A. Streets along regional and local truck routes should have a minimum lane width of 12 feet.
- B. A minimum lane width of 11 feet is required along a transit route.
- C. If the street is not along a designated route, the lane width can be reduced to a minimum of 12 feet along major arterials, 11 feet on minor arterials, and 10 feet along collectors and local streets, as determined by the City.

3.1.2 Constrained Street Section

Constrained street sections may only be considered for local streets with approval by the City Engineer. Constrained streets may have reduced lane widths per 3.1.1 and may eliminate the following typical street components:

- bike lanes
- landscape strip and/or furnishing zone
- sidewalk on one side of a street

The following potential scenarios will be evaluated on a case-by-case basis:

- A. Constructing the standard street width would cause excessive impacts to adjacent businesses and/or homes.
- B. Constructing the standard street width is impractical based on topographical impacts (i.e., retaining walls or cut/fill would be required).
- C. Constructing the standard street width would unnecessarily impact environmentally sensitive areas.

For all cases, the City Engineer shall approve documentation through the design modification and public improvement modification process.

The AASHTO *Green Book* provides guidance for vertical and horizontal roadway elements. For constrained areas, the Engineer of Record and/or the City Project Manager should follow the principles from the *Green Book* and consider various dimensions for roadway cross sections to minimize impacts.

In addition, the practitioner should assess the *Oregon Fire Code Applications Guide*, Clackamas Fire District #1 to determine if sufficient width (i.e., 20 feet of unobstructed driving surface) exists to accommodate parked vehicles. Parking should be prohibited accordingly. A design modification from the typical standard widths require approval by the City Engineer.

3.1.3 Parking (On-Street)

On-street parking may be added in urban environments if approved or required by the City. The City standard is parallel parking in public right-of-way along the curb, and it requires the least paved width. Angled on-street parking may only be considered if there is adequate street width; speeds are below 25 mph; and other constraints, such as environmental, topographical, or other unique circumstances exist. Angled parking should be processed as a design modification to be approved by the City Engineer. The location of bicycle lanes should be carefully considered in areas with on-street parking. Separated bicycle facilities or shared-use travel lanes may be considered as discussed in Section 4.2.

On-street parking is required on both sides of the street in all street designations as outlined in OCMC 16.12.016. On-street parking may be restricted for safety and/or functionality. When determining the locations of on-street parking, designers should consider sight distance, delivery access, and emergency access for existing and proposed development along the street. Where on-street parking is provided, curb extensions should be provided at intersections and midblock crossings to minimize crossing distance.

To preserve safe sight distance, on-street parking is prohibited within 15 feet of the intersection and the accessway with public streets (OCMC 16.12.032).

3.2 HORIZONTAL ALIGNMENT

All roadway designs shall comply with the guidance in the current edition of the AASHTO *Green Book*, except as modified by this section. Centerline alignment of improvements should be parallel to the centerline of right-of-way.

3.2.1 Horizontal Curves

Requirements for horizontal curves include:

- A. Horizontal curves should meet the minimum radius requirements in Table 3-2.
- B. Reversing horizontal curves should be separated by at least 50 feet of tangent (100 feet on arterials).
- C. Horizontal curves should be designed using a maximum superelevation rate of 4% ($e_{max}=4\%$). See Section 3.3.2 for superelevation standards.

Table 3-2: Minimum Curve Radii

Design Speed (mph)	Minimum Curve Radius (ft) for Various Cross Slopes			
	(e) -2.5%	(e) 0%*	(e) 2.5%*	(e) 4%*
15	50	45	45	40
20	100	90	85	80
25	185	165	150	145
30	305	275	245	230
35	475	415	370	345
40	700	600	525	490
45	980	830	720	665

*Use of superelevation requires City approval.

3.2.2 Exceptions for Very Low-Volume (≤ 400 ADT) Local Streets with a Speed of 25 Miles Per Hour (mph) or less

The following are allowed under the listed circumstances on a limited basis:

- Horizontal curves on local roadways within residential areas may have a minimum centerline radius of 100 feet, as limited in this section.
- A single 15 mph maneuver is allowed on a local road on a limited basis when physical constraints or property boundary limitations exist.
- Residential driveways that serve no more than three lots, are less than 400 feet in length, or have topographic constraints may use a 50-foot centerline radius for a 12-foot width or a 40-foot centerline radius for a 20-foot width. Approval from the City Engineer and emergency services provider are required.

3.2.3 Roadway and Marking Transitions

Shifts in roadway alignment, widening, or narrowing within motor vehicle travel lanes are to be accomplished through roadway transitions as described below.

- Roadway transitions within through lanes:

$$L = S \times W \quad (S \geq 45 \text{ mph})$$

$$L = WS^2/60 \quad (S < 45 \text{ mph})$$

where

- L = minimum taper length (feet)
- S = design speed (mph)
- W = offset (shift) width (feet)

- Tapered widening for right-turn lanes at intersections should be designed according to the ODOT *Highway Design Manual* detail for "Right Turn Channelization."

- C. Tapered widening for left-turn lanes at intersections should be designed according to the ODOT *Highway Design Manual* for “Left-Turn Channelization.”
- D. For road widening to develop left-turn lanes, horizontal curves and tangents for the through lane may be substituted for the straight tapered widening noted above, provided that the curves and tangents meet horizontal alignment requirements for the given design speed of the roadway.
- E. Along local and connector roads, roadway width transitions are not required if traffic is not expected to use the shifting roadway (e.g., at the beginning or end of street frontage improvements).

3.3 VERTICAL ALIGNMENT

The vertical alignment of the City’s public and private roadways should conform to the following requirements:

- A. **Minimum Roadway Gradient:** The minimum tangent roadway gradient should be 0.5% along the crown and vertical curb line. The gradient along the curb return at the sidewalk ramp landing shall be designed to 0.5–1.5%.
- B. **Maximum Roadway Gradient:** The maximum roadway gradient is based on the adjacent land use contexts and should be 8% for commercial areas and 15% for residential areas.
- C. **Intersection Landing:** At intersections, a landing should be provided on the secondary or subordinate approach or on a stop-controlled approach.
 - 1. Landings should be 20 feet in length for private driveways, 50 feet in length for local roadways, and 100 feet in length for all other roadways.
 - 2. Landings should be measured from the edge of pavement of the intersected roadway at full development and shall have an average grade no greater than 5%.
 - 3. Cross slopes of the landings of both roadways should be flattened so that the pedestrian crossing is ADA compliant.

3.3.1 Vertical Curves

- A. Vertical curves should be used when design grade breaks of more than 1% are necessary. Grade breaks may be allowable on the side street and would need to be approved by the City Engineer, depending on a lower road hierarchy.
- B. The minimum vertical curve length should be 50 feet for the mainline street and 20 feet for the side street approach.
- C. Vertical curves shall conform to the values in Table 3-3 and be calculated according to the formulas below. K-Sag values may be reduced to K-Crest values if adequate street lighting is present along the entire sag vertical curve.

$$K = L / A$$

where

A = algebraic difference in grades (percent)

L = length of vertical curve (feet)

Table 3-3: Design Control for Crest and Sag Vertical Curves

Design Speed (mph)	Minimum Rate of Vertical Curvature (K)	
	Crest	Sag*
15	3	10
20	7	17
25	12	26
30	19	37
35	29	49
40	44	64
45	61	79

*Values are for roadways where street lighting is not present. The City may accept a lower K value for sag vertical curves if the roadway design includes lighting. The Engineer of Record shall calculate for the minimum-length curve based on comfort ($L=AV^2/46.5$).

3.3.2 Cross Slope and Superelevation

- A. Roadway cross slope should be no less than 2.5% and no greater than 4%. If existing conditions require different cross slopes, approval by the City Engineer is required. Intersection grading requirements are shown in Section 3.4.1.5.
- B. Design elements for superelevation should be based on the AASHTO *Green Book*.
- C. Superelevation is not allowed on roadways with a design speed of 35 mph or less.
- D. The maximum rate of roadway superelevation for urban conditions should be 4% ($e_{\max} = 0.04$).
- E. The use of superelevation in the urban area is discouraged, and the City shall approve its use.
- F. Street grades, intersections, and superelevation transitions should be designed to prevent concentrations of stormwater from flowing across the travel lanes.
- G. On portland concrete cement (PCC) roadways with an odd number of lanes, the crown should be offset to a lane line to prevent locating a joint in the middle of a traffic lane.

3.4 INTERSECTIONS

The City uses various intersection control types based on the context and projected traffic volumes of the intersecting roadways.

Table 3-4 describes typical intersection control types. See Section 5.3 for additional guidance on analyzing and selecting the appropriate intersection control.

Table 3-4: Typical Intersection Control Types

Traffic Control/Intersection Form	Definitions
Two-Way Stop-Control (TWSC)	At TWSC intersections, the stop-controlled approaches are on the minor street, and the free-flowing approaches are on the major street. At TWSC intersections, drivers must find gaps in the major street traffic to make a turning or through movement. See the Oregon City Public Works <i>Stop Sign Brochure</i> for more information.
All-Way Stop-Control (AWSC)	AWSC intersections require every vehicle to stop at the intersection before making a turning or through movement. If other vehicles are present at the intersection, a driver may only proceed after determining that there are no other vehicles in the intersection and that it is their turn. See the Oregon City Public Works <i>Stop Sign Brochure</i> for more information.
Yield	A yield-controlled intersection requires vehicles to slow down and give way to all other traffic going through the intersection. If no other traffic is present at the intersection, a driver may slow down but not stop before entering the intersection.
Traffic signal	Traffic signals are electrically operated traffic control devices that indicate to roadway users when they may advance through the intersection. Traffic signals allow the shared use of road space by separating conflicting movements.
Roundabout	A roundabout is a generally circular intersection form that uses yield-controlled approaches for all legs of the intersection. Drivers must slow down prior to entering the roundabout and give way to vehicles that are in the roundabout.

3.4.1 Intersection Geometry

Intersection geometry outlines design guidance for the following elements:

- A. Design vehicle
- B. Tangent approach
- C. Curb radii
- D. Intersection angle
- E. Vertical geometry
- F. Sidewalk ramps
- G. Turn lanes
- H. Pedestrian refuge islands
- I. Roundabouts

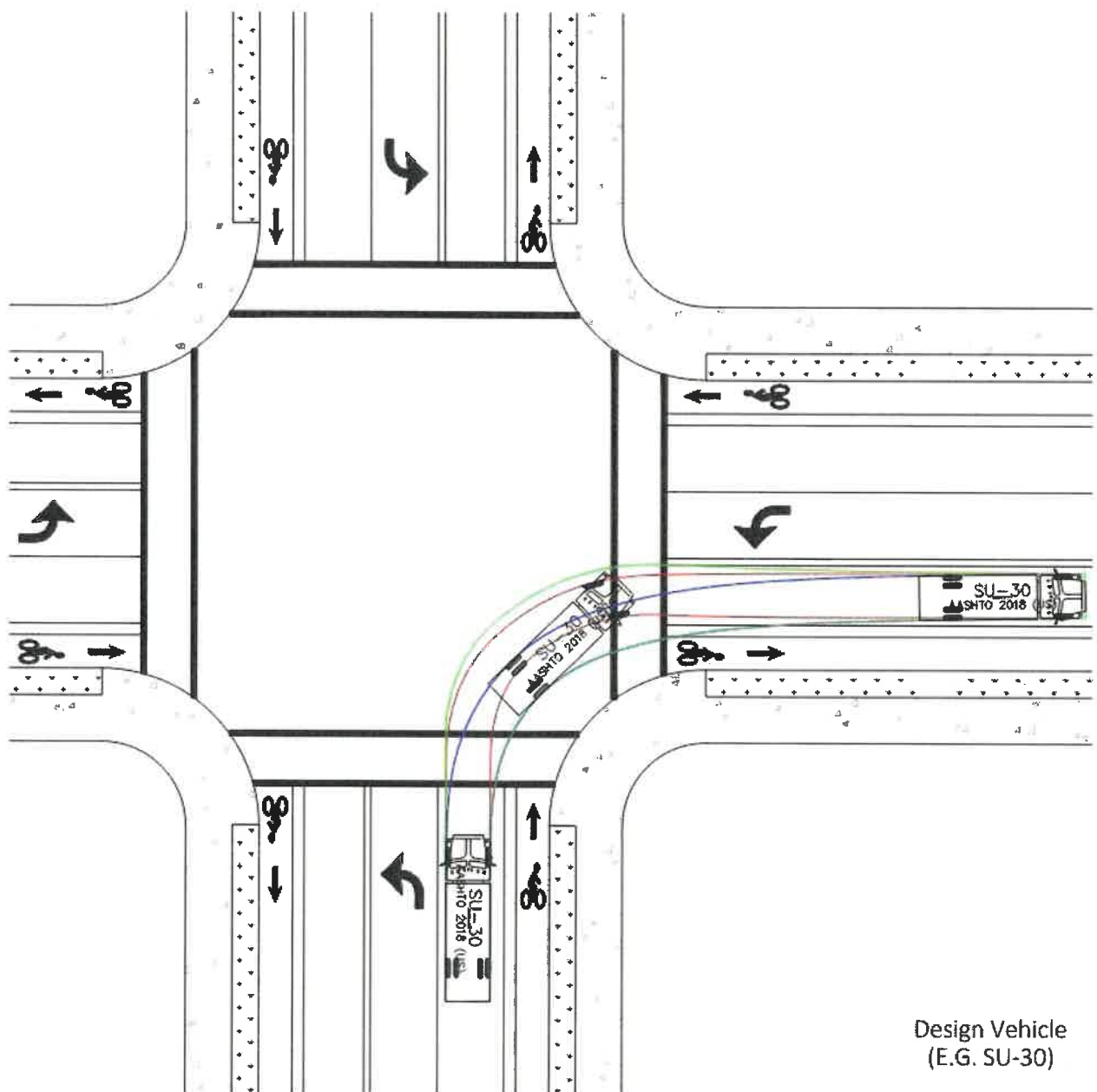
3.4.1.1 Design Vehicle

The Engineer of Record and/or City Project Manager shall determine the appropriate design and control vehicles for a facility. Definitions and information for both vehicles are provided below.

- A. **Design vehicle:** Frequently uses a facility and must be designed without encroaching into adjacent and opposing traffic lanes (e.g., turning lane to lane).
- B. **Control vehicle:** Infrequently uses a facility, but encroachment into opposing traffic lanes, multiple-point turns, or minor encroachment into the roadside is acceptable (e.g., using available pavement).
- C. The project may be required to provide evidence that the designs can accommodate both the design vehicle and the control vehicle.
- D. Functional classification, safety, and roadway use all play a role in determining the acceptability of lane encroachment by control vehicles. For example, on a local road, full lane encroachment by a control vehicle may be acceptable if sight distance is adequate. However, on a major arterial, such encroachment may not be permitted.
- E. In urban and constrained contexts, coordinate with the City Engineer to determine how trucks will be accommodated and/or designed for at intersections.

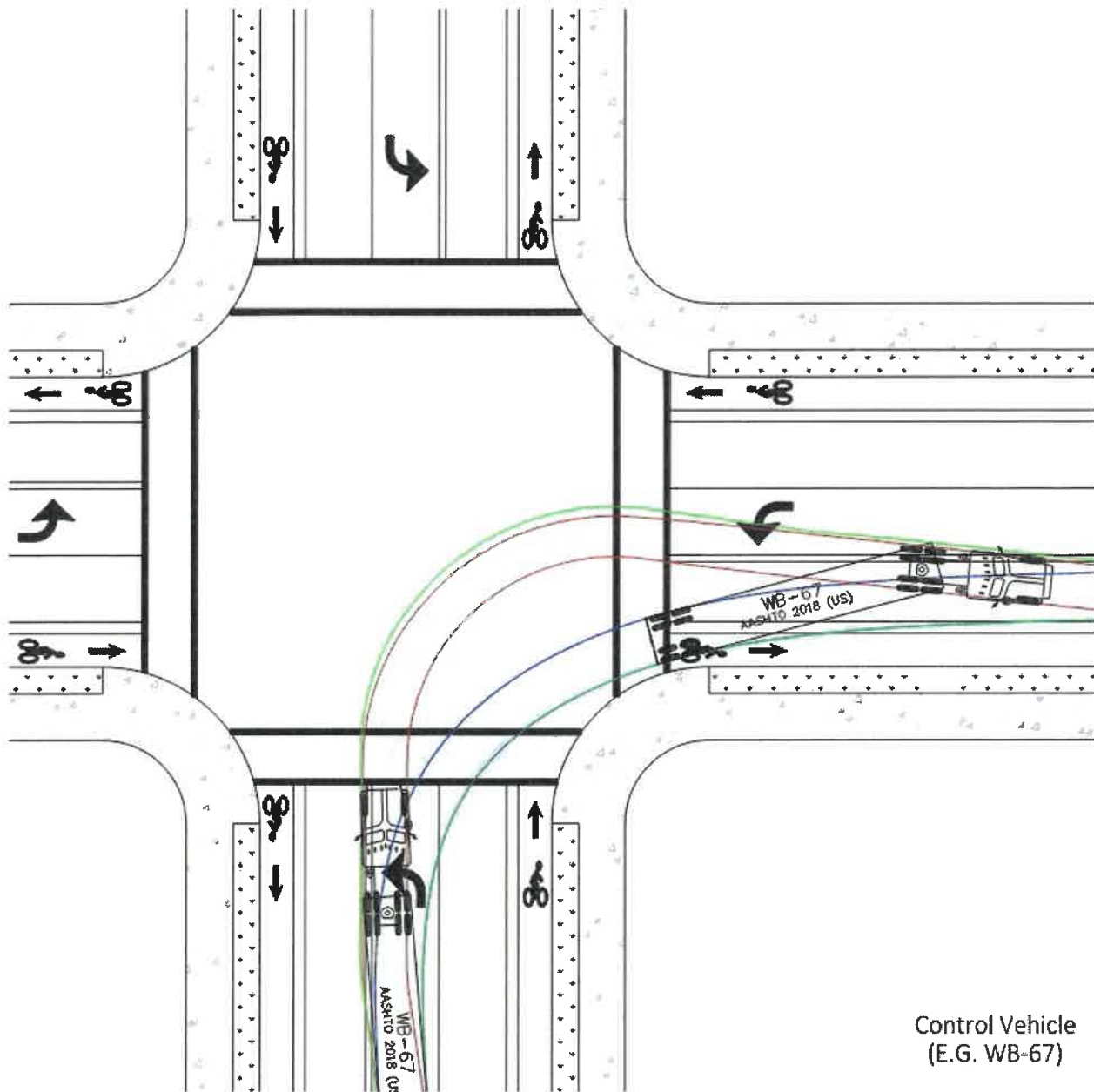
Figure 3-1a illustrates the path of a design vehicle. Figure 3-1b illustrates the path of a control vehicle.

Figure 3-1a: Design Vehicle Path



Design Vehicle
(E.G. SU-30)

Figure 3-1b: Control Vehicle Path



Control Vehicle
(E.G. WB-67)

3.4.1.2 Curb Radii

The minimum curb radii at intersections shown in Table 3-5 are for new roads. Larger curb radii may be required along designated truck routes based on an assessment of design vehicles; smaller curb radii may be allowable based on the land use context. Additional requirements for curb radii are described below.

- A. Verify that corner radii provide maneuverability for emergency response vehicles (refer to City Fire Code).

- B. Curb radii shall be approved by the City Engineer based on an assessment of design and control vehicle considerations as well as pedestrian and design speed considerations.
- C. The minimum right-of-way radii shall maintain at least the same distance from right-of-way to edge of pavement or curb as the lower classified roadway.
- D. In Table 3-5, if a designated bicycle lane or on-street parking exists on either intersecting roadway, then the initial radii may be reduced by 5 feet.

Table 3-5: Minimum Curb Radii

Major Roadway	Intersecting Roadway (ft)			
	Major Arterial	Minor Arterial	Collector	Local
Major Arterial	35'	35'	30'	25'
Minor Arterial	N/A	30'	30'	25'
Collector	N/A	N/A	25'	25'
Local	N/A	N/A	N/A	25'

3.4.1.3 Tangent Approach

To improve intersection safety, new intersections should conform to the tangent requirements of OCMC 16.12.020 unless otherwise approved by the City Engineer. Tangent sections are shown in Table 3-6.

Table 3-6: Tangent Sections

Major Roadway	Intersecting Roadway (ft)				
	Major Arterial	Minor Arterial	Collector	Local	Private Access
Major Arterial	100'	100'	100'	100'	100'
Minor Arterial	N/A	100'	100'	100'	100'
Collector	N/A	N/A	100'	50'	50'
Local	N/A	N/A	N/A	50'	50'

3.4.1.4 Intersection Angle

The intersection angle at intersecting roadways shall be as close to 90 degrees as possible. Intersection angles from 80 degrees to 100 degrees may be considered if approved by the City Engineer. Intersections with a skew angle of more than 10 degrees from a right angle are not allowed unless a design modification is prepared and approved by the City Engineer.

3.4.1.5 Vertical Geometry

At stop-controlled intersections, the crown of the major (higher classification) street shall continue through the intersection. The cross slope of the minor street shall flatten to match the longitudinal grade of the major street. A grade break of 5% or less may be allowed in the profile of the minor street as it crosses the crown of the major street. At intersections where both streets have the same functional classification, the City will either determine the controlling roadway or require the intersection to be designed accordingly.

At signalized intersections—and at intersections that may be signalized in the future—the cross slope of the major roadway should be such that the profiles of both roadways are flattened to a cross slope of 0.5%. This creates a 1% grade for the opposing through traffic rather than a 5% grade break (2.5% normal crown).

At intersections, the cross-slope of both roadways should be flattened so that the pedestrian crossing is ADA compliant. Intersection landings shall be provided according to Section 3.3.

3.4.1.6 Sidewalk Ramps

Sidewalk ramps (detailed in the list below) shall be provided for all directions at each corner of every intersection unless pedestrian safety concerns warrant a crosswalk closure, which the City Engineer must approve.

- A. Each street corner shall provide two directional ramps. At T intersections, the crossbar of the “T” should have two crossings equipped with ramps. All T intersections should have at least six ramps, with two ramps on each corner of the intersection. See Figure 3-2.
- B. Sidewalk ramps shall be designed according to Std. Dwg. OC509.
- C. See current ODOT Standard Drawings for additional ramp details. Figure 3-3 provides an example.
- D. See Section 5.8.1 for information about stamped street names.
- E. Sidewalk ramps shall be a minimum of 5 feet in width and designed and/or constructed according to ADA and PROWAG requirements.
- F. All existing sidewalk ramps abutting a street overlay or pavement reconstruction project shall comply with ADA requirements for sidewalk ramps.
- G. All crossings protected by a traffic signal shall have marked crosswalks. Marked crosswalks may be provided at other locations only when approved by the City Engineer based on a pedestrian crossing assessment.
- H. Ramps located within marked crossings shall be within the striped width of the crosswalk, excluding the flared wings.
- I. Where a crossing is not feasible due to topographical or safety concerns, the crossing can be closed through the approval of the City Engineer. Elimination of a crossing shall not conflict with ADA requirements. When a crossing is eliminated, alternative pedestrian routes with minimal out-of-direction travel should be provided.

Figure 3-2: Sidewalk Ramps at T Intersections

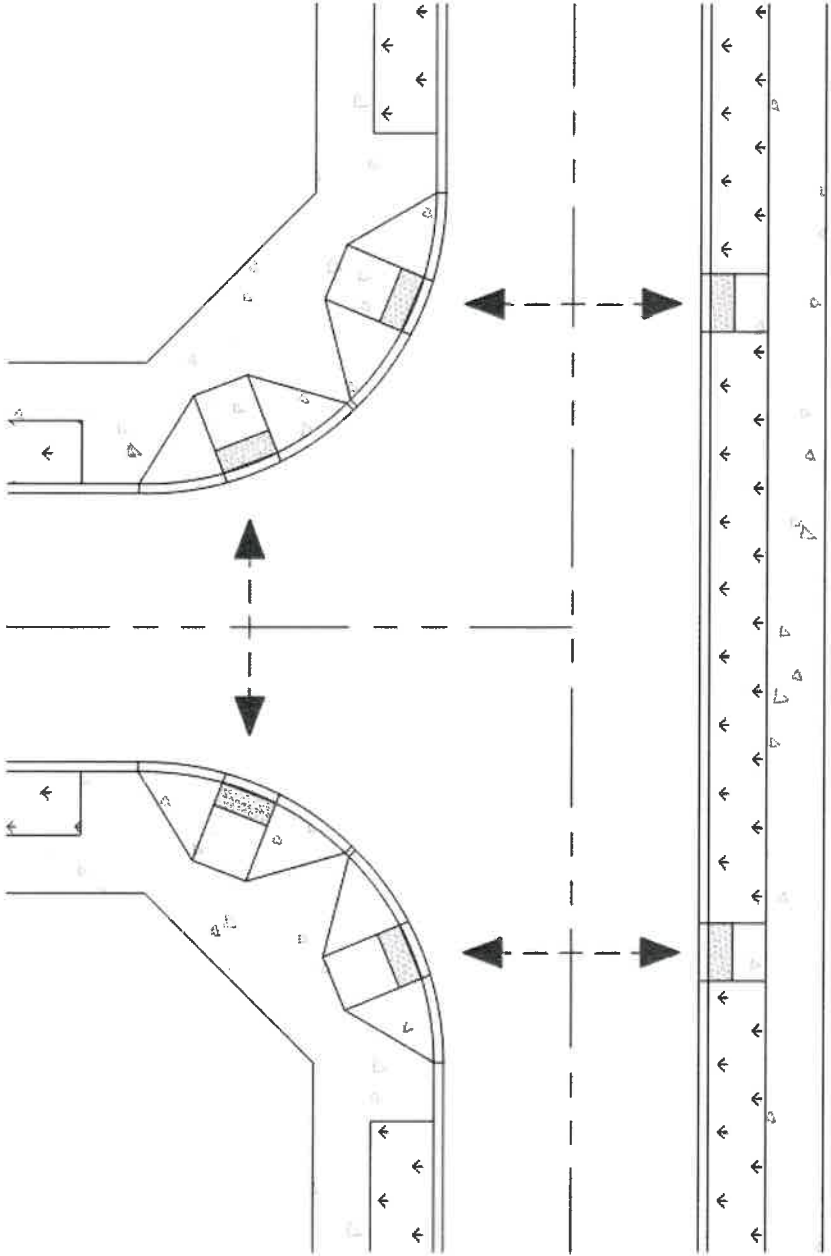
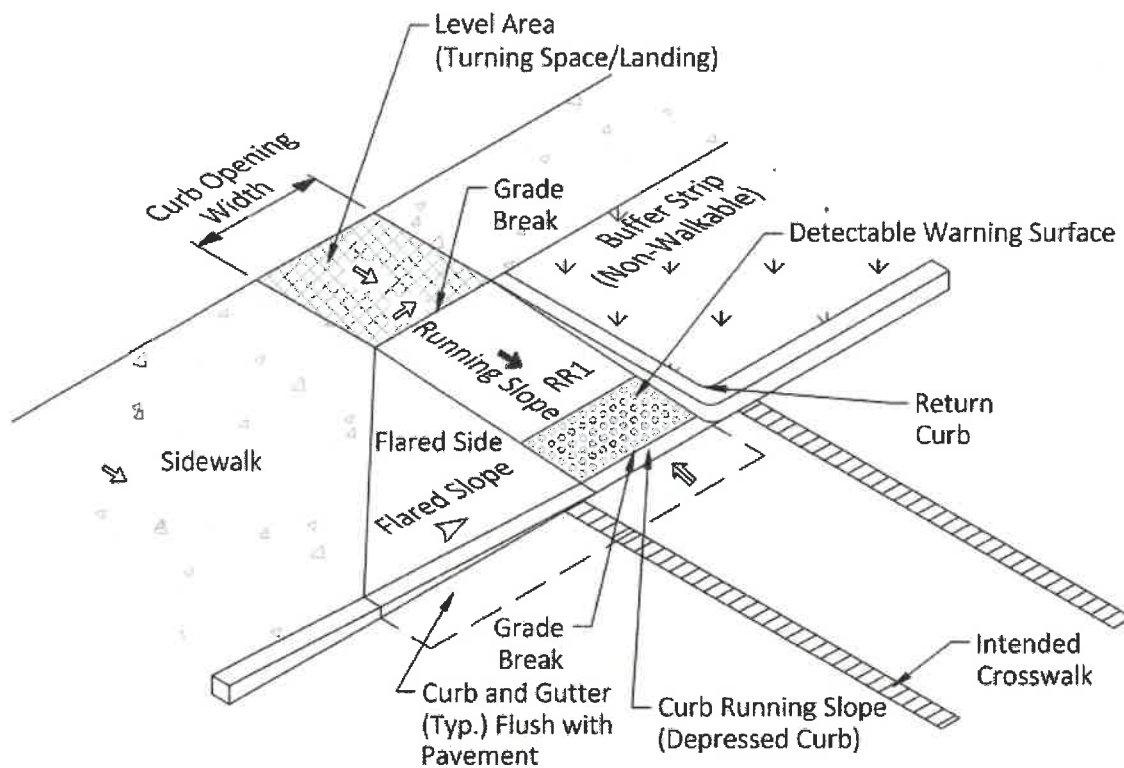


Figure 3-3: Example Ramp Details



3.4.1.7 Turn Lanes

The need for left- or right-turn lanes shall be based on a traffic operational analysis, such as a traffic impact analysis (TIA) (see Section 5.2.1), and/or as dictated by the Oregon City TSP or City Capital Improvement Program (CIP). The following general rules apply:

- A. Queue storage estimates shall be based upon a traffic operational analysis.
- B. Left-turn lanes, when provided, shall have a storage queue of at least 50 feet.
- C. Left- or right-turn lanes shall be based on ODOT's *Highway Design Manual*.

3.4.1.8 Pedestrian Refuge Islands

Medians that are crossed by a pedestrian access route and accessible route islands shall comply with ADA requirements as identified in Oregon City ADA Design Review Checklist—Medians/Traffic Islands (See Appendix C) and depicted in Oregon Standard Drawing RD710.

3.4.1.9 Roundabouts

Roundabout geometric design requires balancing design objectives with design flexibility to achieve multimodal planning and design objectives. When their geometric features promote slow entering and circulating speeds, roundabouts have fewer and less severe collisions. Undesirable roundabout geometry negatively influences roundabout operations by affecting driver lane choice and behavior through the roundabout.

A roundabout's basic form and features are influenced by location, desired capacity, available space, required lane numbers and arrangements, design vehicle, and other geometric attributes unique to each site. Design outcomes depend on the surrounding context and associated speed environment. Compared to other contexts, rural environments may have high approach speeds and low bicycle and pedestrian use. In urban environments, where bicycle and pedestrian safety is a primary concern, roundabouts typically have significantly different design objectives.

Many design techniques are substantially different for single-lane roundabouts than for multilane roundabouts with two or more lanes. Roundabouts in unique, low-volume/speed, or constrained reconstruction locations may include combinations of traversable and non-traversable features, including splitter islands and central islands. These configurations may require special consideration compared to roundabouts with non-traversable central island features.

Roundabout design is an iterative process that must consider and balance a variety of design objectives while working within site-specific constraints. Optimizing roundabout operational performance and maximizing safety require customizing a design rather than relying on a design template.

Roundabout intersections shall be designed according to *NCHRP Report 672 Roundabouts: An Informational Guide*. Roundabout consideration per Section 5.3 should happen before the approval of a traffic signal.

Roundabouts with pedestrian facilities shall comply with ADA requirements as identified in PROWAG Section R306.3. Additional guidance on pedestrian crossings at roundabouts can be found in *NCHRP Report 834: Crossing Solutions at Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities*.

3.5 SIGHT DISTANCE

Sight distance shall be determined and approved according to the procedures in the current AASHTO *Green Book* or AASHTO's *Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)*. The OCMC includes additional guidance as noted in the following sections.

3.5.1 Intersection Sight Distance

Intersection sight distance (ISD) should be evaluated according to OCMC 10.32. This applies to the design of new streets and driveways as well as to the placement of any object located within or behind the public right-of-way. ISD must comply with the following guidelines:

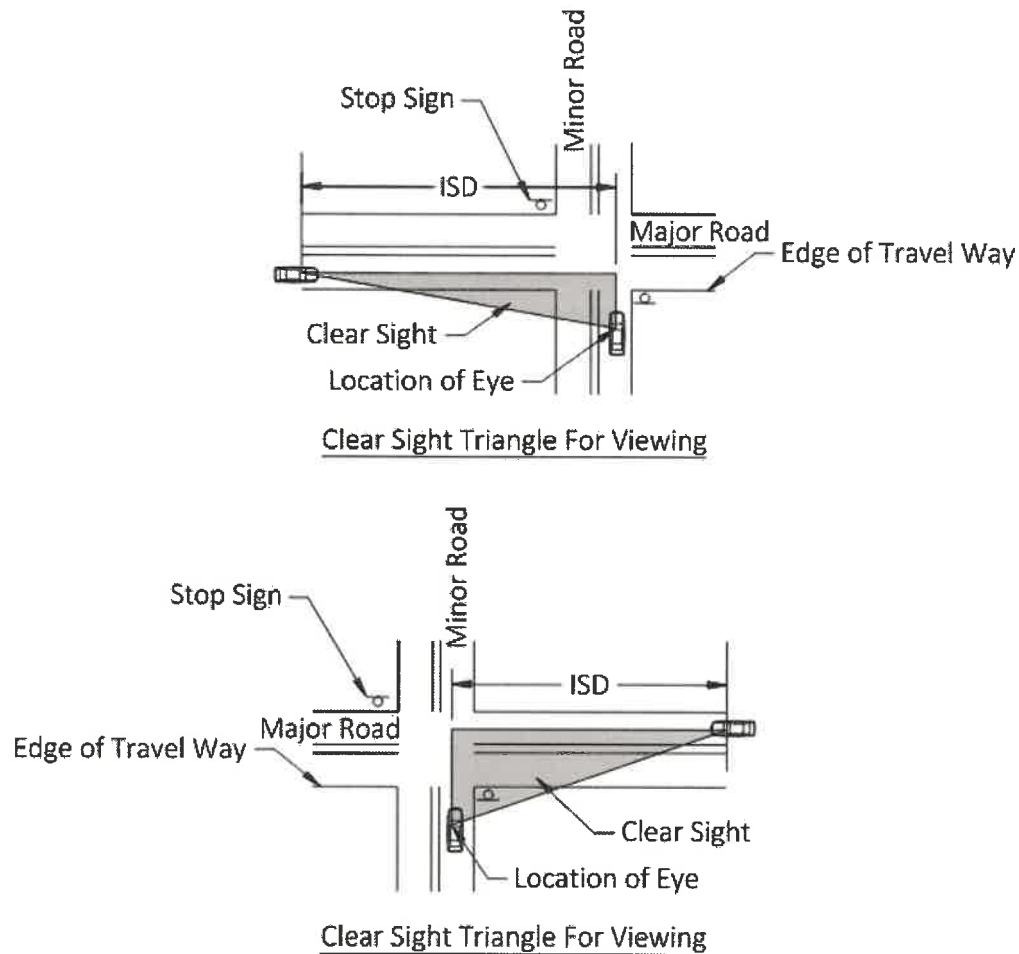
- A. No object taller than 36 inches or plant capable of growing taller than 36 inches is permitted within a sight clearance area. Poles, tree trunks, and similar objects less than 12 inches in diameter may be allowed in the sight clearance area if it can be proven that such obstructions do not prevent the continuous view of the vehicle approaching the intersecting street.
- B. Tree locations should be verified so they do not obstruct visibility of signing. Trees that obstruct signing should be removed or located elsewhere.
 - 1. Maintain existing street tree and tree-sized shrubs located within or overhanging the public right-of-way or visual clearance zone by trimming to a minimum of 8 feet above ground level per OCMC 10.32.030.

2. Existing trees or tree-size shrubs located within or overhanging the public right-of-way shall be kept trimmed to a minimum of 10 feet above local streets or alleys.
 3. Existing trees or tree-size shrubs located within or overhanging the public right-of-way shall be kept trimmed to a minimum of 12 feet above collectors and arterials.
 4. Trees shall be maintained following OCMC 12.08.025.
- C. Adjacent property owners are required to maintain adequate sight distance at intersections and driveways.
- D. ISD is measured from a point on the centerline of the minor road/driveway 14.5 feet from the edge of traveled way of the major road. It is measured from a height of 3.75 feet on the minor road to an object height of 4.5 feet on the major road.
- E. The required ISD is based on the posted speed limit of the major road (shown in Table 3-7 and Figure 3-4).

Table 3-7: Intersection Sight Distance

Intersection Sight Distance	
Posted Speed Limit (mph)	Required Sight Distance (ft)
25	250'
30	300'
35	350'
40	400'
45	450'

Figure 3-4: Intersection Sight Triangles



3.5.2 Stopping Sight Distance

Stopping sight distance (SSD) must be evaluated at horizontal and vertical curves, intersections, crosswalks, and any other scenario where a driver's view of the roadway ahead may be skewed. Sight line easements must meet SSD requirements. SSD must be evaluated per the most current AASHTO *Green Book*.

3.6 ROADSIDE CLEARANCE

A roadside clearance shall be provided on all street improvement projects according to guidance for urban areas in the most recent AASHTO *Roadside Design Guide*. The designer should follow the AASHTO *Roadside Design Guide* and key topics below.

- A. No fixed object (e.g., new light pole, utility pole, street furniture, trash can, or artwork) can be closer than 2 feet to face of curb.
- B. At street corners, no fixed object should be taller than 3 feet to maintain vision sight triangles.

- C. Sign placement should follow City Standard Drawings, with a 6-inch clearance between the face of curb and the edge of the sign.
- D. Mailboxes within the clear sight area must be constructed according to Std. Dwg. OC519.

3.7 TRAFFIC CALMING

The ODOT *Blueprint for Urban Design*, Section 3.2.4, explains how to achieve target speeds on highways within urban areas. Several traffic calming design treatments may be appropriate based on the context of the road. The City Engineer must approve all treatments. Coordination with emergency providers, transit agencies, Oregon City School District, and the Clackamas Fire District #1 needs to occur before traffic calming treatments are installed to confirm potential impacts to emergency and transit routes.

Traffic calming refers to street design techniques that recreate safe, slow, residential, and mixed-use streets without significantly changing vehicle capacity. The goal is to mitigate the impacts of traffic on neighborhoods and business districts that need greater balance between safety and mobility. Traffic calming seeks to influence driver behavior through physical and psychological means, resulting in lower vehicle speeds or through traffic volumes. Physical traffic calming techniques outlined in the Oregon City TSP include but are not limited to:

- A. Narrowing the street by providing curb extensions/bulb-outs or midblock pedestrian refuge islands.
- B. Deflecting the vehicle path vertically by installing speed humps, speed tables, or raised intersections (refer to Std. Dwg. OC528).
- C. Deflecting the vehicle path horizontally with chicanes or roundabouts.
- D. Narrowing travel lanes and providing visual cues (e.g., buildings, street trees, on-street parking, or landscaping) next to the street to create a sense of enclosure that prompts drivers to intuitively reduce vehicle speeds.

The Oregon City Neighborhood Traffic Fact Sheet outlines additional traffic calming techniques and weighs the benefits and drawbacks of each.

3.8 CUL-DE-SACS, EYEBROWS, AND OTHER DEAD-END ROAD TREATMENTS

As outlined in OCMC 16.12.025, the City discourages the use of cul-de-sacs, eyebrows, hammerheads, and permanent dead-end streets. These treatments should only be considered if construction of a through street is found to be impracticable due to topography or some significant physical constraints, such as geologic hazards; wetland, natural, or historic resource areas; pre-existing dedicated open space; pre-existing development patterns; or arterial access restrictions. If one of these treatment options is deemed necessary based on discussions with the City, general requirements include:

- A. At dead ends, a cul-de-sac must be constructed per Std. Dwg. OC503. Cul-de-sacs must have a turnaround radius of 48 feet. If a constrained section has been approved, a 41-foot turnaround may also be approved. Refer to OCMC 16.12.025 for additional details and requirements.
- B. Temporary dead ends on roads with planned future extensions must have an end-of-roadway marker per Std. Dwg. OC525. The City Engineer can approve street barricades (per Std. Dwg. OC512) in place of an end-of-roadway marker on local streets.

- C. Eyebrow corners may be constructed on new local streets per Std. Dwg. OC518. Stopping sight distance must be evaluated at all new eyebrow corners, and sight-line easements may be required.
- D. Hammerheads are only allowed on Private Streets.

If these requirements cannot be obtained due to constraints, then approval from the City Engineer is required through the design modification process. Section 3.11 provides additional requirements for street design features based on required access for fire apparatuses.

3.9 DRIVEWAYS

Driveways must meet the requirements in OCMC 16.12.035 and be constructed per Std. Dwg. OC504-OC506. This section provides a starting point for designers considering driveways and is not exhaustive of all information. Minimum driveway spacing is determined by the functional classification of the road (shown Table 3-8). Minimum and maximum driveway widths are determined by the property zoning (shown in Table 3-9). All new and replaced driveways must meet ADA and PROWAG requirements for accessibility. As more types of housing and styles of development change over time, OCMC 16.12.035 shall take precedence if any conflict exists. These charts are provided only as reference guides which mirror City Code at the time of adoption.

Table 3-8: Driveway Spacing Standards

Street Functional Classification	Minimum Driveway Spacing Standards	Distance (ft)
Major Arterial	Minimum distance from a street corner to a driveway and between driveways for all uses other than detached single- and two-family dwellings.	175'
Minor Arterial	Minimum distance from a street corner to a driveway and between driveways for all uses other than detached single- and two-family dwellings.	175'
Collector	Minimum distance from a street corner to a driveway and between driveways for all uses other than detached single- and two-family dwellings.	100'
Local	Minimum distance from a street corner to a driveway and between driveways for all uses other than detached single- and two-family dwellings.	25'

Table 3-9: Driveway Approach Widths

Property Use	Minimum Driveway Approach Width (ft)	Maximum Driveway Approach Width (ft)
Single family	10'	24'
Duplex	10'	24'
3- or 4-plex	10'	36'
Multifamily	18'	30'
Commercial, industrial, office, institutional, mixed-use, and/or nonresidential	One-way: 12' Two-way: 20'	40'

3.10 ALLEYS

Alleys are only allowed if required by an Oregon City Concept Plan. Alleys must be private.

3.11 PRIVATE STREETS

In certain circumstances, creating a private roadway may be permitted if it is the only reasonable way to provide access that minimizes impact to the proposed lots or parcels. Requirements for private streets include:

- A. Design and construction of a private roadway widths, cross section, and design speed must be consistent with the design standards for public roads classified as local streets, except as noted in these *Standards* (Section 3.0).
- B. All private streets must meet ADA accessibility standards; sidewalks and sidewalk ramps on private streets must be designed accordingly.
- C. The City will not be responsible for maintaining private roads. Formal maintenance agreements or equivalents should be established to ensure private responsibility for future maintenance.
- D. Private streets and their respective easements must be distinguished from public roadways. Any reservations, restrictions, and maintenance agreements related to the created private roadways must be described in the land division plat or deed records.
- E. The Engineer of Record and/or City Project Manager must consider utilities and roadway drainage.
- F. Private streets must also comply with Fire Code for load and fire apparatus access requirements if they are designated fire apparatus access roads. See Section 3.11 for additional information on fire standards.
- G. Documents defining ownership, use rights, and allocation for liability for maintenance of private streets must be submitted to the City before or in conjunction with final public facility permit approval.
- H. A blue street name sign must be posted at each private street entrance from a public street per OC521-522.

3.12 FIRE STANDARDS

City streets shall be designed and constructed based on the information presented in the 2022 Oregon Fire Code (OFC), which is based on the 2021 International Fire Code, or most recent code if a newer one exists. City amendments to the Oregon Fire Code are outlined in OCMC 15.40.030. Oregon City is located within Clackamas Fire District #1. Additional resources for the design of access roads, fire flow requirements, and hydrant placement include:

- A. *The Fire Code Applications Guide*
- B. Appendix D of the Oregon Fire Code
- C. Clackamasfire.com

If the guidance in this section cannot be achieved, then a design modification is required for approval by City Engineer.

3.12.1 Roadway Cross Section for Fire Apparatus

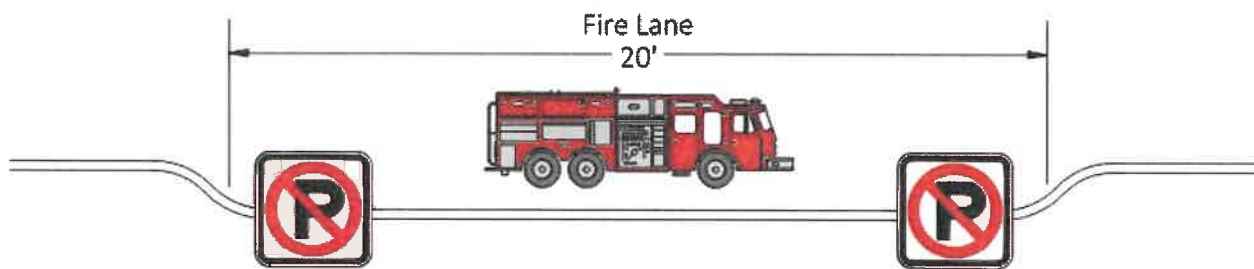
Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles, “No Parking” signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Table 3-10 and Figure 3-5 provide the appropriate guidance.

Table 3-10: Roadway Cross Section for Fire Apparatus

Roadway Paved Width	On-Street Parking
26 ft or less	None
26–32 ft	One side
32 ft or more	Both sides

Figure 3-5: Guidance for Fire Apparatus

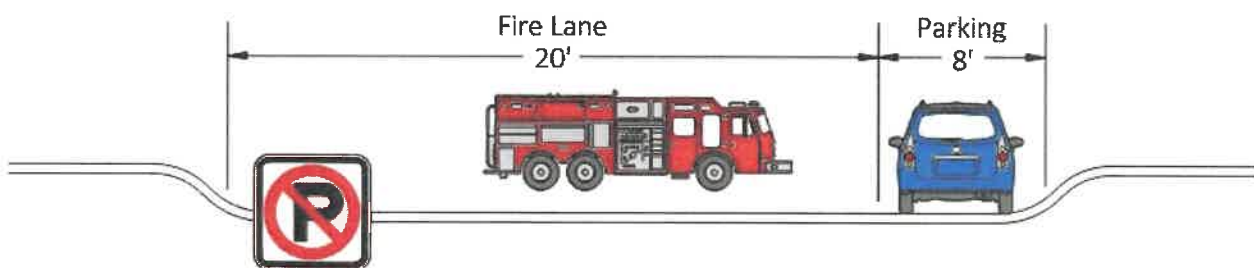
Fire Apparatus Access Road Width



Roadway no less than 26'

For Existing Fire Access Roadways, the Minimum Street Width Shall be 20 Feet, With No Parking on Either Side. The Width Shall be Increased to 26 Feet Within 30 Feet of a Hydrant, No Vehicle Parking Allowed.

*Parking is Prohibited and Roadway is Required to be Posted as a Fire Lane.



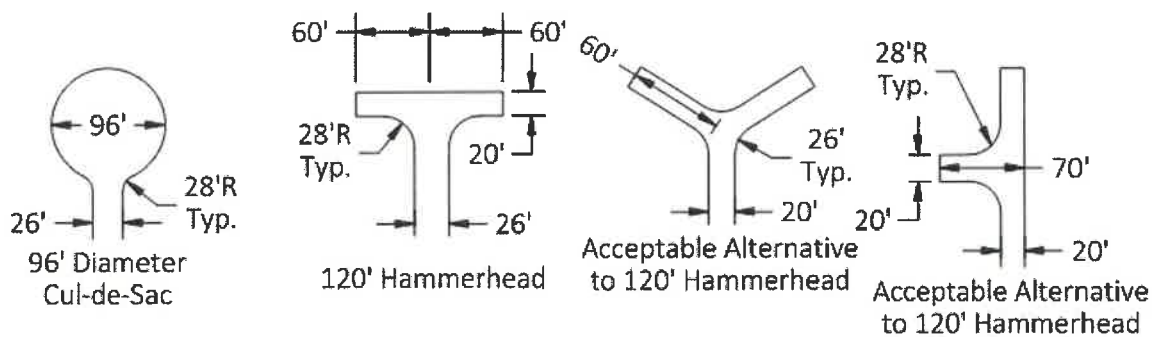
3.12.2 Fire Access Slope

Based on the Oregon Fire Code, Appendix D, D103.2 Grade, fire apparatus access roads shall not exceed 12% in grade, with up to 15% allowed if sprinklers are installed, unless it is approved by the Clackamas Fire District #1 Fire Chief. Intersections and turnarounds have a maximum grade of 5%. OCMC 16.12 provides additional information.

3.12.3 Dead-End Roads and Turnouts

Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround. Dead-end fire apparatus access roads in excess of 500 feet in length shall have a driving surface width of no less than 26 feet. Diagrams of approved turnarounds are shown in Figure 3-6 and OFC 503.2.5.

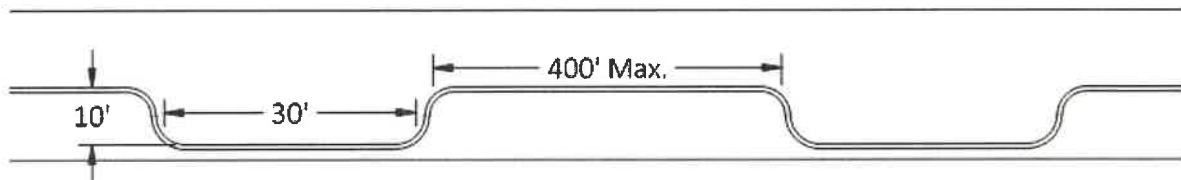
Figure 3-6: Dead End Roads



Source: Fire Code Applications Guide

When any fire apparatus access road exceeds 400 feet in length, turnouts 10 feet wide and 30 feet long shall be provided in addition to the required road width and shall be placed no more than 400 feet apart, unless otherwise approved by the City. These distances may be adjusted based on visibility and sight distances. Figure 3-7 provides a diagram of a turnout.

Figure 3-7: Turnouts



Source: Fire Code Applications Guide

4.0 MULTIMODAL DESIGN

All streets within the City should be multimodal to serve a range of needs for all street users, including pedestrians, bicycles, motor vehicles, transit, and freight. The adjacent land use and context, functional classification, and street network connectivity can influence the street design and how the transportation system serves each user. To account for this, Oregon City classified the street system into a hierarchy organized by function and street type. These classifications ensure that streets reflect the neighborhoods through which they pass and that they consist of a scale and design appropriate to the character of the abutting properties and land uses. The classifications also provide for and balance the needs of all travel modes, including people walking, biking, using transit, driving, and moving goods. Within these street classifications, context-sensitive design may result in alternative cross sections. The Oregon City multimodal street system is further described in the Oregon City TSP.

Chapter 4 outlines the standards for multimodal design, and the following sections discuss design guidance and standards for each travel mode.

4.1 PEDESTRIAN DESIGN

All pedestrian improvements shall comply with the PROWAG standards for a pedestrian access route. The specific provisions of the PROWAG standards for pedestrian access routes can be found in the Clackamas County ADA Design Review Checklist—Sidewalk/Multiuse Path (see Appendix C). The Oregon City TSP provides a map for future pedestrian connectivity planned throughout the City. Additional requirements for pedestrian design in the public right-of-way are described below.

- A. Pedestrian facilities are required on both sides of all City streets per City Code and policies. Pedestrian facilities may include sidewalks and/or a shared-use path.
- B. If right-of-way or public easement is adequate, the development is required to connect new pedestrian facilities to existing facilities that are terminated midblock and are within 15 feet of the proposed pedestrian facility. This includes associated improvements, such as curb, drainage, and landscaping.
- C. Minimum widths for sidewalks shall be per OCMC 16.12.016, Oregon City Concept Plans, or other adopted plans.
- D. Shared-use paths are allowed as an alternative or in addition to sidewalks (see Section 4.3).
- E. All pedestrian facilities should be located adjacent to a landscape strip or other physical buffer from vehicular traffic unless otherwise approved. See Chapter 10 for more information on landscape design.
- F. All roadway improvements, including sidewalks and shared-use paths, should be constructed within the public right-of-way. Sidewalks and shared-use paths may be located within a public easement if approved.
- G. Refer to Chapter 3: Geometric Design for additional details regarding horizontal and vertical clearance and curb ramps.

4.1.1 Pedestrian Crossings

The ODOT *Blueprint for Urban Design* (Chapter 3, Table 3-9) provides target pedestrian crossing spacing that depends on the context classification identified for ODOT urban roadways. A range, rather than a single target, offers flexibility for practitioners to make decisions based on roadway network characteristics (e.g., frequency and spacing of intersections), pedestrian destinations (e.g., transit stops), and a cluster of land uses.

4.1.1.1 Mid-Block Crossings

Marked midblock crosswalks may be considered in the following cases and may be provided if justified per the MUTCD:

- A. On arterial or collector roadways with a posted speed of 35 mph or less where existing intersections, proposed intersections, or existing crossing opportunities are more than 330 feet apart.
- B. In locations with existing or anticipated moderate-to-high pedestrian volumes.

Midblock crosswalks should be generally pursuant to the recommendations of Institute of Transportation Engineers (ITE) *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice*. They should be designed and constructed with the following features:

- A. A raised concrete median when crossing three or more lanes of traffic.
- B. Curb ramps meeting ADA requirements—curb ramps on both sides of the street per these *Standards* (see Appendix C).
- C. Curb extensions in areas where on-street parking lanes are present to enhance pedestrian visibility.

The ODOT *Traffic Manual* provides guidance and criteria to determine the appropriate treatment at crosswalk locations based on the number of lanes, refuge island, average annual daily traffic (AADT), and posted speed.

An engineering study documenting the need, location, and proposed treatment for the crossing should be prepared for approval by the City Engineer.

4.2 BICYCLE DESIGN

Encouraging and accommodating bicycles as a transportation mode is a priority for the City. Appropriate bicycle facilities need to be evaluated and included early in project planning and development. The ODOT *Blueprint for Urban Design* (Chapter 3) provides additional information on bicycle facility selection, and the approach is based on FHWA's *Bikeway Selection Guide*.

The ODOT *Blueprint for Urban Design* provides guidance on bicycle facility selection and how it relates to the context classification identified for ODOT urban roadways. It outlines a selection process, provides a tier identification matrix based on volume and speed, and recommends preferred bicycle facility design for the respective context classifications.

Bicycle facilities are required on all City streets classified as collector streets or higher. The standard bicycle lane width is 6 feet based on the City Code. However, when possible, it is desirable on collectors and arterials to have on-street buffered bicycle lanes (6-foot bicycle lane with a 2-foot buffer). Separated bicycle facilities may be necessary in higher-speed environments to improve bicyclists' safety and comfort. The minimum bicycle facility

requirement is on-street buffered bicycle lanes, but the preferred solution is to provide separated bicycle facilities. Alternative applications may include raised bicycle facilities or shared-use paths. Refer to Oregon City area-specific planning documents for guidance. For alternative bicycle facility design, refer to FHWA's *Separated Bike Lane Planning and Design Guide*. See Table 3-1 for additional information.

Refer to Std. Dwg. OC529 and OC529A for additional design details.

The Oregon City TSP provides a map for bicycle routes and connectivity planned throughout the City.

4.3 SHARED-USE PATHS

Shared-use paths may be allowed as an alternative or in addition to sidewalk and separated bicycle facilities in constrained environments that require City Engineer approval. The Oregon City Trails Master Plan outlines design guidance for regional community and local trails, including information about shared-use paths for each type of trail. The location of various trails is provided in the Trails Master Plan Map. Integrating shared-use paths can affect the overall street cross section. The Trails Master Plan identifies the path widths depending on the type of trail. The required shared-use path width varies depending on the facility's anticipated use and topography, preservation of significant trees, safety, and right-of-way. Deviation from the cross section identified in the Trails Master Plan must be processed through the modification process. Deviation from the routes identified in the Trails Master Plan must also be processed through the modification process, and the modification request shall include a shadow plat demonstrating how the path will extend through adjacent properties.

The Oregon City TSP provides a map of shared-use paths for existing and future connectivity throughout the City.

Shared-use paths are also identified as "public off-street pedestrian and bicycle accessways" in the OCMC. Pedestrian and bicycle accessways are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding 330 feet of frontage, or where the lack of street continuity creates inconvenient or out-of-direction travel patterns for local pedestrian or bicycle trips. Such paths must meet OCMC 16.12.032 requirements.

In some cases, a single path can be implemented to meet the intents and/or requirements of The Trails Master Plan, Oregon City TSP, and OCMC 16.12.032.

4.4 ALTERNATIVE TRANSPORTATION MODES

Alternative transportation modes include micromobility technology, such as e-bicycles, e-scooters, and other modes beyond driving motor vehicles and freight, riding transit, walking, and bicycling. Alternative transportation modes should be considered when planning and designing roadways as emerging technology and new modes become more widely used on the transportation system. Project teams should collaborate and obtain approval from the City Engineer to determine the appropriate place for each user. For example, micromobility technologies, such as e-bicycles and e-scooters, should be planned and designed in coordination with current bicycle facilities.

4.5 TRANSIT

Oregon City is served by TriMet, ClackCo Connector Shuttle, Canby Area Transit (CAT), and South Clackamas Transportation District (SCTD). This section describes information on their specific routes and connections. The TriMet *Bus Stops Guidelines* provides guidance and criteria to plan and design bus stops that are easily

identifiable, safe, accessible, and comfortable to wait for and access a bus. The Metro *Designing Livable Streets and Trails Guide* provides guidance for transit stop placement, transit stop and bikeway design configurations, and transit priority treatments.

Transit streets are defined in the OCMC 17.04.1310. Pedestrian/bicycle accessways must minimize the travel distance to transit streets and stops as well as neighborhood activity centers (Refer to Sections 4.1 and 4.2 for design related information for pedestrians and bicycles, respectively.) The City Engineer may require provisions, including easements, for transit facilities along transit streets where a need for bus stops, bus pullouts, or other transit facilities within or adjacent to the development have been identified. The Oregon City TSP outlines lane widths for streets on transit routes based on the optimum street design information.

4.5.1 General Requirements

- A. All transit stops, shelters, and associated appurtenances must be designed and constructed per the PROWAG.
- B. Placement of waste receptacles, signs, seating, or any other appurtenance must not infringe on an ADA area or the pedestrian access route, as defined by R302 of PROWAG. Placement also must not compromise direct access between the ADA waiting area and the ADA landing area or access between either ADA area and the sidewalk.
- C. Any installation of transit stops, shelters, or associated appurtenances requires approval from the transit agencies prior to obtaining approval from the City Engineer. TriMet should be contacted (Development_Review@trimet.org) to confirm improvements to transit stops and shelters. The design and bus zone needs are customized at each location depending upon service levels, amenities, number of routes, ridership, and turning movements.
- D. Before installation, the project must evaluate transit stops, shelters, and associated appurtenances for adequate sight distance.

4.5.2 ADA Landing Area Requirements

- A. ADA landing areas shall provide a minimum clear length of 8 feet (measured perpendicular to the curb) and a minimum clear width of 5 feet (measured parallel to the roadway).
- B. Where rear-door ADA landing areas are provided, they shall comply with this section.
- C. Parallel to the roadway, the grade of ADA landing areas shall be the same as the roadway. Perpendicular to the roadway, the designed grade of ADA landing areas shall be 1.5% or less.
- D. ADA landing areas shall connect to streets, sidewalks, or pedestrian circulation paths by ADA-accessible pedestrian access routes.

4.5.3 Transit Stop Clearances

All transit stops must meet the standard clearance requirements shown in Table 4-1.

Table 4-1: Transit Stop Clearance Requirements

Description	Requirement
Sidewalk clearance	Minimum of 5.0 ft of sidewalk clearance.
Accessible pathway	Minimum of 5.0 ft wide paths between shelter and any utility object.
Road clearance	2.5 ft minimum clearance between shelter and edge of curb, assuming pedestrian walking path is behind the shelter.
ADA landing area	See Subsection 4.5.2.

4.5.4 Transit Shelters

Transit shelter placement and orientation must provide the following:

- A. 5 feet of pedestrian pass-by, including clearance between poles, hydrants, and other obstacles.
- B. An ADA landing area adjacent to the bus stop sign and outside of the shelter.
- C. A clear pathway from the ADA waiting area inside the shelter to the ADA landing area.
- D. A clear pathway from the rear door landing area to the pedestrian access route.
- E. Interior lighting at the shelter for passenger visibility and security.

Transit shelters must meet the clearance requirements shown in Table 4-2.

Table 4-2: Transit Shelter Clearance Requirements

Description	Requirement
ADA waiting areas in shelters	A minimum of 2.5 ft × 4.0 ft space must be kept clear for a mandatory waiting area to accommodate mobility devices.
Visibility	Shelter must not block motorists' or pedestrians' lines of sight.
Building clearance	Minimum 12 inches from buildings, fences, and other structures to the bus shelter in order to allow room for maintenance.
Relation to bus stop	Shelter shall be within 25 ft of the ADA landing Area.
Sight distance	The shelter shall be placed so that the passengers waiting in the shelter can see approaching vehicles.

4.5.5 Transit Stop Seating

- A. Benches or seats must not be placed closer than 3.5 feet from the curb or 6 feet from the curb when a travel lane exists immediately adjacent to the curb.
- B. Clearance requirements for shelters apply to seating.
- C. Seating must be oriented toward the roadway or in the direction of approaching traffic.
- D. Furniture must be bolted to the sidewalk using stainless steel drop-in anchors sized according to the furniture manufacturer's recommendations.

4.5.6 Pavement Requirements

- A. Any damage to the sidewalk surface resulting from transit stop-related furniture is the transit authority's responsibility to repair (even in the event of an automobile crash).
- B. Sidewalk repairs must be completed according to Std. Dwg. OC508.
- C. In roadway areas where buses start, stop, or turn—or along roadways with high bus volumes—the following requirements must be met (refer to Chapter 6 for more details about pavement design):
 - 1. Concrete pavement must be used on roads carrying more than 150 buses per day.
 - 2. A reinforced concrete pad must be provided at high-volume bus stops and bus pullouts.

4.5.7 Standard Transit Stop Configurations

Standard transit stop configurations are shown in Figure 4-1 through Figure 4-3.

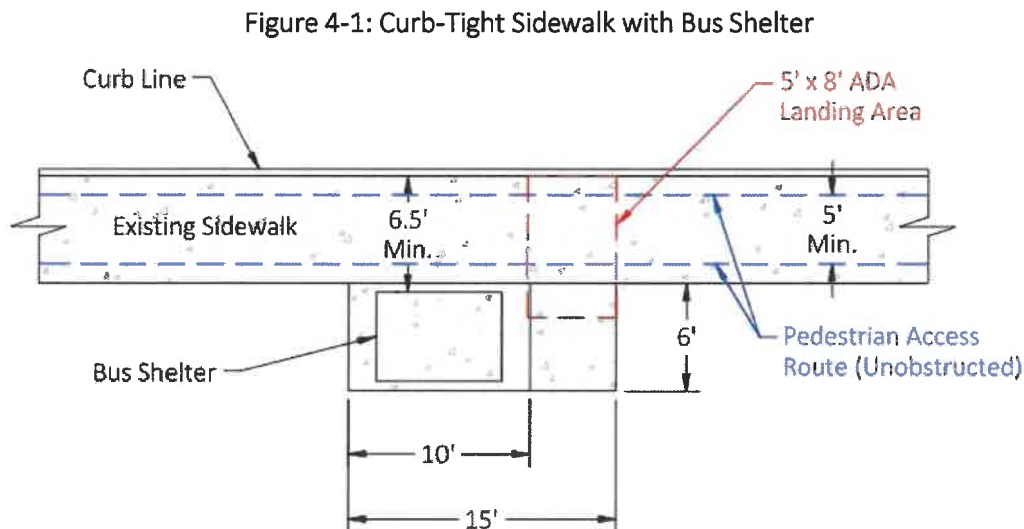


Figure 4-2: Separated Sidewalk with Rear Door Landing Area

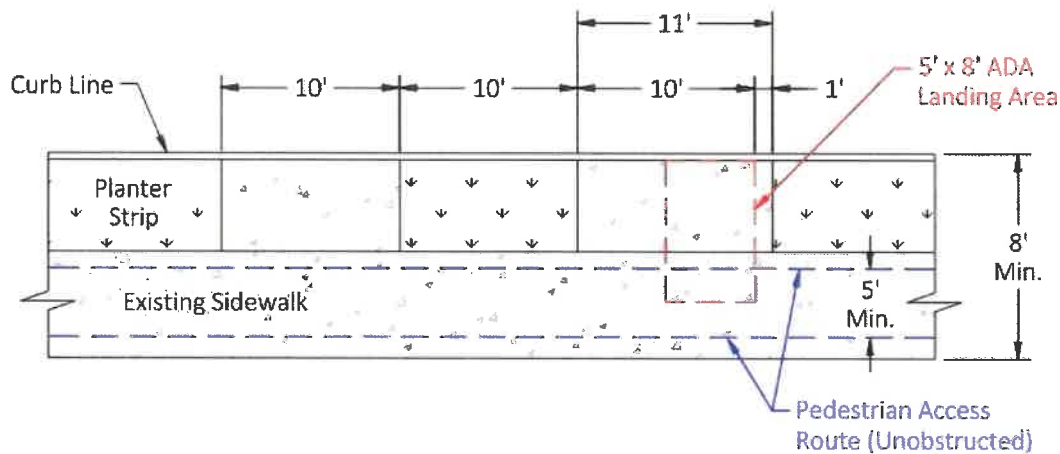
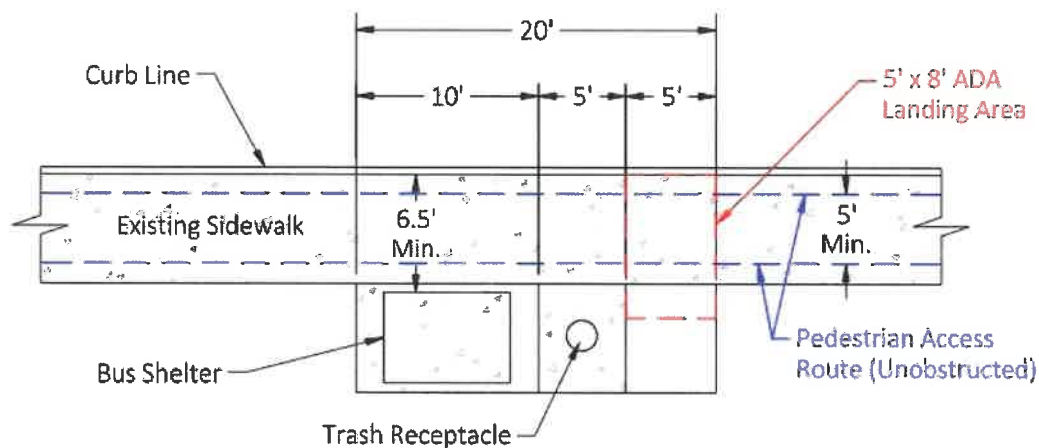


Figure 4-3: Curb-Tight Sidewalk with Shelter and Waste Receptacle



4.6 FREIGHT

Freight routes were designated in the Oregon City TSP to ensure freight trucks can efficiently travel through and access major destinations. The designation of through freight routes provides efficient movement while maintaining neighborhood livability, maintaining public safety, and minimizing roadway system maintenance costs.

The Oregon Highway Plan identifies Interstate 205 (I-205) as a freight route through Oregon City. While ODOT does not classify McLoughlin Boulevard (OR 99E) as a freight route, FHWA does designate it as a truck route.

Much of the freight activity in Oregon City is related to the employment areas located near the southeast corner of the City along Trails End Highway (OR 213), Beaver Creek Road, and Molalla Avenue as well as within the Oregon City Regional Center. To allow for efficient movement between these designated areas and regional freight routes, Metro has classified several roadways in the City as freight connectors. The connector roadways link I-205 with the employment areas and include OR 213, Beaver Creek Road, and OR 99E. Oregon City has designated these streets as local truck routes to ensure freight is adequately accommodated in the city.

5.0 TRAFFIC ENGINEERING

Chapter 5 provides general traffic engineering requirements and refers to other resources for the following topics:

- A. Design speed
- B. Operational standards
- C. Traffic control
- D. Stop control
- E. Traffic beacons and signals
- F. Signing
- G. Pavement markings
- H. Special street standards
- I. Transportation demand management
- J. Construction traffic control

5.1 DESIGN SPEED

The design speed establishes the geometric and roadside design of a road's physical features. Projects should consider street types (commercial, industrial, residential, or mixed-use) when identifying the design speed. The Engineer of Record and/or City Project Manager should coordinate with the City Engineer to confirm the selected design speed. The intent is for the posted speed to be consistent with the design speed.

Design speed is based on Oregon Revised Statutes (ORS) statutory speeds under ORS 801.100 (Definitions) and the criteria as described under ORS 811.105, ORS 811.111, and ORS 810.200. Refer to the ODOT *Speed Zone Manual* for additional information on design speeds for projects.

ORS 810.180 regulates the designation of maximum speeds when they are different from the statutory maximum speed limit of roadways.

Under subsection ORS 810.180 (5)(f), ODOT can delegate authority on low volume roadways to any city or county upon their request. This request can be made for specific roadways or for all low volume roads under the jurisdiction of the requesting agency.

Under subsection ORS 810.180 (5)(g) ODOT can delegate its authority of speed limit setting to any incorporated city.

5.1.1 Changing Speeds

In Oregon, ODOT sets speed limits on all roadways by issuing Speed Zone Orders. The ODOT Speed Zone Manual provides guidance for setting and changing a speed zone. As of January 2023, a state law went into effect that allows cities to set and change speed limits.

At the time of this writing, the City of Oregon City has not determined if it will continue to request ODOT to provide this service or if the City will be taking this service over. Either way, ORS 801.100, 811.105, and 811.111 will remain in effect.

Requests from private citizens are directed to the City Engineer, who will review and assess an applicable approach.

The City can request a speed zone review from ODOT by submitting a request to ODOT. ODOT's Traffic Engineering staff will then use nationally-accepted traffic engineering standards and procedures to review and investigate. Statutes require establishing speed zones on the basis of an engineering study. The engineering study should consider factors such as:

- A. Context and functional classifications
- B. Speed characteristics
- C. Crash history
- D. Roadside culture, including pedestrians and cyclists
- E. Traffic volumes
- F. Roadway alignment, width, and surface

5.2 OPERATIONAL STANDARDS

OCMC 16.12.033 provides mobility standards for City intersections on local roadways and State-owned intersections.

State-owned streets should comply with the mobility targets included in the Oregon Highway Plan. However, some roadways and intersections may be exempt from meeting the State mobility targets for proposed development that is permitted, either conditionally, outright, or through detailed development master plan approval. The Engineer of Record and/or the City Project Manager should review the 2018 Highway 213 Corridor Alternative Mobility Targets for City streets within this corridor area and verify exemptions with the City Engineer.

5.2.1 Traffic Impact Analysis Guidelines

The Oregon City *Guidelines for Traffic Impact Analyses* detail information about the City's required content for a Transportation Analysis Letter (TAL) and a Transportation Impact Study (TIS). In general, the TAL applies to smaller developments that are presumed to have a lesser transportation impact. The TIS applies to larger developments that are presumed to have a greater transportation impact.

5.3 IDENTIFYING TRAFFIC CONTROL

Traffic control at an intersection may include a yield, stop, signal, or roundabout. Section 3.4 provides geometric design guidance for the various types of intersections. Roundabouts should be considered in conjunction with the traffic operational analysis conducted for other traffic control types.

Identifying the appropriate type of traffic control at an intersection can be accomplished through an intersection control evaluation (ICE). ICE is a data-driven, performance-based framework to screen intersection alternatives and identify an optimal solution. The City does not have a specific ICE policy or associated guidance.

However, understanding the fundamental objectives and principles of conducting ICE can guide the decision-making process.

Key objectives when selecting the optimal or preferred intersection control alternative for a given project context include:

- A. Understanding the intended context and how operations, safety, and geometry fit that context for each intersection or corridor, including intended users (e.g., pedestrians, bicyclists, passenger cars, transit vehicles, freight, emergency responders, oversize/overweight vehicles).
- B. Identifying and documenting the overall corridor or intersection context, including the built, natural, and community environments and the intended performance outcomes of the intersection form.
- C. Considering and assessing a wide range of traffic control strategies and other practical improvement concepts to identify a worthy project-level technical evaluation.
- D. Comparing engineering and economic analysis results of practical alternatives that consider implementation costs, performance benefits and impacts (e.g., safety, multimodal, operations, environment), and the estimated service life of alternatives.

FHWA's *Intersection Control Evaluations* provides additional guidance to support intersection traffic control decision-making.

5.4 STOP CONTROL

Stop signs are installed where it may be unclear as to who has the right-of-way. Unnecessary stop signs can lead to drivers disobeying signs or creating cut-throughs in neighborhood streets. Before installing stop signs on City streets, the City Project Manager should consult the warrants described in the MUTCD (Section 2B.06 and 2B.07). As outlined in the MUTCD, considerations for stop sign installations include:

- A. Traffic volumes
- B. Sight distance
- C. Crash history

5.4.1 Stop Signs by Facility Type

Requirements for stop signs by facility type include.

- A. **Local to Local:** Do not place stop signs at intersections between two local streets unless engineering judgment deems it necessary for safety.
- B. **Collector to Local:** Place stop signs on the local street only.
- C. **Collector to Collector:** Place four-way stop signs on all approaches.
- D. **Collector to Arterial:** Place stop signs on the collector street only.

- E. **Arterial to Arterial:** Place four-way stop signs on all approaches, depending on the average daily traffic (ADT).
- F. No “except right turn” signs are permitted within the City unless approved by the City Engineer.
- G. Stop bars are only painted on collector or arterial streets.

The City Stop Sign Brochure provides general information about stop signs and criteria for two-way and all-way stop control. Criteria for two-way stop signs and four-way or all-way stop signs are provided below. Intersection sight distance requirements and additional information are provided in Section 3.5.

5.4.2 Two-Way Stop Signs

Two-way stop signs are installed at intersections where drivers cannot safely apply the right-of-way rule.

Two-way stop signs are used in the following locations:

- A. Where a street enters a through street.
- B. Where a safe approach speed is less than 10 mph due to permanent visibility obstructions, such as buildings, trees, or shrubs.
- C. Where crash history indicates three or more reported crashes over the past three years that could have been avoided with a stop sign.
- D. Where circumstances and crash history indicate that observing the right-of-way rule could still be hazardous and result in safety concerns.
- E. Where a local street intersects with a collector or arterial street.

5.4.3 Four-Way or All-Way Stop Signs

A four-way or all-way stop is considered only when an intersection with a two-way stop has a history of crashes and traffic congestion problems.

Four-way stop signs are used in the following locations:

- A. Where traffic signals are needed (four-way or all-way stop signs may be used as an interim measure).
- B. On local streets where there have been five or more reported crashes in a two-year period that would likely have been prevented by an all-way stop.
- C. On through streets where, within a two-year period, the intersection had at least 1.5 crashes per million vehicles entering the intersection that would likely have been prevented by all-way stop signs.
- D. Where the number of vehicles entering an intersection averages at least 500 vehicles per hour for any 8 hours of a typical day and the combined vehicular and pedestrian volumes from the minor street average at least 200 per hour for the same 8 hours.

5.5 TRAFFIC BEACONS AND SIGNALS

Traffic beacons and signals may include the following:

- A. Traffic signals
- B. Pedestrian and bicycle crossing traffic control devices
 - 1. Midblock pedestrian signals
 - 2. Pedestrian hybrid beacons (PHBs)
 - 3. Rectangular rapid-flashing beacons (RRFBs)

5.5.1 General Requirements

Before a traffic signal can be approved, a traffic analysis must take place. Installation and justification of a traffic signal or beacon should be based on operational analysis and warrant analysis outlined in the ODOT *Traffic Signal Guidelines* and the MUTCD. *Clackamas County Roadway Standards* provide additional information on traffic signal analysis in Section 260. FHWA's Safe Transportation for Every Pedestrian (STEP) initiative also provides additional countermeasures to improve pedestrian crossing locations. General requirements are described below.

- A. New traffic signals on City roadways should meet at least one of the signal warrants in the MUTCD within 3 years after construction and shall be approved for installation by the City Engineer. Peak-hour volume warrants will only be approved if the intersection serves a special generator with unique peak traffic characteristics.
- B. City Project Managers should base the signal cycle length and phasing for a new or modified traffic signal during different times of day on an approved signalized intersection operations analysis. Guidelines for selecting signal phasing are included in the ODOT *Traffic Signal Guidelines*. These guidelines also include warrants for left-turn protected, protected/permissive, and permissive/protected signal phasing as well as for protected right-turn signal phasing.
- C. New traffic signals should be separated from existing or planned traffic signals by a minimum of ¼ mile unless evidence supports adequate long-term operations at a lesser spacing.
- D. Mixing roundabouts and signals along a corridor requires additional evaluation of the unique intersection control to verify the design, safety performance, and traffic operations of the entire corridor. Evaluations may include addressing the presence of a single adjacent signal or a broader corridor with multiple signals that could affect the roundabout. *NCHRP Report 772: Evaluating the Performance of Corridors with Roundabouts* (NCHRP Report 772) researched corridors containing signals and roundabouts and noted the need to conduct corridor-specific evaluations to determine which form of intersection control is operationally preferred on a given corridor and to understand the effects of mixing various types of intersection control. Refer to NCHRP Report 772 for additional information on performance measurement tools and techniques to assist in the evaluation of a roundabout corridor.
- E. All new or modified traffic signals require installation of pan/tilt/zoom (PTZ) cameras.

- F. All new or modified traffic signals should include 2-inch conduit. If possible, fiber connections should also be included.
- G. Plans must incorporate emergency vehicle signal preemption into the signal operation of all approaches to the intersection. Railroad signal preemption is required when tracks are 200 feet or less from a signalized intersection. A green track clearance by vehicles and pedestrians must be incorporated into the signal preemption design.
- H. Separate bicycle detectors should be placed in all striped bicycle lanes and in streets with sharrows. All approaches of a signalized intersection must have pedestrian crossings unless traffic studies show that crosswalks should not be allowed. When pedestrian signal heads are not installed, the crosswalk must be closed by the City, with posted signs indicating that the crosswalk is closed. Sidewalk ramps or pedestrian landings are required for access to pedestrian signal push buttons.
- I. Audible pedestrian signals (APS) should be used at all pedestrian crossings.
- J. Signalized intersections with pedestrian access routes must comply with ADA requirements as described in the most recent version of ODOT's *Traffic Signal Policy and Guidelines*. This includes accessible pedestrian signals and push buttons that comply with the MUTCD and meet the provisions of PROWAG.
- K. RRFBS should be used at midblock pedestrian and bicycle crossings with traffic volumes or crash history that justify this type of device.
- L. New or existing schools with an expansion of 20% floor area or greater are required to install school zone flashers on roadways that are classified as arterial or collector roadways if the proposed or existing school speed zone signing supports a school speed 20 mph zone and the City supports a school speed zone installation. In addition to school zone flashers, radar speed signs may be required along arterial roadways. The Applicant is required to provide funds equal to 20 years of the maintenance and power of the school zone flasher and/or radar speed sign.

All traffic signal designs shall be reviewed by Clackamas County, who maintains all City traffic signals on behalf of the City. Clackamas County Standards take precedence for traffic signal design if any conflicts exist.

5.5.2 Design Standards

All new or modified traffic signal and beacon installations on City roadways must be designed based on the following resources and standards:

- A. Clackamas County Roadway Standards, Section 260
- B. MUTCD
- C. Oregon Supplement to the MUTCD

Specific signal design features to be included in a City signal design include:

- A. Signal Poles/Heads
 - 1. Use mast arm poles where possible.
 - 2. Use louvered traffic signal backboards.

3. Use elevated plumbizers for signals on mast arms whenever possible.
 4. Use decorative bases and powder coat all signal equipment (e.g., cabinets, poles, mast arms) black.
 - a. No decorative bases are used on RRFBs and pedestrian pedestals.
 5. Materials used in the construction of traffic signals shall be approved by the City Engineer and comply with the Oregon Standard Specifications for Construction and the *Clackamas County Roadway Standards*.
- B. Detection
1. Use radar detection per current ODOT Standard Specifications for Construction and Standard Drawings and Oregon Traffic Signal Guidelines.
- C. Wiring
1. Use Clackamas County color coding for signal wires.
 2. Use International Municipal Signal Association (IMSA) cable in conduit, poles, and arms.
 3. Use single conductors for power service and street lighting.
 4. Install electrical meter bases without the meter for power service.
- D. Power Source
1. Use electric power sources (coordination with PGE required). Solar options are not allowed.
- E. Intelligent Transportation System (ITS)
1. Coordinate with the City Engineering Group regarding applicable ITS applications.
 2. Refer to the Clackamas County ITS Action Plan.
- F. Maintenance
1. Clackamas County maintains all beacons and traffic signals on City and County facilities. ODOT maintains all beacons and traffic signals on State facilities.

5.6 SIGNING

Signing materials and layout plans should be approved by the City Engineer before installation. City Project Managers must base signing design and construction on the following:

- A. *Clackamas County Roadway Standards*, Section 270
- B. MUTCD
- C. Std. Dwgs. OC521, OC522, OC523, and OC524

5.7 PAVEMENT MARKINGS

The City Engineer must approve all striping materials and layout plans before installation. Striping design and construction must be based on the following:

- A. ODOT Standard Drawings TM500 series
- B. *Clackamas County Roadway Standards*, Section 280
- C. MUTCD
- D. Std. Dwg. OC529 and OC529A

City-specific pavement marking design standards that may differ from the ODOT and County standards include:

- A. All pavement markings must be thermoplastic, and all longitudinal markings must be Method A extruded, surface, non-profiled, thermoplastic.
- B. Green thermoplastic is allowed on arterial streets.
- C. Elongated arrows are required.
- D. Recessed pavement markers should be used.
- E. All intersections that include stop signs shall include painted stop bars.

5.8 SPECIAL STREET STANDARDS

5.8.1 Stamped Sidewalk Street Names

For all projects, stamped street names are required on sidewalk corners at intersections in the following areas:

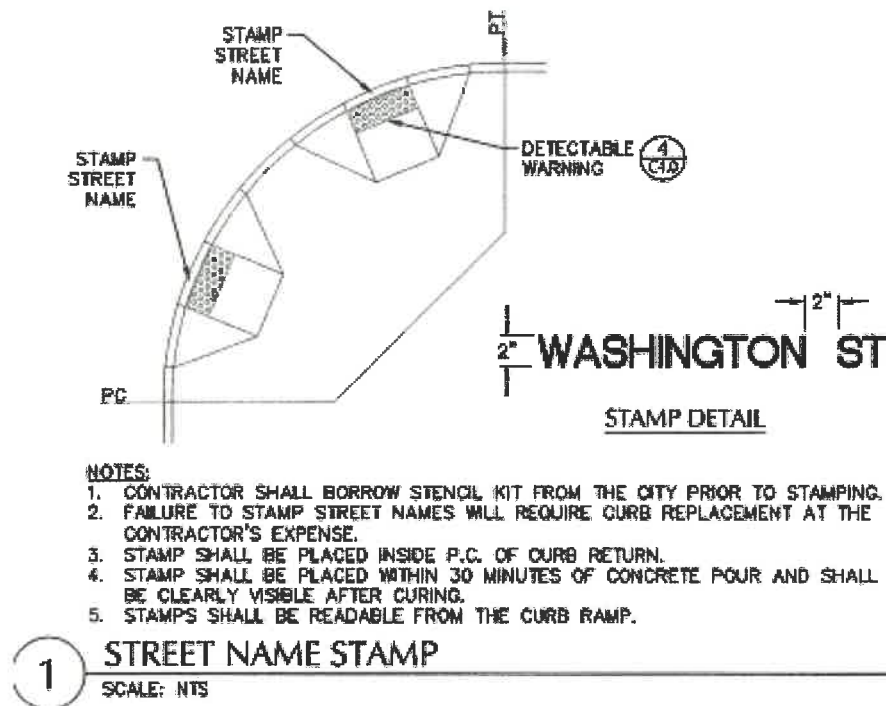
- A. McLoughlin Conservation District
- B. Willamette Falls Downtown District Zone
- C. Canemah Historic District
- D. Downtown Parking Overlay District
- E. "Presidential" Streets not listed in other districts up to Division Street or 18th Street

For sidewalk repairs and/or reconstruction projects, street names in existing sidewalk corners must be preserved or re-stamped into the new concrete.

The Engineer of Record must coordinate with the City regarding borrowing the stencil kit from the City.

Figure 5-1 provides an example of a Street Name Stamp.

Figure 5-1: Street Name Stamp



5.8.2 Sidewalk Scoring

Requirements for sidewalk scoring include:

- A. All sidewalk scoring shall follow OC508, except as noted.
- B. Decorative sidewalk scoring shall occur in the Downtown District and along Washington Street, 7th Street, and Molalla Avenue.
- C. Decorative Sidewalk Scoring Detail applies to all locations, except the Washington Street corridor between Abernethy Road and 7th Street.

5.8.3 Tree Grates

Special tree grates shall be used in the Downtown District and along Washington Street, 7th Street, and Molalla Avenue.

- A. **Tree Grates:** Street trees shall have tree grates with frames and tree supporting systems. Tree grates and frames must meet the following requirements:
 1. Two-piece cast iron grate with a natural finish with fitted frame manufactured by FairWeather SF or approved equal. Frame shall include rebar studs on three sides for sidewalk mounting, and one side shall include steel tabs to accept expansion bolts for curb mounting.

2. Where 10-foot sidewalks are being constructed, a tree grate with frame shall be the FairWeather SF CNK 4872, size 48" × 72" (overall dimensions 4 feet × 6 feet). Where 8-foot sidewalks are being constructed, a tree grate with frame shall be the FairWeather SF style IVY 3660, size 36" × 60" (overall dimension 3 feet × 5 feet).
3. Submit to the City for approval.

5.8.4 Benches

- A. Benches shall be provided in the Downtown District and along Washington Street, 7th Street, and Molalla Avenue.
- B. The type of bench to be used is Model No. 2123-6 Restoration Seat, BLACK CASPAX-7 powder-coated cast iron frames, Alaska yellow cedar slats, surface mount, 6-foot length, manufactured by Outdoor Cathedral, LLC or an approved equal product.

5.8.5 Litter Receptacles

- A. Litter receptacles shall be provided in the Downtown District and along Washington Street, 7th Street, and Molalla Avenue.
- B. The type of litter receptacle to be used, as of this writing, is Model No. 2816-DT-P, Renaissance litter container, side empty, with dome top, BLACK CASPAX-7 powder-coated steel finish, pedestal mount, manufactured by Outdoor Cathedral, LLC. Designers shall verify the current design to be used when needing to add these to their project.

5.8.6 Decorative Street lighting

Decorative street lights shall be provided in the Downtown District and along Washington Street, 7th Street, 99E, and Molalla Avenue according to Std. Dwg. OC536. Refer to Chapter 9 for additional street light details. While some decorative lighting exists in other neighborhoods, it is the intent of this code to limit decorative street lighting to the listed areas unless a land use decision or concept plan requires something different. In those cases, the design styles shall match those within Chapter 9 unless a specific new design is designated for a new neighborhood during the land use process.

5.9 TRANSPORTATION DEMAND MANAGEMENT

As noted in the *City Transportation Demand Management Plan 2017 Final Report*, transportation demand management (TDM) increases a transportation system's efficiency by shifting trips from single-occupant vehicles (SOVs) to non-SOV modes or from peak to non-peak periods. TDM seeks to increase the universe of trips by expanding travel options, encouraging individuals to modify their travel behavior, and reducing the need for travel through efficient land uses. TDM programs often cost little but yield high impacts and are typically implemented by employers, public agencies, or public-private partnerships. The Oregon City TDM Plan provides a range of strategies to be implemented over time to improve the transportation system's overall efficiency.

5.10 CONSTRUCTION TRAFFIC CONTROL

Traffic control in the public right-of-way is subject to a permit. Preparation of traffic control plans is based on project type, duration of work, and project characteristics and context. The Engineer of Record and/or City Project Manager must coordinate with the City Engineer to determine the need for traffic control plans.

The Engineer of Record and/or City Project Manager must submit a traffic control plan to be approved by the City Engineer before construction. *Clackamas County Roadway Standards*, Section 290, provides additional information on preparing traffic control plans.

Traffic control design in work zones must conform to the MUTCD and the ODOT Supplements to the MUTCD. Additional guidelines for preparing traffic control plans and identifying traffic control plan strategies are below:

- A. *ODOT Sign Policy and Guidelines*
- B. *FHWA Standard Highway Signs*
- C. *Oregon Standard Specifications for Construction and Oregon Standard Drawings* TM800 series
- D. *Oregon Temporary Traffic Control Handbook for Operations of Three Days or Less*
- E. *Oregon Traffic Control Plans Design Manual*

5.10.1 Control of the Site

Requirements for control of the site include:

- A. At no time shall flagging operations delay traffic for a period greater than 20 minutes.
- B. Work and activity zones (construction, restoration, and erosion control) shall extend no more than 2,500 lineal feet at any one time unless otherwise approved.
- C. Open trenches shall extend no more than 250 lineal feet at any one time unless otherwise approved.
- D. No trenches are to be left unprotected between dusk and dawn.
- E. Trenches shall conform to the technical requirements of Section 00405 of the Oregon Standard Specifications for Construction.
- F. Trench plating shall be positively secured from movement and ramped with anti-skid coated plate ramps.
- G. Roadway plates are only allowed on the road for a maximum of 7 days. Pavement patches must be completed in 7 days.

5.10.2 Temporary Pedestrian Accessible Route

If existing pedestrian access will be obstructed by construction, alteration, maintenance, or other temporary conditions, a continuous temporary pedestrian accessible route (TPAR) shall be provided consistent with the requirements of this section. TPARs shall conform to the requirements of Part 6 of the MUTCD and the most recent update of the Oregon Standard Specifications for Construction, Section 00220.02(b). The TPAR plan shall be included in the traffic control plans. The City Inspector will inspect the TPAR. If deficiencies are identified, the City Inspector will stop work until such deficiencies are corrected.

TPAR requirements include:

- A. In work zones, do not block pedestrian access with vehicles or equipment parking, materials storage, or for any other reason except construction.
- B. Keep the TPAR parallel to the disrupted pedestrian access route and be on the same side of the street where possible.
- C. Do not route bicyclists into the TPAR. If it is necessary to divert bicyclists around the work, provision should be made for a separate bicyclist route.
- D. If the work impacts the accessibility of pedestrian routes through or around the work zone, limit impacts to one corner of an intersection at a time.
- E. Close sidewalks at a point where there is an alternate way to proceed. Provide signing and other traffic control devices directing pedestrians to an alternate pedestrian route.
- F. The Applicant must inspect the on a regular basis to ensure it is safe and does not have gaps or surface displacements that create a hazard.
- G. The TPAR shall meet the standards of a pedestrian access route as defined in PROWAG:
 - 1. Keep the minimum width to 48 inches. Provide a 60 x 60 inch passing space every 200 feet along the route.
 - 2. Keep the surface smooth and nonslip.
 - 3. Keep vertical clearance of at least 8 feet.
 - 4. Keep the cross slope at be no more than 2.0% perpendicular to the direction of pedestrian travel.
 - 5. Keep the grade less than or equal to the grade of the adjacent road.
 - 6. Provide a minimum turning space of 4 feet x 4 feet shall wherever it is necessary for pedestrians to turn.
 - 7. If it is necessary to cross a curb, the TPAR shall include a temporary ramp meeting standards for a curb ramp.
 - 8. If it is necessary for the TPAR to cross a driveway or construction access, provide truncated dome warning. If it is not possible to provide truncated dome warning, provide construction staff whenever construction vehicles are crossing the pedestrian access route.
 - 9. Provide nighttime lighting.
- H. Provide and maintain pedestrian channelizing devices (PCD) through the period in which the permanent pedestrian access route is disrupted. Pedestrian channelizing devices intend to prevent people with disabilities from straying into the vehicular way or into an active construction area. Caution tape is not sufficient to guide people who are blind or have low vision. Use only PCDs that are on the approved ODOT Qualified Products List and are designed to be ADA compliant.

Provide pedestrian channelizing devices:

1. Between the TPAR and any adjacent construction site.
 2. Between the TPAR and the vehicular way if the TPAR is diverted into the street.
 3. Between the TPAR and any protruding objects, drop-offs, or other hazards to pedestrians.
 4. At a curb ramp if the opposite curb ramp is temporarily and completely blocked and no adjacent alternate circulation path is provided.
- I. When work briefly or intermittently blocks or restricts the use of a pedestrian route, and a temporary detour route is not practicable due to the short duration of the restriction, provide a temporary means of allowing pedestrian access through or around the work area. Means of providing temporary pedestrian accessibility may include but is not limited to temporarily suspending the work and making the pathway passable or using construction staff to guide pedestrians through or around the area. When a TPAR is created in the public right-of-way, both visual and audible warning shall be provided at both ends of the temporary pedestrian access.
- J. When direction signing or warnings are provided, they should be located to minimize backtracking. Provide audible warnings for people who are blind or have low vision and include specific directions allowing them to find the desired path.

5.10.3 Temporary Road Closures

Temporary road closures are not for an Applicant's convenience or cost reduction. Proposed closures shall establish that a clear public safety and convenience benefit would result from a closure.

- A. Road closures for construction require the approval of the City Engineer.
- B. Projects should be evaluated for one-way flagging or other traffic control options prior to requesting a road closure. All other options must be exhausted before a road closure is reviewed for approval.
- C. Temporary road closures on collectors and arterials are only allowed when there are other comparable streets (high-traffic streets) available for a detour.
- D. The detour route shall be capable of safely and legally accommodating the detoured traffic.
- E. With increasing Average Daily Traffic (ADT), functional classification, and closure duration, an Applicant's burden becomes greater in establishing the benefit of a proposed closure.
- F. If a road closure is proposed, the following may be required:
 1. Evidence that other methods of traffic control and/or temporary improvements are not feasible to keep the road open.
 2. Time-of-day restrictions or extension of normal working hours and days.
 3. Contract requirements of incentives/disincentives for completing/not completing a closure on time.

4. A public engagement plan.
5. Off-site improvements to meet the minimum safety of the detour route and/or to return the detour route to its original condition prior to the detour.

5.10.4 Impacts to Traffic Signals

- A. In no case may flagging operations take place in conflict with the indications of an operating traffic signal.
- B. No flagging operations may take place within 200 feet of an operating traffic signal without a custom traffic control plan subject to a permit.
- C. Should traffic control requirements dictate the “turn-off” and/or “turn-on” of a traffic signal, the Applicant shall coordinate with the City Engineer at least two business days prior to turn-off and/or turn-on date.

5.10.5 Temporary Speed Reduction Process

For some projects, it may be necessary or advantageous to implement a temporary speed reduction through a work zone. The duration of the temporary speed zone reduction will vary based on the type and complexity of the work being done and how quickly the constraint or hazardous condition can be relieved or eliminated.

To obtain a temporary speed reduction in a work zone on a City street, the Engineer of Record and/or City Project Manager should complete the Work Zone Speed Reduction Request Form (Appendix B) and submit it to the City Engineer for review and approval.

A variety of circumstances can warrant a speed zone reduction, including:

- A. Reducing the number of lanes for traffic.
- B. Complex construction staging.
- C. Temporary alignments, crossovers, or on-site diversions.
- D. Nighttime paving operations on a high-speed, multilane facility.
- E. Workers present for extended periods within 2 feet of travel lanes and not behind a barrier.
- F. Lane widths (existing or due to construction) of less than 12 feet.
- G. Horizontal curves with a safe speed of 10 mph or more lower than the posted speed.
- H. Pavement edge drop-offs within 2 feet of the traveled way for more than ¼ mile.

5.10.6 Detour Routes

A traffic detour can be an effective traffic control measure within a traffic control plan. Detours for temporary road closures should follow the requirements outlined in the *Clackamas County Roadway Standards*, Section 290.5. When detours are considered, emergency services, solid waste disposal companies, and mail delivery must be notified.

The ODOT *Traffic Control Plan Design Manual* provides conditions for when a detour may be considered, including when:

- A. The physical work area cannot support live traffic and construction activities concurrently.
- B. The accelerated completion of a project is desired, and having uninterrupted use of the entire work site can facilitate a time-critical schedule.
- C. Construction constraints (e.g., vehicle weight/size restrictions) require specific vehicle classes to be precluded from the work zone.

Routes designated as detours must be able to reasonably accommodate the detoured traffic. An overview of design considerations is below.

- A. For signalized intersections along the detour route, consider adjusting signal timing while the detour is operating.
- B. Detours that significantly impact unsignalized intersections may require temporary signals.
- C. If a single roadway cannot manage the capacity of the detoured traffic, undesignated alternate routes can be offered to disperse traffic.
- D. Extended distance detours may inadvertently divert traffic and impact travel time and facility wear and tear on alternate routes.
- E. Detours must be designated using appropriate traffic control devices per MUTCD requirements and guidance.
- F. Changeable message signs may help supplement fixed signs.

6.0 PAVEMENT DESIGN

Chapter 6 provides detailed City standards for pavement design.

6.1 GENERAL REQUIREMENTS

Pavement materials and construction work must comply with the current *Oregon Standard Specifications for Construction* unless stated herein. Abbreviations and terms used within this section are as defined or used in the *ODOT Standard Specifications for Construction* unless otherwise noted. Additional general requirements are described below.

- A. Pavement designs must be developed and documented by an engineering report prepared and stamped by an engineer experienced in pavement design (Refer to Section 1.1.1). The report must include specific pavement design recommendations for materials and construction. Additionally, the report must include sufficient design documentation regarding site conditions, design assumptions, and design parameters to allow for independent peer review of the design recommendations. The engineering report must address considerations for year-round construction, including recommendations for both summer and winter construction.
- B. If a pavement design is not provided, default pavement sections identified in Section 6.8 must be used.
- C. Pavement materials for roadway construction must be recommended by the Engineer of Record and/or the City Project Manager. The report must describe the pavement type and reasoning behind the selected materials.
- D. Street functional classifications specific to Oregon City pavements include arterials (major and minor), collectors, local commercial and industrial, and residential. Additional paved surfaces include alleyways, shared-use paths, and private streets.
- E. The City Engineer must approve the use of pervious pavements, and the Engineer of Record and/or City Project Manager must include a stormwater analysis report. Specific pervious pavement design considerations are not included these *Standards*. If approved, the pavement report must include construction considerations, material properties and pavement thickness design calculations.
- F. The City Engineer must approve all proposed alternative materials. Benefit analysis and reasoning (e.g., noise) is to be included in the pavement design report.
- G. All asphalt pavement should be placed during temperatures that are 40 degrees Fahrenheit and rising.

6.2 DESIGN REQUIREMENTS

Design standards for the following categories can be found in the publications below.

- A. **Asphalt concrete pavement (ACP):** AASHTO *Guide for Design of Pavement Structures* (AASHTO Pavement Guide) and the design guidelines of the latest ODOT *Pavement Design Guide* (ODOT Pavement Guide).

- B. **Portland cement concrete (PCC):** 1998 *Supplement for Rigid Pavement Design* (AASHTO Pavement Supplement) or the StreetPave™ design software by the American Concrete Pavement Association (ACPA).
- C. **Overall:** Latest ODOT *Pavement Guide* for general guidelines and inputs, unless specifically described herein.

6.2.1 Pavement Design Period

The pavement design period is for major widening (e.g., adding travel lanes), adding new pavement, or rehabilitating pavement. For minor widening (e.g., bicycle lanes), pavement thickness should match adjacent pavement. Table 6-1 provides a summary of pavement design periods.

Table 6-1: Pavement Design Period

Project Type	Design Period
Newly-constructed streets (including ½ streets and reconstructed streets)	30 years for flexible pavement 40 years for rigid pavement
Roundabouts	40 years for rigid pavement
Rehabilitation	Based on location and available funding
Major widening	20 years

6.2.2 Site Investigation

- A. **Explorations:** Conduct sufficient soil and/or existing pavement explorations (at least 1 per 500 feet of roadway and at least 2 total) to visually classify the soils within a minimum of 3 feet below the planned subgrade surface. Conduct laboratory testing on samples of the subgrade soils, including determination of moisture content and soil classification tests (Atterberg Limits, gradation, etc.).
- B. The Engineer of Record and/or City Project Manager must evaluate the subsurface exploration logs and the laboratory soils test data to determine if subgrade compaction is feasible, including a consideration of moisture conditions during construction and whether the compacted subgrade will support construction activities and traffic. If subgrade compaction is deemed feasible, the pavement section must be designed based on the subgrade support values determined from the laboratory tests of compacted subgrade. Compaction of the subgrade must be accomplished following the procedures and compaction criteria given in Oregon Standard Specifications for Construction 00330.43, including deflection testing according to ODOT Standard Drawing TM158.
 - 1. If subgrade compaction is not deemed feasible, the subgrade must be designed based on the in-situ subgrade capacity as defined by falling weight deflectometer (FWD), resilient modulus testing of in situ samples, or dynamic cone penetrometer (DCP) testing.
 - 2. The engineering report must include recommendations regarding the need for subgrade separation geotextile.
 - 3. The engineering report must include recommendations for increased subgrade stabilization and/or an additional aggregate base for winter construction. Options for the protection of native subgrade should include haul roads and/or staging plans to reduce vehicle-induced subgrade loads.

4. The Engineer of Record and/or City Project Manager should consult with the City Engineering Group regarding the potential for old market roads, underlying PCC, or historical data that may affect pavement rehabilitation performance.
- C. **Subgrade support inputs:** Subgrade support values for the design of flexible pavement (resilient modulus) and rigid pavement (modulus of subgrade reaction or k-value) must be estimated by one or more of the following methods:
1. Estimate in situ subgrade support values by back calculation of FWD deflections measured on paved or aggregate surfaced areas within the project limits. FWD testing must be conducted following the American Society for Testing and Materials (ASTM) D 4694 and D 4695 with a deflectometer that has been calibrated within 12 months preceding the testing. Back calculate the elastic modulus of the subgrade soil for flexible pavement design per the back-calculation procedures described in the AASHTO *Pavement Guide* or other procedures meeting the guidelines of ASTM D 5858. Use the modulus correction factors given in the ODOT *Pavement Guide* to convert back-calculated elastic moduli into equivalent saturated laboratory resilient moduli. Back calculate the dynamic k-value of the subgrade for rigid pavement design per the back-calculation procedures described in the AASHTO *Pavement Supplement* and correct the dynamic k-value to static k-value using a factor of 0.5.
 2. Estimate in situ subgrade support values by measuring subgrade soil penetration resistance using the DCP per ASTM D 6951. Estimate the subgrade resilient modulus for flexible pavement design from DCP Index (mm/blow) using the correlation given in the ODOT *Pavement Guide*. Use the modulus correction factors given in the ODOT *Pavement Guide* to convert DCP-determined resilient moduli into equivalent saturated laboratory-resilient moduli. Estimate the subgrade static k-value for rigid pavement design from DCP Penetration Rate (inches/blow) using the correlation given in the AASHTO *Pavement Supplement*.
 3. Determine in situ resilient modulus by laboratory testing of push tube samples of subgrade soil. Conduct the resilient modulus testing in general accordance with AASHTO *Pavement Supplement* T-307. Evaluate resilient modulus at a deviator stress of 6 pounds per square inch (psi) at a confining pressure of 2 psi.
 4. Determine the resilient modulus of compacted subgrade by testing laboratory compacted subgrade soil. Compact the subgrade sample to 95% of standard Proctor maximum dry density at a moisture content of 1-2 percentage points above standard Proctor optimum moisture content. Conduct the resilient modulus testing using the ODOT testing protocol. Evaluate resilient modulus at a deviator stress of 6 psi at a confining pressure of 2 psi.
 5. For rigid pavements, estimate the k-value of compacted subgrade by California Bearing Ratio (CBR) testing of a laboratory compacted subgrade soil. Compact the subgrade sample to 95% of standard Proctor maximum dry density at a moisture content of 1-2 percentage points above standard Proctor optimum moisture content. Conduct the CBR testing per ASTM D 1883 using surcharge weight equivalent to the proposed pavement section. Estimate the static k-value from the CBR value using the correlation given in the AASHTO *Pavement Supplement*.
 6. In place of testing to establish subgrade support values, presumptive design values of 3,500 psi for resilient modulus and 50 pci for k-value may be used.

6.3 TRAFFIC LOADING ANALYSIS

- A. The pavement design traffic loading is the total number of 18-kip equivalent single axle load (ESAL) repetitions that the pavement is expected to experience during the design period. The pavement design report must include a detailed description of design traffic loading and calculation steps used to generate the design ESAL. Traffic data or traffic studies used for generating pavement design ESAL must be no more than 4 years old.
- B. For rehabilitation and widening, ESAL is to be determined by daily traffic volumes, heavy vehicle percentage, traffic growth, and traffic classification counts with the distribution of heavy vehicle volumes according to the FHWA axle classifications and projected growth rate in heavy vehicle volumes during the design period. For local residential, the classification counts can be assumed if a valid basis for assumptions is presented in the pavement report. Widening design must consider the potential for new traffic volumes and additional lanes.
- C. For new roads, the Engineer of Record and/or City Project Manager must complete a traffic study that identifies the distribution of heavy vehicle volumes, traffic growth, and the expected types of trucks and truck frequencies. For specific heavy truck generation sites, a detailed account of trucks, truck types, and per-truck ESAL calculations are to be provided in the pavement design report.
- D. Daily heavy vehicle volumes must be multiplied by the conversion factors for FHWA heavy vehicle classes shown in the ODOT *Pavement Guide*, with the exception that buses should be broken down into school buses, two-axle transit buses, and articulated buses. Specific site traffic should have a site-specific per-truck ESAL if appropriate. (See Table 6-2).
- E. The presumptive traffic loadings shown in Table 6-3 may be used as design values instead of a detailed traffic analysis. Lower assumed values than those shown in Table 6-3 may be used for rehabilitation if the reasoning is provided in the pavement design report and the values are accepted by the City Engineer.
- F. The traffic loading for circulatory lanes within roundabouts must be calculated as two times the highest traffic loading on the approach lanes to account for the combined loading from the approaches. An alternative turning movement analysis can be conducted to calculate the roundabout quadrant with the highest traffic.
- G. If using StreetPave™-based rigid design, load spectrum traffic analysis is required. The Engineer of Record and/or City Project Manager should use site-specific total truck traffic, with the default typical traffic category corresponding to the road type. For transit bus routes, default to the major arterial traffic category.
- H. In no case shall the design ESAL be less than 40,000 for new or reconstructed pavement.

Table 6-2: Bus ESAL Conversion Factors

Bus Type	Daily Bus Volume to Annual ESAL Repetitions Conversion Factors	
	Flexible Pavement	Rigid Pavement
Weight-restricted buses, school buses	246	269
2-axle transit buses	780	1170
Articulated transit buses	1550	2320

Table 6-3: Presumptive Traffic Loadings

Road Type	Flexible Pavement 30-Year ESAL Repetitions	Rigid Pavement 40-Year ESAL Repetitions
Local Residential ¹	40,000	70,000
Local Commercial/Industrial	1,200,000	2,100,000
Collector	1,000,000	1,800,000
Arterial	2,000,000	3,500,000

¹ Use Commercial/Industrial Functional Classification traffic loadings if street will be used by a TriMet bus line or similar shuttle buses.

6.4 FLEXIBLE PAVEMENT THICKNESS DESIGN CRITERIA

Use the design parameter values in Table 6-4 for flexible pavement design.

Table 6-4: Flexible Pavement Design Parameter Values

Parameter	Design Value
Design Reliability Level	90% Arterial, Collector, Local Commercial/Industrial & Bus Routes; 80% Local Residential & Neighborhood Routes
Initial Serviceability, P_o	4.2
Terminal Serviceability, P_t	2.5
Standard Deviation	0.49
New Asphalt Concrete Layer Coefficient	0.42
New Aggregate Base Layer Coefficient	0.10
New Aggregate Base Resilient Modulus, psi	20,000
New Aggregate Base Drainage Coefficient	1.0
New Aggregate Subbase Layer Coefficient	0.08
New Aggregate Subbase Resilient Modulus, psi	11,200
New Aggregate Subbase Drainage Coefficient	1.0

- A. The pavement section must be designed using the Layered Design Analysis method described in Part II of the AASHTO *Pavement Guide*. The calculated pavement thickness should be rounded up to the nearest 0.5 inch.
- B. The minimum roadway asphalt concrete (AC) section thickness is 4 inches, consisting of a 2-inch-thick base lift and 2-inch-thick wearing course. The minimum AC section for shared-use paths and alleys is 3 inches placed in a single lift.

- C. The minimum thickness of the aggregate base is 6 inches. A geotechnical engineer should provide analysis of rock sections' suitability to support construction traffic. Analysis should consider the construction time of year. A design acceptance may be provided for pavement in areas with shallow basalt.
- D. Full-depth reclamation or amended subbase with cement can be included if laboratory testing and design are provided in the engineering report. The layer coefficient must be 0.16, where at least 50% (by weight) of the existing material to be treated is granular. Otherwise, the layer coefficient must be considered equal to the aggregate subbase (0.08).
- E. The asphalt concrete pavement (ACP) should be ½- or ¾-inch dense, according to City modifications to Oregon Standard Specifications for Construction 00744. A request can be made for a lower nominal maximum aggregate size for thin lift paving if accepted by the City Engineer.
- F. Minimum and maximum lift thicknesses are 2 and 3 inches, respectively, for ½- or ¾-inch-dense ACP.
- G. Compact asphalt concrete to a minimum of 92% of moving average maximum density (MAMD) all lifts.
- H. Default binder for ACP is PG 64-22 for local, commercial, and collectors and PG 70-22 for arterials; however, the binder grade should be adjusted depending on aggregate gradation, traffic levels, and the amount of recycled asphalt material. The use of PG 64-22 binder for base paving lifts below the top 4 inches on arterials should be considered. Binder grade discussion and reasoning must be submitted in the engineering report.
- I. Rigid pavement with impact slabs is required for public transit bus stops. Flexible pavement at bus stops will only be considered with prior City Engineer approval and will require a separate pavement design to address bus loading.
- J. Impact slabs are required for all transitions from flexible pavement to rigid pavement, including rail crossings.
- K. For newly-constructed residential streets, pavement design and construction should include all asphalt layers placed before building construction. If staged flexible pavement (first lift placed, then building construction, then final lift) is preferred, the pavement design must take construction vehicles, time of year, and drainage into account. The staging of street construction in this manner must be approved by the City Engineer.
- L. Tack coat must be used for all paving lifts unless paving occurs on same day.

6.5 RIGID PAVEMENT THICKNESS DESIGN CRITERIA

Refer to Table 6-5, Table 6-6, and the following criteria for rigid pavement thickness design.

- A. Rigid pavement cannot be used for half-street or widening design when adjacent to flexible pavement.
- B. Rigid pavement must be used for widening design when adjacent to rigid pavement. Joints must either line up, or isolation joints must be used. No-load transfer should be used for widening.
- C. Rigid design is to be completed according to the AASHTO Pavement Supplement or StreetPave™ system. Other design methodology can be used only if accepted by the City Engineer.

- D. The minimum portland cement concrete slab thickness is 6 inches—except for streets with transit or shuttle bus traffic, for which the minimum slab thickness is 8 inches.
- E. The minimum thickness of the aggregate base is 4 inches. A geotechnical engineer analyze the aggregate base suitability to support construction traffic and should consider the construction time of year.
- F. The slab thickness design must consider the slab edge support condition as defined within the AASHTO Pavement Supplement and/or StreetPave™.
- G. Requirements under Oregon Standard Specifications for Construction 00756.60 must be met before opening to traffic.

Table 6-5: Rigid Pavement Design Parameter Values (AASHTO Pavement Supplement)

Parameter	Design Value
Design Reliability Level	90% arterial, collector, commercial, and bus routes. 80% local residential and neighborhood routes.
Initial Serviceability, P_o	4.5
Terminal Serviceability, P_t	2.5
Standard Deviation	0.40
28-day Flexural Strength, psi	600
Modulus of Elasticity of Concrete, psi	3,600,000
Modulus of Elasticity of Base Material, psi	Median value from Table 14 of AASHTO Supplement for the base type.
Drainage Coefficient for Faulting Analysis	0.80
Poisson's Ratio of PCC	0.15
Edge Support Adjustment Factor	As recommended in AASHTO Supplement for the type of edge support.
Friction Coefficient between Slab and Base	Median value from Table 14 of AASHTO Supplement for the base type.
Mean Annual Wind Speed, mph	7.9
Mean Annual Temperature, °F	53.6
Mean Annual Precipitation, inches	36.3
Moisture Gradient a Construction Temperature Differential in Slab	1 °F per inch of slab thickness.
Mean Annual Freezing Index	33-degree (F) days
Annual Temperature Range, °F	46.6
Number of Days with Maximum Temperature above 90 °F	10.8

Table 6-6: Rigid Pavement Design Parameter Values (StreetPave™)

Parameter	Design Value
Design Reliability Level	90% arterial, collector, commercial, and bus routes 80% local residential and neighborhood routes
Terminal Serviceability	2.5
28-day Flexural Strength, psi	600
Modulus of Elasticity of Concrete, psi	3,600,000
Slabs Cracked	5%
Drainage Coefficient for Faulting Analysis	0.80
Poisson's Ratio of PCC	0.15
Edge Support	Default no edge support.
Macro Fibers in Concrete	Default to no. maximum of 15% residual if approved by City.

6.6 RIGID PAVEMENT JOINTING DESIGN CRITERIA

- A. For rigid pavements, the pavement design report must provide maximum joint spacing. A jointing plan must be included in the project plans and must show the construction joints and transverse/longitudinal joints in the concrete pavement to control cracking. The jointing plan must show, at a minimum, the following: manholes, valve boxes, inlets, joint layouts, dowels, tie bars, and other required reinforcement and joint details (including sawing depths).
- B. The joint layout must be designed per American Concrete Pavement Association (ACPA) recommendations and the criteria described herein. Projects must avoid or minimize joints that intersect another joint or the pavement edge at an angle of fewer than 60 degrees, interior corners (L-shaped slabs), slabs less than 1 foot wide, and odd shapes (keep slabs rectangular, trapezoidal, or triangular). Isolation joints shall box out utility fixtures and isolate them from the main slab. Fixtures must be located so the joints are centered on the box-outs or coincide with the isolation joints around the box-outs.
- C. Gutter joints must align with the transverse joints on the adjoining slab unless an isolation joint is placed between the gutter and the slab. Design with isolation joints can allow offset of transverse to gutter joints; however, the pavement design must take edge conditions into account.
- D. Longitudinal joints must coincide with lane lines. Note that on streets with an odd number of lanes, this will require an offset crown. Spacing between longitudinal joints cannot exceed 15 feet or $24 \times$ slab thickness on unbound base or $21 \times$ slab thickness on stabilized base—whichever is less.
- E. Transverse contraction joints must be spaced at relatively equal intervals and be close to the same spacing as the longitudinal joints so that the panels are relatively square. The ratio of the maximum to minimum slab dimensions (aspect ratio) formed by joints must not exceed 1.25.

Spacing between transverse joints must not exceed 15 feet or $24 \times$ slab thickness on unbound base or $21 \times$ slab thickness on stabilized base—whichever is less. If the aspect ratio cannot be met, the slabs must be reinforced with the #5 bar at 12 inches on centers.

- F. Transverse joints (sawed or construction) in plain concrete pavement slabs 7 inches thick or greater must be dowelled. All joints within intersections must be dowelled when dowels are needed on the transverse joints in one of the approach lanes. Plate dowels are allowed. Dowel installation must be per Oregon Standard Specifications for Construction 00756.43(a).
- G. All joints must be sealed with joint sealant listed on the ODOT Qualified Products List (QPL) and placed in a joint reservoir sized in accordance with the recommendations of the joint sealant manufacturer. (Typically, the reservoir width should be twice the sealant depth for silicone sealant). The sealant must be supported by a backer rod of the size and material recommended by the joint sealant manufacturer. The top of the sealant must be recessed below the slab surface by 0.125–0.375 inch.

6.7 STRUCTURAL REHABILITATION DESIGN

- A. Pavement coring performed at representative locations shall be used to determine the thickness and composition of the pavement materials and evaluate the cracking depth, investigate the cracking mode (top-down or bottom-up), investigate for moisture-induced damage (asphalt stripping damage), determine delamination within the pavement. Areas of moderate-to-severe distress that are structural must be identified. Additional cores should be obtained if there are multiple travel lanes in one direction.
- B. Field investigation with falling weight deflectometer (FWD) testing of existing industrial, collector, and arterial pavement is recommended to determine the structural condition and remaining structural life.
 - 1. FWD testing will be conducted following ASTM D 4694 and D 4695.
 - 2. The FWD test data must be analyzed to delineate analysis units representing segments having distinctly different structural characteristics.
 - 3. The in situ resilient modulus of the subgrade and the effective structural number of the existing pavement structure must be estimated from back-calculation analysis of the FWD test data using the back-calculation analysis procedure described in the *AASHTO Pavement Guide* or other procedures meeting the guidelines of ASTM D 5858.
- C. The investigation must also include a visual survey of pavement distress. A distress survey must identify the pavement condition concerning rehabilitation needs. Areas of moderate-to-severe distress that are structural must be identified.
- D. If the FWD test is not used, resilient modulus should be determined by one of the options listed under the “Subgrade Supports Inputs” section of these *Standards*. Layer coefficients for surfacing should be based on a visual condition assessment and the values listed in Table 5.2 of the *AASHTO Pavement Guide*. Layer coefficients for the base should be based on dynamic cone penetrometer (DCP) testing in conjunction with Figure 2.7 in the *AASHTO Pavement Guide*.
- E. Design for structural rehabilitation of existing pavement must be accomplished using the procedures described in Part III of the *AASHTO Pavement Guide* and the rehabilitation design guidelines in the *ODOT Pavement Guide*. Rehabilitation recommendations must consider measures for mitigation of reflective cracking, layer delamination, and stripping.

- F. Rehabilitation design must include detailed information regarding pavement repair through dig-out and variable grind depths. Design must also include design section as well as location and approximate quantities.

6.8 DEFAULT PAVEMENT SECTIONS

The default pavement sections are based on conservative design criteria, including anticipated traffic and construction vehicle loading under poor soil conditions. These assumptions may not be representative of typical conditions for many locations. For local roads, use the commercial/industrial pavement section if a transit bus line or similar shuttle buses will use the street. Roundabout design must be site specific and cannot use the below default values.

Materials, construction practices, and general information from Sections 6.4 (Flexible Pavement) and 6.5 (Rigid Pavement) should be followed.

Table 6-7 provides default asphalt concrete pavement section information. Table 6-8 provides information for standard rigid pavement section.

Table 6-7: Default Asphalt Concrete (AC) Pavement Section

Functional Classification	Thickness				AC Mix Design Level ⁶
	AC Wearing Course ¹	AC Base Course ²	¾-inch – 0 Leveling Aggregate	Aggregate Base Course ^{3,4,5}	
Arterial	2"	7"	2"	14"	3
Collector	2"	6"	2"	14"	2
Local Commercial/Industrial	2"	6"	2"	12"	3
Local Residential	2"	2"	2"	10"	2
Alley	3"	N/A	2"	8"	2
Shared-Use Path ⁹	3"	N/A	6" of ¾-inch – 0 Aggregate		2

¹Use ½-inch-dense ACP. Place in one lift. Conform to mix design levels as shown in the table. Use PG 70-22 binder for arterial and PG 64-22 binder otherwise.

² Use ½-inch-dense ACP. Place in lift thicknesses from 2 to 3 inches. Conform to mix design levels as shown in the table. Use PG 70-22 binder for asphalt concrete surfaced pavement for top 4 inches on arterials and PG 64-22 binder elsewhere.

³ Use ¾-inch-0 or 1 1/2-inch-0 dense graded base aggregate meeting the requirements of Oregon Standard Specifications for Construction 00641.

⁴ Aggregate base thickness may need to be increased for constructability in areas of soft or wet subgrade.

⁵ Subgrade geotextile is required below the aggregate base for silt and clay subgrade types.

⁶ Collector may require Level 3 for roads identified as transit or trucking routes and with ESAL 1,000,000 or greater. Arterial may require mix design level 4 for ESAL in excess of 10,000,000.

⁷ A pavement design to accommodate anticipated traffic loadings and existing soil conditions shall be submitted to the city engineer for approval. ACP shall be compacted to 92% max density (rice density) per AASHTO T-209.

⁸ Subgrade and base rock shall be compacted to 95% relative density per AASHTO T— 180.

⁹ See Trails Master Plan for additional information.

Table 6-8: Standard Rigid Pavement Section

Functional Classification	Thickness		
	PCC ^{1, 2}	AC Base Course ³	Aggregate Base Course ^{4,5,6}
Arterial	9"	4"	8"
Collector	8"	4"	8"
Local Industrial/Commercial	8"	4"	8"
Local Residential	8"	N/A	6"

¹ Use Class 4000, 1.5-inch paving concrete.

² Use epoxy-coated 18-inch-long smooth circular stainless steel dowel bars at 12-inch spacing along all transverse joints. Bars should be coated with a bond breaker to be approved by the City Engineer. For 7- to 8-inch-thick PCC slab, use 1-inch diameter bars, for 9- and 10-inch-thick PCC slab, use 1.25-inch diameter bars. For slabs less than 7 inches thick, joints should be un-doweled.

³ Refer to Section 6.6 for further jointing criteria.

⁴ Use ¾-inch-dense ACP. Place in lift thicknesses from 2 to 3 inches. Conform to mix design levels as shown in the table. Use PG 64-22 binder for asphalt concrete.

⁵ Use ¾-inch-0 or 1 1/2-inch-0-dense graded base aggregate meeting the requirements of Oregon Standard Specifications for Construction 00641.

⁶ Aggregate base thickness may need to be increased to 12 inches or more for constructability in areas of soft or wet subgrade.

⁷ Subgrade geotextile is required below the aggregate base for silt and clay subgrade types.

7.0 STORMWATER

Chapter 7 provides an overview of City stormwater standards and primarily refers to the *City Stormwater and Grading Design Standards* for detailed requirements.

7.1 GENERAL DESIGN REQUIREMENTS

Stormwater design must include provisions to adequately control runoff development as defined by the City. The design must ensure the future extension of the stormwater drainage system to the entire drainage basin in conformance with the adopted City Stormwater Master Plans as well as the *Stormwater and Grading Design Standards*.

Design requirements include the following:

- A. The approved point of disposal for all stormwater must be discharged at the existing natural drainage outlet or outlets. Runoff is not allowed to flow over adjacent public or private property at a rate, volume, or location materially different from that which existed before development occurred.
- B. The peak runoff from all applicable designs must not be more than what existed before development. Retention and/or detention facilities are required where necessary to meet this requirement. Additional flow control requirements, as stated in the *Stormwater and Grading Design Standards* and adopted Stormwater Master Plan, must also be met as applicable.
- C. Vegetation must be established on areas disturbed or on areas of construction, as necessary, to minimize erosion per the City's *Stormwater and Grading Design Standards*.
- D. Stormwater facilities must control the discharge of pollutants according to the City's *Stormwater and Grading Design Standards*.
- E. All stormwater drainage system designs must make adequate provisions for collecting all stormwater runoff. The system must be able to accommodate all runoff from upstream tributary areas, and the amount of runoff to be accommodated will be based on the ultimate development of all upstream tributary areas.
- F. Swale breaks must be provided in stormwater planters around light poles.
- G. For information on drainage curbs, refer to ODOT Specifications and ODOT Standard Drawings.
- H. Green street infrastructure is encouraged when applicable to manage stormwater, treat runoff to reduce pollution and infiltrate water into the ground, and limit how much stormwater and pollutants eventually make their way into vulnerable natural waterways.

7.2 MINIMUM DESIGN CRITERIA

Refer to the *Stormwater and Grading Design Standards* for the minimum stormwater design criteria.

7.3 ALIGNMENT AND COVER

Refer to the *Stormwater and Grading Design Standards* for standards on alignment and cover.

7.4 PIPE MATERIAL AND SIZE

Pipe material and size must meet the requirements in the *Stormwater and Grading Design Standards*.

7.5 STRUCTURES

Refer to the *Stormwater and Grading Design Standards* for requirements for stormwater structures.

7.6 CULVERTS

Water crossing structures on all creeks and tributaries must not impede or eliminate a native fish species' access to habitat or ability to migrate. In general, projects should use bridge crossings rather than culverts wherever possible. If culverts are used, install slab, arch, or box type culverts, preferably using bottomless designs that more closely mimic stream bottom habitat. Proposed culvert crossings, regardless of tributary size or whether they are intermittent or perennial, must conform to Oregon Department of Fish & Wildlife and National Marine Fisheries Service's regulations and stream crossing guidelines. In addition to designing stream crossings for fish passage, culverts should include shelves and other design features to facilitate terrestrial wildlife passage.

Culverts within roadside ditches not deemed jurisdictional waterways and 18 inches in diameter or larger must have riprap installed at the inlets to protect from erosion. All riprap must be lined with drainage geotextile. Riprap for culvert outlets must be in accordance with the *Stormwater and Grading Design Standards*.

Cross culverts require headwalls in accordance with the *Stormwater and Grading Design Standards*.

Additional requirements may apply to meet State and Federal permitting requirements, which depend on the type of permit (Refer to Section 2.2).

7.6.1 Inlet and Outlet Control Analysis

The headwater depth for pipes under inlet or outlet control must be determined using the nomographs contained in the ODOT *Hydraulics Manual*.

7.6.2 Headwalls and Endwalls

Pipe headwalls, endwalls, or other approved end protection are required (1) where pipe material other than concrete or ductile iron is exposed in the design of an outlet or inlet pipe; (2) where required to provide slope stability; or (3) if properly-sized riprap cannot provide sufficient energy dissipation. Headwalls and endwalls must meet the requirements in the *Stormwater and Grading Design Standards*. In addition, the locations of the headwalls and endwalls relative to the edge of travel should be evaluated to meet roadside clearance (See Section 3.6).

7.7 CONVEYANCE SYSTEMS

Conveyance systems must be designed according to the *Stormwater and Grading Design Standards*. If a project uses an existing, undersized storm conveyance system, there must be a 1-foot minimum freeboard between the hydraulic grade line and the top of the structure or finish grade above pipe for the conveyance design storm post-development peak rate of runoff.

7.8 STORMWATER FLOW CONTROL

Stormwater flow control must comply with the *Stormwater and Grading Design Standards*.

7.9 STORMWATER QUALITY TREATMENT

Stormwater quality treatment must comply with the *Stormwater and Grading Design Standards*.

7.10 EROSION PREVENTION AND SEDIMENT CONTROL

Erosion prevention and sediment control must comply with the *Stormwater and Grading Design Standards*.

8.0 UTILITIES

Chapter 8 provides information on public and private utilities and the requirements for each type.

8.1 PUBLIC-OWNED UTILITIES

- A. Public-owned facilities include the sanitary sewer, storm drainage, and water distribution system.
- B. Refer to the *Sanitary Sewer Design Standards* and *Sewer Pump Station & Force Main Design Standards* for detailed design information and to Std. Dwg. OC513 for utility line placement.
- C. Refer to the *Water Distribution System Design Standards* for detailed design information and to Std. Dwg. OC513 for utility line placement.
- D. Refer to the *Stormwater and Grading Design Standards* for detailed design information and to Std. Dwg. OC513 for utility line placement.
- E. Utilities must not be located under the curb or on ADA ramps; refer to Std. Dwg. OC513 for utility line placement.

8.2 PRIVATE UTILITIES IN PUBLIC RIGHTS-OF-WAY

- A. Existing Facilities
 - 1. All private utility construction should adhere to OCMC 13.34 Utility Facilities in Public Rights-of-Way and established City franchises.
 - 2. Private utility systems shall not impede public infrastructure. All facilities shall abide by National Electric Safety Code, the ADA, and the locations outlined below.
 - a. Utility facilities shall be placed in the public utility easement. The City Engineer must approve locations outside of easements.
 - b. No utility shall cause a safety hazard in City right-of-way (ROW), including crash hazards, ADA non-compliance, and sight distance issues.
 - c. Support structures shall be used jointly in City ROW; no double pole locations are allowed.
- B. New Facilities
 - 1. New facilities refer to new installations and relocation of existing utilities.
 - 2. All new development installations should adhere to OCMC Chapter 16.12.095.
 - a. Poles must be relocated to the abutting development property line.
 - 3. All new utilities shall be placed in a public utility easement (PUE) unless approved by the City Engineer.

All utilities shall abide by Oregon State statutes. The use of City right-of-way is subject to national joint-use notification regulations and Oregon joint-use association requirements.

8.3 PUBLIC UTILITY EASEMENTS

8.3.1 Public Utility Easement

The minimum width for a public utility easement (PUE) must be 10 feet or 5 feet, as shown in Std. Dwg. OC513 and OCMC 16.12.085 or as approved by the City Engineer. The PUE shall be located along all property lines adjacent to public rights-of-way. The City may require a larger PUE in commercial and industrial areas and where right-of-way widths are constrained. See Std. Dwg. OC513 for easement grading requirements.

8.3.2 City-Owned Easements

- A. Public water lines shall be located in the public right-of-way. A public water line may only be located on private property upon approval and at the sole discretion of the City Engineer. A public water line on private property shall be centered within a permanent water facilities easement granted to the City. The easement shall have a minimum width of 15 feet along its entire length when placed in a roadway, parking area, or another hardscaped surface. The easement shall have a minimum width of 20 feet in unimproved or landscaped areas where vehicular access is not normally available. Table 8-1 provides minimum easement widths consistent with the *City Sanitary Sewer Design Standards* and *City Water Distribution System Design Standards*.

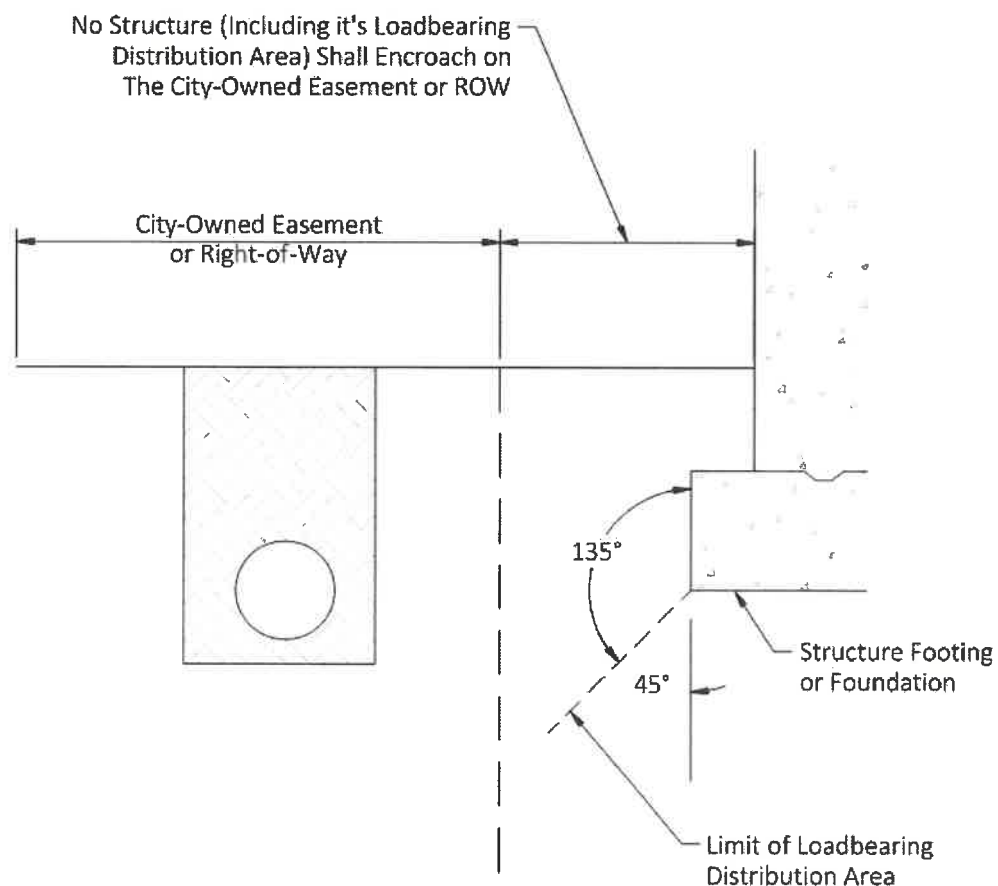
Table 8-1: Minimum Easement Widths

Easement Type	Width (ft)
Public Utility Easement (PUE)	10'/5'
Public Water Easement (paved surface)	15'
Public Water Easement (un-paved surface)	20'
Public Sewer or Storm Easement (paved surface)	15'
Public Sewer or Storm Easement (un-paved surface)	20'
Public Sewer Easement (15-inch diameter and greater and/or 15 ft sewer depth and greater)	20'
Shared (Parallel) Public Sewer Easement	25'
Access and Maintenance Easement	20'

- B. Public sanitary sewer lines shall be located in the public right-of-way. A public sanitary sewer line may only be located on private property upon approval and at the sole discretion of the City Engineer. A public sanitary sewer line on private property shall be centered within a permanent sanitary sewer easement granted to the City.
- C. Public storm and sanitary sewer located on private property shall be located within a permanent public storm and/or sanitary sewer easement granted to the City, with a minimum width of 15 feet along its entire length. Parallel public storm and sanitary sewer sharing an easement require the easement width to be increased to a minimum of 25 feet. Shared easements require City Engineer approval.
- D. The required width of an easement may be greater than the minimum requirement based on the surrounding conditions and property line configurations. There may be additional restrictions on the setback of structures near an easement to comply with building codes.

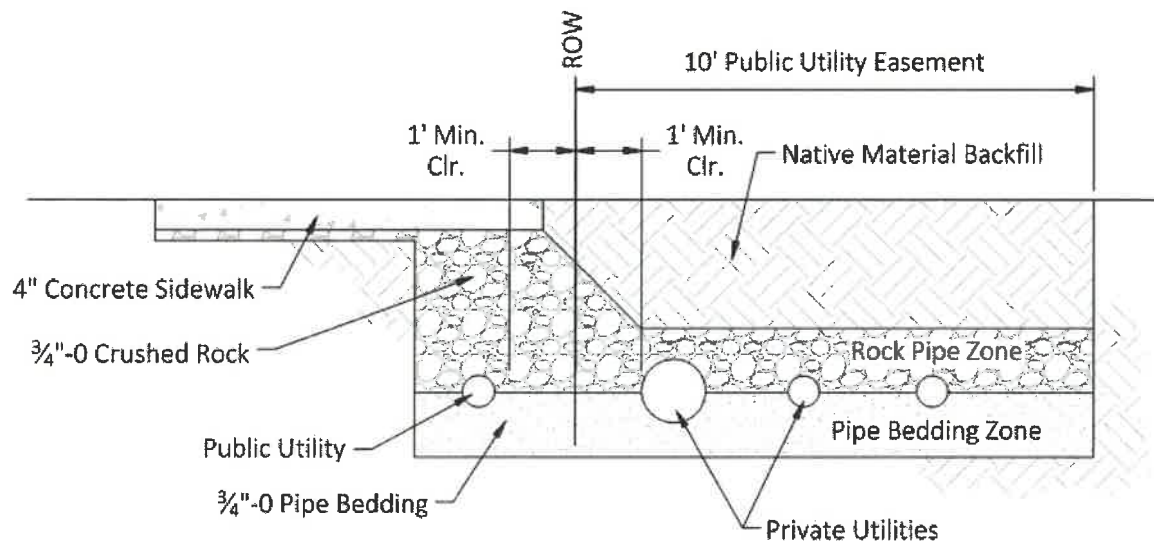
- E. A 20-foot-wide permanent access and maintenance easement to benefit the City may be required in instances where City-owned infrastructure is inaccessible by way of the permanent easement. The access and maintenance easement shall be along a route that the City's maintenance vehicles can access.
- F. Encroachments
1. There shall be no encroachment within a City-owned easement by a privately-owned structure, building, building overhang, retaining wall, monument sign, or any other object (including a structure's loadbearing distribution area as defined in Figure 8-1) that would adversely affect the City's ability to maintain public utilities.
 2. There shall be no parallel encroachment within a City-owned right-of-way or easement (including a PUE) by a private utility facility or structure (including a structure's loadbearing distribution area as defined in Figure 8-1) without prior written approval by the City. Private utilities shall cross City-owned easements at right angles. Private utility facilities and structures shall not be placed within the pipe zone. The City will not approve any encroachment that would adversely affect the City's ability to maintain public utilities.

Figure 8-1: Loadbearing Distribution Area



- G. Easement forms are subject to the approval of the City before recording.
- H. All recording costs for easements created by private development shall be borne by the developer.
- I. The construction plans must show all existing and proposed easements. This includes the easement type and recorded document information. All proposed easements shall include a blank space for final recording numbers to be added to the record drawings.
- J. Overhead utilities must meet the clearances as outlined in the National Electrical Safety Code (NESC) 234 Clearances to Other Structures.
- K. Figure 8-2 provides an example of the shared utility trench option.

Figure 8-2: Shared Utility Trench Option



9.0 STREET LIGHTING

Chapter 9 provides street lighting standards for the City. Street lighting levels shall follow PGE standards for all PGE-owned lights. For City lights, a lighting analysis should be completed during the design and approved by the City Engineer.

9.1 PORTLAND GENERAL ELECTRIC (PGE) AND CITY AGREEMENTS

PGE and City Agreements are described in Table 9-1.

Table 9-1: PGE and City Agreements

PGE Option	Description
A	Developer to pay line extension fee, install PGE-provided light pole foundations, developer-provided junction boxes, and conduits with tracer wire. PGE to install the remaining equipment and own and maintain the street lighting system.
B	This option is not allowed within the City.
C	Developer to install the street lighting system, pay the line extension fee, and maintain the system through the maintenance period. Beyond the maintenance period, the City will own and maintain the street lighting system. Option C includes streets in the Downtown District and Washington Street, 7th Street, 99E, and Molalla Avenue.

9.2 PGE-RELATED DESIGN

- A. The Engineer of Record and/or City Project Manager is responsible for arranging with PGE to connect the street lighting system to the local distribution system and for locating the service cabinet.
- B. Street lights and poles shall be designed to be PGE Schedule 95 (by City direction only) or Option A (PGE-owned and maintained) or Option C (City-owned and maintained) light emitting diode (LED) lights. All Option C lights must be connected to a City-owned service and meter. The City has the final approval authority on which luminaire to use based on the specific lighting application. For Option C, luminaire information is shown on OC 536.
- C. For Option A, refer to PGE's Approved Equipment List for all items, including luminaires, foundation, poles, junction boxes, photocell, etc.

9.3 LIGHTING DESIGN CRITERIA

The lighting design criteria noted below applies to both Option A and Option C.

- A. All street lighting shall be designed by a licensed professional engineer (See Section 1.1.1) using the provisions in these *Standards*, and, where applicable, the current version of ANSI/IES RP-8 *American National Standard Practice for Roadway Lighting*.

1. Pedestrian-scale lighting should be adequate to illuminate pedestrian facilities that are a part of transit-oriented districts, town centers and plazas, off-street pathways and shared-use paths, or other areas identified in the Oregon City TSP or other area-specific plans. Typically, this lighting is positioned over the sidewalk rather than the street and is equal to or less than 16 feet above the sidewalk. All pedestrian-scale lighting equipment shall be approved by the City Engineer. Accessway lighting shall be to a minimum level of one-half (0.5) foot candle, a one and one-half (1.5) foot candle average, and a maximum to minimum ratio of seven-to-one (7:1) and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances.
 2. Illumination shall be provided and evaluated at midblock crossings per ANSI/IES RP-8.
- B. All electrical components shall be Underwriters' Laboratories (UL)-approved and testing lab-approved from labs accepted by the State of Oregon.
 - C. Street illumination design and installation shall conform with the Oregon Standard Specifications for Construction, Oregon Standard Drawings, and City Standard Drawings.
 - D. All street light plans shall include pole location by station, wiring, conduit, junction boxes, photocells, controller cabinets, power source location, lighting analysis output points, driveway locations, trees, and any other pertinent information. All backup lighting analysis, line loss, and service cabinet circuit load calculations shall be submitted for review along with the plans.
 - E. All street lights shall be LED.
 - F. The lighting plans shall include general installation notes, including the type, manufacturer, catalog number, number of LEDs, wattage, mounting height, arm length, and specification of the proposed equipment. Plans shall also include the wiring and circuit diagrams. The lighting color/temperature, and dark sky characteristics are per the PGE approved list and City standard drawings.
 - G. The lighting plans shall include photometric data, such as average foot-candles, average to minimum ratio, maximum to minimum levels, and lamp lumen depreciation factor. Photometric calculations shall be provided using separate calculation zones for roadway, intersection, and pedestrian facilities. The plans shall indicate the roadway and intersection functional classifications and pedestrian conflict assumed for calculations. An electronic file of the photometric calculations shall be provided as a PDF file.
 - H. Circuits and cable runs shall be designed to provide separate and independent circuits for street lights. Wire size shall be determined by the loading and distance of each circuit. Loading calculations shall be based on the maximum loading possible for the circuit, assuming all fixtures are operating at the maximum output for the highest drive current for the fixture. Wire shall be sized to limit voltage drops to a maximum of 2% between the utility service connection and the control panel and a maximum of 3% from the control panel to the most distant fixture served. The Engineer of Record or City Project Manager must submit an electronic file of the voltage drop/line loss calculations for the City Engineer to approve.
 - I. Photometric analysis shall include only light fixtures that are within the right-of-way. Light sources on private property cannot be included in the street lighting analysis.

- J. Photometric analysis shall include only light fixtures installed as part of the project for which the analysis pertains and existing light fixtures within the right-of-way. Street lighting analysis shall not include future light fixtures for roadways planned to be 2-3 lanes wide, but it is allowed for roadways planned to be greater than 4 lanes wide.
- K. Lighting design shall account for a modified photometric distribution when glare shields are used.
- L. A 10-day burn-in period shall be completed before the City's final acceptance of the street lights that are either metered or fall under PGE's Option C standard.
- M. The Engineer of Record or City Project Manager shall submit items for materials review to the City Engineer before ordering any street lighting equipment (poles, light fixtures, lighting controls, control nodes, junction boxes, foundations, services, cabinets, etc.) and pass applicable manufacturer warranties along to the City. Specific requirements for light fixtures are further described in Section 9.4.
- N. In systems with existing lights on both sides of the street, the circuitry shall be configured so that the lights on one side of the street can be "de-energized" without affecting the operation of the lights on the opposite side of the street. A maximum of 72 hours (3 days) of outage is permissible for existing street lighting. Where work would result in an outage for all existing lights, temporary lighting in a manner acceptable to the City shall be provided. Temporary lighting of up to 1 month (30 days) is allowed, and the Engineer of Record or City Project Manager shall strive to complete all street lighting work and energize lights within that timeframe.
- O. A minimum of 2-inch conduit shall run between junction boxes. Between each light pole and the adjacent junction box, there must be 1 conduit that is 2 inches in size. All conduit runs shall be marked with an underground marking tape per 00960.42(e) of the Oregon Standard Specifications for Construction. All conduits shall be Schedule 40 PVC, and all elbows shall be fiberglass. The Engineer of Record or City Project Manager must install bushings on all conduit ends and seal the ends with an approved conduit plug. See City Standard Drawings for additional details.
- P. The Engineer of Record or City Project Manager is responsible for locating street light poles so that no portion of the pole, mast arm, or luminaire is within 10 feet of an energized line. Installation shall conform to OAR 437-002-0047 and 437-002-2316.
- Q. Table 9-2 provides lighting levels for streets and parallel on-street bicycle facilities.
- R. Table 9-3 provides intersection lighting standards. Table 9-4 provides unsignalized pedestrian/bicycle crossing target lighting values.

Table 9-2: Lighting Levels for Street and Parallel On-Street Bicycle Facilities (ANSI/IES RP-8)

Average Maintained Illuminance on the Horizontal				
Roadway Classification	Pedestrian Conflict Area	Minimum Average Maintained in Foot Candles ¹		
		Concrete Street	Asphalt Street	Uniformity Ratio Avg. to Min.
Arterial	High	> 1.2	> 1.7	< 3:1
	Medium	> 0.9	> 1.3	< 3:1
	Low	> 0.6	> 0.9	< 3:1
Collector	High	> 0.8	> 1.2	< 4:1
	Medium	> 0.6	> 0.9	< 4:1
	Low	> 0.4	> 0.6	< 4:1
Local Road	High	> 0.6	> 0.9	< 6:1
	Medium	> 0.5	> 0.7	< 6:1
	Low	> 0.3	> 0.4	< 6:1

¹ Do not design roadways more than 1.3x above the minimum average foot-candlelight levels.

Table 9-3: Intersection Lighting Standards (ANSI/IES RP-8)

Average Maintained Illuminance on the Horizontal				
Intersection Classification	Pedestrian Conflict Area	Minimum Average Maintained in Foot Candles ^{1 2}		
		Concrete Intersection	Asphalt Intersection	Uniformity Ratio Avg. to Min.
Arterial/Arterial	High	> 2.4	> 3.4	< 3:1
	Medium	> 1.8	> 2.6	< 3:1
	Low	> 1.2	> 1.8	< 3:1
Arterial/Collector	High	> 2.0	> 2.9	< 3:1
	Medium	> 1.5	> 2.2	< 3:1
	Low	> 1.0	> 1.5	< 3:1
Arterial/Local Road	High	> 1.8	> 2.6	< 3:1
	Medium	> 1.4	> 2.0	< 3:1
	Low	> 0.9	> 1.3	< 3:1
Collector/Collector	High	> 1.6	> 2.4	< 4:1
	Medium	> 1.2	> 1.8	< 4:1
	Low	> 0.8	> 1.2	< 4:1
Collector/Local Road	High	> 1.4	> 2.1	< 4:1
	Medium	> 1.1	> 1.6	< 4:1
	Low	> 0.7	> 1.0	< 4:1
Local Road/Local Road	High	> 1.2	> 1.8	< 6:1
	Medium	> 1.0	> 1.4	< 6:1
	Low	> 0.6	> 0.8	< 6:1

¹ Do not design intersections more than 1.3x above the minimum average foot-candlelight levels.

² Intersection analysis area includes curb ramp landings and crosswalks.

Table 9-4: Unsignalized Pedestrian/Bicycle Crossing Target Lighting Values (ANSI/IES RP-8)⁶

Average Maintained Illuminance on the Horizontal and Vertical ⁵			
Maintained Illuminance Values for Walkways in Foot Candles High Pedestrian Conflict Areas ⁴			
Location	Eavg ¹	EVmin ²	Uniformity Ratio ³
Mixed Vehicle and Pedestrian	> 2.0	> 1.0	< 4:1
Pedestrian Only	> 1.0	> 0.5	< 4:1
Maintained Illuminance Values for Walkways in Foot Candles Medium Pedestrian Conflict Areas ⁴			
Location	Eavg ¹	EVmin ²	Uniformity Ratio ³
Pedestrian Areas	> 0.5	> 0.2	< 4:1
Maintained Illuminance Values for Walkways in Foot Candles Low Pedestrian Conflict Areas ⁴			
Location	Eavg ¹	EVmin ²	Uniformity Ratio ³
Rural/Semi-Rural Areas	> 0.2	> 0.06	< 10:1
Low Density Residential (< 2 dwelling units per acre)	> 0.3	> 0.08	< 6:1
Medium Density Residential (2.1–6.0 dwelling units per acre)	> 0.4	> 0.1	< 4:1

¹ Eavg—Minimum maintained average horizontal illuminance at the pavement surface.

² EVmin—Minimum vertical illuminance at 5 feet above the pavement.

³ Ratio of Eavg to the minimum horizontal illuminance at the pavement surface.

⁴ Refer to ANSI/IES RP-8 for additional guidance regarding these tables.

⁵ Vertical illuminance is measured at a height of 5 feet in both directions and parallel to the main pedestrian flow.

⁶ Target values for midblock and RRFB enhanced crossings.

9.4 LIGHT FIXTURES

PGE light fixtures are the standard, which includes different types.

- The *decorative acorn light fixture* includes two City standards.
- The *tear drop light fixture* includes two City standards.
- The *decorative post top fixture* includes one PGE standard.

Designs should include the same type of fixture on both sides of the street.

Table 9-5 provides a summary of the light fixtures that shall be used on various streets throughout the City. Table 9-6 provides example photos for each type of light fixture presented in Table 9-5.

Table 9-5: Types of Light Fixtures By Street

Location	Tear Drop Style*	King Acorn Style*	Lumecon Acorn Style*	Town & Country Style*
99E : Clackamette Park to Tunnel	X			
Main Street : 99E to 15 th St plus Side Streets			X	
Washington Street: 7 th Street to Metro/Home Depot			X	
Washington Street: Home Depot to Prairie Schooner	X			
Molalla Avenue: Hwy 213 to Holmes		X		
Molalla Avenue: Holmes to Division			X	
7 th Street: Division to High	X			
Holcomb Boulevard: Front Avenue to Winston Drive				X

*See Standard Detail OC536 and OC536C for more information

Table 9-6: Examples of Light Fixtures



Note : The pictures above are for reference only and may not be identical to the specified fixture.

9.5 STREET LIGHT EQUIPMENT & PLACEMENT

Any work performed under permits issued by Oregon City Public Works shall be in accordance with the Oregon Standard Specifications for Construction as prepared by ODOT and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the City. Additional guidance for street light equipment and placement is described below.

- A. **Option A:** PGE street lighting equipment must be included in the most current PGE-approved street lighting equipment list.
- B. **Option C:** Street lighting equipment shall be as shown according to Std. Dwg. OC536.
 - 1. Street lighting along Molalla Avenue shall only be Option C and as shown according to Std. Dwg. OC536.
- C. Light poles and junction boxes shall be located per Std. Dwg. OC536.
- D. The Engineer of Record or City Project Manager is responsible for locating street light poles so that no portion of the pole, mast arm, or luminaire is within 10 feet of an energized line. Installation shall conform to OAR 437-002-0047 and 437-002-2316.
- E. Street lighting conduit shall be placed under the sidewalk where feasible.
- F. If the approved equipment is no longer available, the Engineer of Record or City Project Manager should coordinate with the City Engineer to obtain approval of the currently available alternative street lighting system.
- G. Solar-powered equipment is not allowed within the City unless approved by the City Engineer.

9.5.1 Junction Boxes

Standards below apply to Option A and Option C.

- A. Junction boxes shall be no more than 3 feet from each pole served, and there shall be 1 junction box for each street light pole. The Engineer of Record or City Project Manager must install 1 junction box for each lighting controller and include one spare 2-inch conduit installed to the controller with a pull string. See Std. Dwg. OC536-OC536A.
- B. All junction boxes and lids shall be open bottom polymer concrete or polymer fiberglass with a skid-resistant cover marked "Street Lighting."
- C. The Engineer of Record or City Project Manager must not install junction boxes in sidewalk ramps or ramp wings. Junction boxes shall be placed in the following locations in order of preference or as approved by the City:
 - 1. Landscape strip
 - 2. Back of sidewalk with a concrete apron (within the public utility easement)
 - 3. Sidewalk (outside of primary walking route; i.e., furniture zone); see Std. Dwg. OC536A

9.5.2 Cable and Wire

Option A wiring shall conform to PGE standards. The following is for **Option C** only.

- A. A single-phase, 3 wire, 240-volt, dedicated metered service shall be provided for street lighting.
- B. All wires shall be stranded copper, single conductor, type XHHW, with 600-volt insulation (unless no insulation is provided as noted below). Solid wiring is not permitted. The minimum wire size for the lighting circuit is #10 AWG wire, and the maximum wire size is #1 AWG wire. All wire splices shall occur inside the junction boxes.
- C. Street lighting circuits shall be designed to ensure that no section of roadway shall end up completely unlit with the loss of a single circuit. The following circuit configurations apply:
 - 1. When lighting is provided on both sides of the street, each side of the street shall be on a different circuit.
- D. Wire insulation color shall conform to the following:
 - 1. **120-volt photoelectric circuit wires:** A black wire from the controller to the photocell or a red wire for the return to the cabinet shall be used.
 - 2. **240-volt line distribution wires:** Install circuit wire pairs as shown below, with each pair of wires sharing the same insulation color. If additional circuits are required, insulation color shall be approved by the City.
 - a. 1st circuit pair—black
 - b. 2nd circuit pair—red
 - c. 3rd circuit pair—blue
 - d. 4th circuit pair—brown
 - e. 5th circuit pair—yellow
 - f. 6th circuit pair—orange
 - 3. Grounded (neutral) conductors, if needed, shall be white or natural gray.
 - 4. Grounding electrode conductors from the light pole to the adjacent junction box shall be green insulated or bare stranded wire.
 - 5. Equipment ground conductors in the conduit raceways shall be green insulated.
- E. Color coding of each conductor shall remain consistent throughout the entire system. Factory supplied striping of conductors will be accepted when the required color insulation is not available. Color tape will not be accepted as an alternate for insulation color coding.

9.5.3 Poles and Foundations

- A. All poles shall be grounded. The Engineer of Record or City Project Manager must install a ground rod in the junction box located at each pole. This includes a 1-inch schedule 40 PVC conduit with a #6 green insulated or bare wire from the pole to the ground rod located in each junction box. (See *Oregon Standard Drawings*.)
- B. All light poles shall be constructed with a nominal 2-½-inch x 5-inch hand hole placed approximately 2-4 feet above the ground line. In plan view, the handhole shall be at 90 degrees from the mast arm or curbside of the pole. The hand hole must be secured with cast aluminum or galvanized steel cover painted to match the pole and held in place with a stainless-steel, tamper-resistant set screw.
- C. All poles should include flower basket irrigation.
- D. Breakaway designs shall be used for light poles located along roadways with posted speeds greater than 35 mph and within the clear zone as defined by Table 3-1 of the *AASHTO Roadside Design Guide*, except for those located in drainage ditches, near bus shelters, or in areas with extensive pedestrian concentrations.
- E. An inline fuse shall be installed between the circuit and each light fixture depending on whether it is metered or falls under PGE's Option C standard.
- F. Poles shall be located a minimum of 15 feet from street trees as shown on Std. Dwg. OC536A.
- G. Poles shall be located a minimum of 5 feet from driveway wings, fire hydrants, and other utilities.

9.5.4 Lighting Controller

- A. The controller cabinets shall be installed away from intersections and locations where an errant vehicle could damage the cabinet. The cabinet location should be near a side property line and should not detract aesthetically from the adjacent properties. In residential areas, locating cabinets within side yard frontages is preferred to locating them in front yard frontages. Cabinet locations should also consider future system growth. The Engineer of Record or City Project Manager should consult with the City Engineer and PGE regarding cabinet location at the beginning of design.
- B. The cabinet shall have a service panel that has a "Service Equipment" rated UL label attached to the panel. A 100-amp, single-phase, 3-wire, 240-volt, dedicated metered service is to be provided by the developer. Each street lighting circuit shall be wired 240 volts. The street light base-mounted controller shall be installed per ODOT's Std. Dwg. TM485 and shall be on *Clackamas County Roadway Standards* and details. The controller shall be made of stainless steel and include circuit breakers, a test switch, and neutral and ground bars. When only one illumination breaker is being installed, there shall be space for three additional illumination breakers. Designers shall follow NFPA 70E standards for arc flash, provide the required labeling for the controller cabinet, and attach available fault current to the inside of the door with a permanent label.
- C. The cabinet shall be stainless steel.
- D. A single, 3-inch spare conduit shall be installed from the controller cabinet to the nearest junction box with tracer wire and pull line.
- E. When designing or installing Option C, a single photocell shall be provided at the BMCL. Photocell model shall be from ODOT Qualified Product List or PGE Approved Equipment List.

City of Oregon City

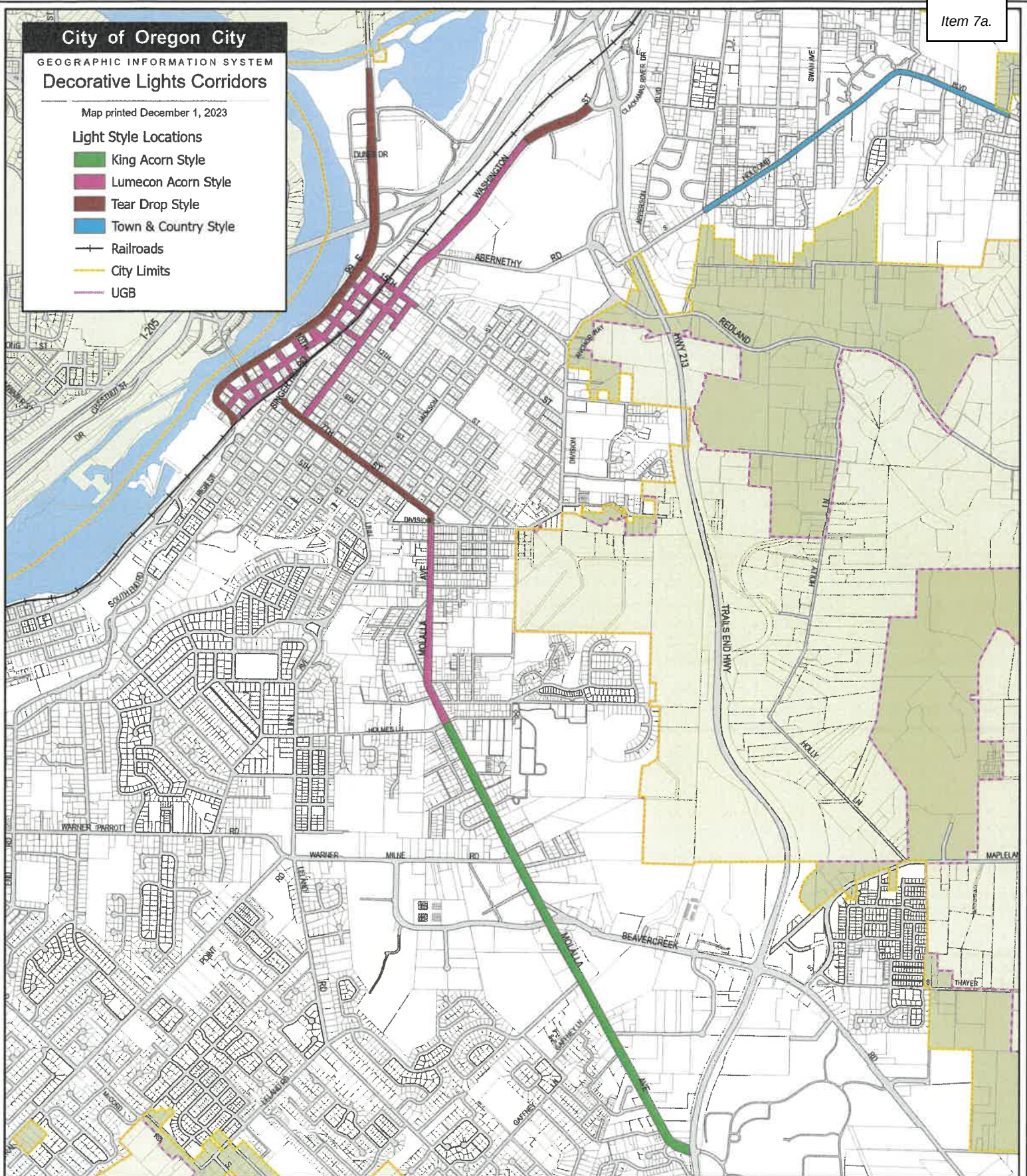
GEOGRAPHIC INFORMATION SYSTEM

Decorative Lights Corridors

Map printed December 1, 2023

Light Style Locations

- King Acorn Style
- Lumecon Acorn Style
- Tear Drop Style
- Town & Country Style
- Railroads
- City Limits
- UGB



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, or surveying purposes. Notification of any errors is appreciated.



0 1,000 2,000 3,000 Feet

1 inch = 2,100 feet

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10.0 LANDSCAPE DESIGN

Chapter 10 provides information on landscape design for City streets and intersections. Additional design standards are provided OCMC 12.08. For roundabout landscape design considerations, refer to *NCHRP Report 672: Roundabouts, An Informational Guide*.

10.1 PLANT TYPES

A. Trees

1. Tree species type selections should comply with Section 10.2 Street Trees below.

B. Shrubs and Groundcovers

1. Shrub and groundcover species type selections should be drought-tolerant, suitable to the available space, and adapted to street-side environments. Shrubs and groundcover plants are to be selected from the Oregon City Native Plant List unless the City Engineer approves otherwise.

C. Plants found on the Oregon City Nuisance Plant List or other invasive species should never be used.

10.2 STREET TREES

A. Street tree species selection must be in accordance with OCMC 12.08.015—Street Tree Selection, Planting, and Maintenance Requirements. Section 3.5 provides additional information on sight distance considerations for tree planting and maintenance.

B. Types

1. The City will approve street tree species based on specific site conditions. Street tree species are to be selected from the Oregon City Street Tree List. Alternative species may be acceptable with prior City Engineer approval.

C. Clearance Distances

The following distances shall be maintained between trees and street elements, as measured from the center point of the tree:

1. 5 feet from driveways as measured from edge of driveway apron.
2. 5 feet from any regulatory signs.
3. 15 feet from street lights.
4. 5 feet from fire hydrants.
5. 20 feet from intersections as measured from the right-of-way boundary of the intersecting street.
6. 5 feet from all public utilities (e.g., sewer, storm, and water lines, utility meters, etc.).

D. Planting Requirements

1. Refer to OCMC 12.08.015—Street Tree Selection, Planting, and Maintenance Requirements.
2. Plant street trees according to Std. Dwg. OC530, Street Tree Planting in Planter Strip.

E. Distance to Street Light Poles

1. Trees shall be located a minimum of 15 feet from street light poles, as shown on Std. Dwg. OC536A.

F. Irrigation

1. Irrigate new street trees by permanent or temporary means if required by the City Engineer. The City Engineer must approve all irrigation requirements and design/construction methods.
2. In urban conditions, especially when planting in pavement (including median islands and sidewalk cutouts), a permanent irrigation system may be necessary to sustain living plants. The City Engineer must review and approve selection.
3. Implement wise water-use techniques that include water distribution devices that apply water with no runoff or overspray onto pavement or buildings. Incorporate ‘smart’ controllers and sensors to synchronize water application with changing weather conditions.
4. A qualified designer should prepare irrigation plans and specifications.
5. Irrigation systems using an automatic controller shall have the ability to reduce water application over time to promote plant independence and sustainability.

- G. Street trees and their limbs and foliage must comply with OCMC 10.32.030—Sight Line Requirements. Other maintenance requirements related to landscape trimming are included in OCMC 12.08.025.

10.3 MEDIAN DESIGNS**A. Style**

1. Street medians should be landscaped with City Engineer approval. Rocked medians should be used for medians near pedestrian crossings and when required for sight distance.
2. Street medians 4 feet wide or less (measured from back-of-curb to back-of-curb) must be designed with hardscape elements including but not limited to rocked areas, textured concrete, or modular unit pavers. This should not include trees, shrubs, or groundcover. Bark mulch may be used in street medians 4 feet wide or less, except for anywhere within a left-turn lane pocket taper.
3. Street medians wider than 4 feet (measured from back-of-curb to back-of-curb) must be planted with trees, shrubs, and groundcovers, including bark mulch, unless otherwise approved by the City Engineer. Median planting design must be in accordance with OCMC 12.08.015. Street medians wider than 4 feet may be designed without plants if unique site conditions warrant it. Median design without plant materials will require the City Engineer’s approval.

B. Location

1. Locate street median designs in accordance with OCMC 16.12.016—Street Design. Street trees in planted medians must be spaced 35 feet on-center, and shrubs and/or groundcovers must be spaced 4 feet on-center.
2. Median plant materials must have size and shape characteristics that are appropriate for the available spaces.
3. Street trees shall not be planted closer than 15 feet from street light poles.

C. Pedestrian Refuge Islands

1. For pedestrian and motorist safety, trees, shrubs, and groundcover plants are not recommended in pedestrian refuge islands. Rocked medians should be used instead.

10.4 PLANTING STRIP DESIGNS

Planted landscape strip design shall be in accordance with OCMC 16.12.016.F. Street tree species shall be selected from the Oregon City Street Tree List. Alternative species may be accepted by the City Engineer.

10.5 FURNITURE ZONE

The future zone includes the area from the edge of curb to the right-of-way and may consist of landscaping and other objects associated with adjacent land uses.

- A. Planting may be permissible, with City approval, in street section furniture zones.
- B. Planting within furniture zones likely means plants in open tree wells, sidewalk cutouts, or tree grates. When planting in paved areas, if approved by the City, consider using structural soils (CU-Structural Soil™) beneath the adjacent pavement to promote healthy root spread and root access to subsurface air and water.
- C. For pedestrian and motorist safety, trees, shrubs, and groundcover plants must not restrict access to or compete aesthetically with other amenities located in the furniture zone.
- D. Beyond landscape features, items in the furniture zone may include hydrants, benches, trash containers, decorative tree lights, and electric outlets.
- E. All items in the furniture zone need to be evaluated together to maintain appropriate access to parking and other land uses.
- F. Items in the furniture zone must not impact ADA accessibility.

10.6 GREEN STREETS AND STORMWATER TREATMENT

Landscaping of stormwater treatment facilities must comply with the Oregon City Stormwater and Grading Design Standards. Metro's Designing Livable Streets and Trails Guide provides additional reference information for green streets.

The City encourages projects to incorporate green infrastructure treatments, such as vegetated medians, roadside swales, rain gardens and infiltration planters, permeable pavements, bioretention curb extensions, and street trees. These treatments allow streets to not only manage stormwater but to mitigate the harmful impacts of transportation systems on air, water, noise, and habitat function and connectivity. The goals of green streets are generally to provide stormwater source control, confine stormwater transport and pollutant conveyance to a collection system, restore pre-development hydrology to the extents possible, and provide environmentally enhanced roads. The successful application of green street techniques will promote soil and vegetation contact and onsite infiltration and retention of stormwater.

Examples of green street infrastructure include:

- A. **Street trees** support stormwater management, offer wildlife habitat, improve air quality, reduce heat island effects by providing shade, improve roadway aesthetics, promote human well-being through enhanced levels of interaction and carbon sequestration, and calm traffic. On streets with high levels of walking and bicycling, street trees provide buffers from traffic and air pollution.
- B. **Planters** are structured facilities with hard walls, generally flat bottoms, growing media, topsoil, and vegetation. They can be designed to promote infiltration directly into the native ground below or designed to be impermeable with liners when infiltration is either not desired or not feasible. When designed for impermeability, planters must be plumbed to a stormwater collection system. Planters are often used as one of a series of facilities within a streetscape to meet stormwater requirements.
- C. **Curb extensions with landscaping** have hard edges, generally flat bottoms, soil, vegetation, and the option of permeability or impermeability. Landscape extensions can also be combined with adjacent planters to further reduce runoff volumes, attenuate peak flows, and maximize resident stormwater storage capacity before discharging into a collection system.
- D. **Basins** (or rain gardens) are facilities that are depressed relative to the street and sidewalk elevations, and they may have hard edges or bermed side slopes, flat bottoms, topsoil and/or growing media, and vegetation. Basins are generally used when and where modeled infiltration rates into the site are acceptable and are not harmful to either the roadway pavement or base. They are typically used as a single facility to handle larger volumes of water within a catchment area.
- E. **Swales** are depressed landscape strips with sloped earthen sides. Swales take up more room within the right-of-way than planters because swales lack a hard edge and require side slopes to match adjacent street and sidewalk grades. Swales also convey water parallel to the roadway along their sloped surfaces, which can reduce subsurface collection system pipe needs.
- F. **Permeable Pavement** comes in four forms: permeable concrete, permeable asphalt, permeable interlocking concrete pavers, and grid pavers. Permeable concrete and asphalt are similar to their impermeable counterparts but are open graded. Concrete and grid pavers are modular systems installed with gaps between paver units to allow stormwater to infiltrate through to the aggregate base. Grid pavers are typically a durable plastic matrix that can be filled with gravel or vegetation. Grid pavers are commonly designed to accommodate emergency vehicle or fire truck access on private properties. ADA compliance must be verified in applicable areas.

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APPENDIX A—ADDITIONAL RESOURCES

The *Standards* strive for consistency with the most recent versions of the City Relevant Resources described in Section 1.2.

If the *Standards* do not address a specific design issue, the most recent version of the following documents should be referenced. In all situations, engineering shall determine the appropriate design reference and its applicability.

American Association of State Highway and Transportation Officials (AASHTO), *A Guide for Achieving Flexibility in Highway Design*

AASHTO, Guide for the Development of Bicycle Facilities

AASHTO, Guide for the Planning, Design, and Operation of Pedestrian Facilities

AASHTO, Guidelines for Geometric Design of Very Low-Volume Local Roads

AASHTO, LRFD Bridge Design Specifications

AASHTO, A Policy on Geometric Design of Highways and Streets

AASHTO, Roadside Design Guide

AASHTO - Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals

American Society for Testing and Materials (ASTM)

The Asphalt Institute, *The Asphalt Handbook*

The Asphalt Institute, Thickness Design - Highways and Streets

Federal Highway Administration (FHWA), Manual on Uniform Traffic Control Devices (MUTCD)

FHWA, Standard Highway Signs

FHWA, Roundabouts: An Informational Guide

Institute of Transportation Engineers (ITE), Traffic Control Devices Handbook

ITE, Traffic Engineering Handbook

ITE, Trip Generation Manual

ITE, Trip Generation Handbook

International Building Code (IBC)

International Plumbing Code (IPC)

National Association of City Transportation Officials (NACTO), *Urban Bikeway Design Guide*

NACTO, *Urban Street Design Guide*

ODOT, Highway Design Manual

ODOT, Hydraulics Design Manual

ODOT, Oregon Temporary Traffic Control Handbook for Operations of Three Days or Less

ODOT, Traffic Control Plans Design Manual

ODOT, Traffic Line Manual

ODOT, Traffic Manual

ODOT, Traffic Signal Policy and Guidelines

ODOT, Sign Policy and Guidelines

ODOT, Oregon Standard Drawings

ODOT and American Public Works Association (APWA), *Standard Specifications for Construction*

Oregon Fire Code, Appendices B and D

Oregon Fire Code Metro Code Committee *Fire Code Applications Guide*

Oregon Supplement to the MUTCD

Other local fire codes

Transportation Research Board (TRB), *Highway Capacity Manual*

TriMet Bus Stops Guidelines

APPENDIX B—FORMS

1. Design Modification Form
2. Public Improvement Modification Application
3. ADA Modification Form
4. Work Zone Speed Reduction Request Form

DESIGN MODIFICATION FORM



City of Oregon City
Design Modification Request
For Capital Improvement Program Projects
Per Oregon City Street Standards Section 2.1

Item 7a.

City Use Only

Reference #:

Request submitted by (name, title, contact email and phone number):

Engineer of Record (License number):

Date:

PROJECT INFORMATION

Project name:

Nearest address or intersection:

City map and tax lot number(s):

Functional classification of road:

Posted speed:

DESIGN MODIFICATION

Applicable roadway standard:

Description of modification and reason for request:

Supporting documentation (*photos showing features requiring exception, plan sheets, other items that support the need for the exception*):

Mitigation for modification:

Public benefit:

City of Oregon City
Design Modification Request - *continued*

Submitted By

Name:

Signature:

Date:

Space provided for Engineer of Record stamp.

City Use Only

Approved by the City Engineer or their designee:

Name and Title:

Signature:

Date:

PUBLIC IMPROVEMENT MODIFICATION APPLICATION


**OREGON
CITY**
Public Works – Development Services

 13895 Fir St | Oregon City OR 97045
 Ph (971) 204-4601 | Fax (503) 908-1128

DEVELOPMENT SERVICES TYPE I PUBLIC IMPROVEMENT MODIFICATION APPLICATION

Application Date:

Project Name:
Proposed Land Use or Activity:
Physical Address(es) of Site:
Clackamas County Map and Tax Lot Number(s):

Applicant(s)

Applicant(s) Signature:		
Applicant(s) Name Printed:	Date:	
Mailing Address:		
Phone:	Fax:	Email:

Property Owner(s)

Property Owner		
Property Owner Signature		
Property Owner Name Printed:	Date:	
Mailing Address:		
Ownership Address:		
Phone:	Fax:	Email:

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties' willingness to comply with all code requirements.

Please respond to Oregon City Municipal Code (OCMC) Section 16.12.13.A below. Note that, to be processed as Type I per 16.12.013.B., Public Improvement Modifications reviewed by Development Services must regard a modification to driveway location, size, and sharing standards in 16.12.035. Resources available from the City include OCWebMaps, OCMC Chapter 16.12, Public Works standards, and Public Works Master Plans. Please attach additional pages as needed.

16.12.13 - Modifications.

The applicant may request and the review body may consider modification of the standards in this chapter resulting from constitutional limitations restricting the City's ability to require the dedication of property or for any other reason, based upon the criteria listed below and other criteria identified in the standard to be modified. All modifications, except for adjustments approved by the City Engineer for tree preservation purposes pursuant to 16.12.013.B, shall be processed through a Type II Land Use application and may require additional evidence from a transportation engineer or others to verify compliance.

A. Compliance with the following criteria is required:

1. The modification meets the intent of the standard;

2. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;



3. The modification is consistent with an adopted transportation or utility plan; and

4. The modification is complementary with a surrounding street design; or, in the alternative;

5. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the state or federal constitution. The City shall be under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.

City Use Only:

Approved by the City Engineer or their designee:

Name and Title

Signature

Date

ADA MODIFICATION FORM



City of Oregon City

Americans with Disabilities (ADA) Modification Request*Per Oregon City Street Standards Section 2.1*

Request submitted by (name, title, contact email and phone number):

Engineer of Record (License number):

Date:

PROJECT INFORMATION

Project name:

Nearest address or intersection:

City map and tax lot number(s):

Functional classification of road:

Posted speed:

DESIGN MODIFICATION

Type of accessibility feature:

curb ramp

pedestrian signal push button clear space

pedestrian signal push button

New or Alteration:

New accessibility feature (there was no accessibility feature at the location prior to the project)

Alteration of an existing accessibility feature (there was an accessibility feature at the location of the project)

Description of modification and reason for request (*PROWAG 202.3.1: Where existing physical constraints make it impractical for altered elements, spaces, or facilities to fully comply with the requirements for new construction, compliance is required to the extent practical within the scope of the project. Existing physical constraints include, but are not limited to, underlying terrain, right-of-way availability, underground structures, adjacent developed facilities, drainage, or the presence of a notable natural or historic feature*):

Americans with Disabilities (ADA) Modification Request - *continued*

Mitigation for modification (*How does the design strategy accomplish accessibility to the maximum extent practical?*):

Supporting documentation (*photos showing features requiring exception, plan sheets, other items that support the need for the exception*):

Submitted By

Name:

Signature:

Date:

Space provided for Engineer of Record stamp.

City Use Only

Approved by the City Engineer or their designee:

Name and Title:

Signature:

Date:

WORK ZONE SPEED REDUCTION REQUEST FORM



Temporary Speed Reduction Request

Request submitted by (name, title, contact email and phone number):

Engineer of Record (License number):

Date:

PROJECT INFORMATION

Project name:

Project Start Date:

Street Name:

Start and End Mile Post:

City map and tax lot number(s):

EXISTING STREET INFORMATION

Functional classification of road:

Posted speed:

Annual Average Daily Traffic (AADT):

Additional notes on street features (e.g., limited sight distance due to horizontal/vertical alignments, etc.):

DESCRIPTION OF NEED

Describe in detail the scope or work, and condition or operations that would merit a construction speed reduction. Identify portion(s) of the traffic control plan that would benefit from a speed reduction.

City of Oregon City
Temporary Speed Reduction Request - *continued*

REQUESTED SPEED REDUCTION

Describe the speed reduction requested for each condition or operation and provide the location of the request, including beginning and ending mileposts.

TIMING

Describe when the condition or operation will be in place using the stage/phase, specific activity, project milestone, or time of day.

FACTORS

Select the work type and factor(s) for the construction speed zone reduction and provide explanation.

General Conditions:

- Temporary horizontal curve is designed and includes an advisory speed >10 mph below pre-construction posted speed.
- Reduced safe speed for stopping sight distance.
- Condition conflicts with normal driver expectancy.

Shoulder Activity:

- Uninterrupted traffic flow with workers present for extended periods, with 10 feet of the traveled way, unprotected by barrier.

Lane Encroachments, Centerline Encroachments, or Lane Closures:

- Uninterrupted traffic flow with workers present for extended periods, with 10 feet of the traveled way, unprotected by barrier.
- Barrier within 2 feet of the traveled way.
- Pavement edge drop-off (>2 inches) within 2 feet of the traveled way.
- Lane width reduction resulting in a lane width of ≤ 10 feet.

Temporary On-Site Diversion:

- Temporary on-site diversion lane width ≤ 11 feet.
- Advisory speed for temporary on-site diversion's horizontal curvature >10 mph below the pre-construction posted speed.

City of Oregon City
Temporary Speed Reduction Request - *continued*

Submitted By

Name:

Signature:

Date:

Space provided for Engineer of Record stamp.

City Use Only

Approved by the City Engineer or their designee:

Name and Title:

Signature:

Date:

APPENDIX C—CITY WEBSITES AND CHECKLISTS

Websites and checklists associated with the *Standards* are provided below with associated sections in the *Standards*.

Section 2.2: Permitting/Approval Process

City Permits and Associated Checklist Information

<https://www.orcity.org/1111/Permits>

<https://www.orcity.org/1065/Engineering-Development-Services-Checkli>

Development Forms & Checklists

<https://www.orcity.org/1058/Development-Forms-Checklists>

Performance Bonds, Cost Estimates and Agreement Forms

<https://www.orcity.org/1076/Performance-Guarantee>

Engineering Fees

<https://www.orcity.org/1088/Engineering-Fees>

Section 2.3 Construction Inspection

Private Development Minimum Inspection Requirements

<https://www.orcity.org/1072/Inspection-Observation-Minimum-Guideline>

Section 3.4 Intersections

ADA Design Review Checklist—Medians/Traffic Islands

<https://dochub.clackamas.us/documents/drupal/6d27b366-4418-4dda-b3b9-d8bfc22161d1>

Section 4.1 Pedestrian Design

Clackamas County ADA Design Review Checklist—Sidewalk/Multiuse Path

<https://dochub.clackamas.us/documents/drupal/b4efebc9-754d-4506-89bd-6b09660384dc>

Clackamas County ADA Assessment Checklist—Curb Ramps

<https://dochub.clackamas.us/documents/drupal/18d3d081-2838-4186-8010-e5c690778f1f>

Oregon City Street Design Standards

Final

January~~April~~ 2024~~3~~

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1.0 INTRODUCTION

Chapter 1 introduces the *Oregon City Street Design Standards (Standards)* by describing the purpose, intended use, and project team roles. Additional relevant resources support the material provided in the *Standards*. Chapter 1 also includes an overview of overarching topics, such as performance-based design, context-based design, equitable development of climate friendly neighborhoods, and green streets.

1.1 PURPOSE AND INTENDED USE

The *Standards* intend to implement Oregon City Municipal Code (OCMC), guide private development, and provide criteria for capital improvement projects. The *Standards* include engineering guidelines for constructing public and private improvements, serving new and future developments, and reconstructing existing facilities to upgrade existing infrastructure. These *Standards* apply to all public improvements within the existing public right-of-way (ROW) or any recorded easements, all improvements from new developments required within the proposed public rights-of-way or public easements, all improvements intended for maintenance by the City of Oregon City (City), and all other improvements that require the City's approval. The City Standard Drawings provide additional construction details required for a permit or a set of plans.

The *Standards* are available online at:

[Oregon City Street Design Standards](https://www.oregoncity.org/1057/Street-Design-Standards)

<https://www.oregoncity.org/1057/Street-Design-Standards>www.oregoncity.org/publicworks/design-and-construction-standardsdrawings

[»DEPARTMENTS»PUBLIC WORKS»DOCUMENTS, DRAWINGS, FORMS & PERMITS](#)

This website will contain the most recently adopted *Standards*, the Standard Drawings, Americans with Disabilities Act (ADA) design and inspection checklists, the Design Modification Request form, and other materials. The City of Oregon City Municipal Code takes precedence if conflict exists with these *Standards*.

[All webpage links throughout the document are active as of January 2024.](#)

Field Code Changed

1.2 CHAPTER OVERVIEW

Table 1-1 provides an overview of each chapter in the *Standards*.

Table 1-1: Chapter Overview

Chapter	Overview
Chapter 1: Introduction	Provides purpose and intended use, references to support the Standards, and includes encouragement and guidance to use green street designs and climate friendly approaches to future designs.
Chapter 2: General Policies and Standards	Discusses the modification process, the permitting process, as well as overviews of right-of-way management, survey monumentation, and a note about historic districts.
Chapter 3: Geometric Design	Provides technical requirements for curves, intersections, and cul-de-sacs. Safety items such as sight distance, roadside clearance and traffic calming are also discussed. Private improvements such as driveways, alleys, and private streets follow public improvement design standards. There is also a section on Fire Department Standards.
Chapter 4: Multimodal Design	Includes guidance on how practitioners should include all modes of transportation when designing new or expanded roadways. This includes shared use paths, bicycle facilities, sidewalks, transit, and freight.
Chapter 5: Traffic Engineering	Provides design requirements for speeds, stop signs, traffic signals, signage, pavement markings and any special standards.
Chapter 6: Pavement Design	Includes technical requirements for thickness of pavement.
Chapter 7: Stormwater	References the Stormwater and Grading Design Standards and reminds users that stormwater management must be incorporated into street design.
Chapter 8: Utilities	Provides users technical guidance on how to address electric, gas, telephone, cable, telecom, and fiber networks within the right-of-way and associated easements.
Chapter 9: Street Lighting	Provides design standards for decorative street light fixtures and poles as well as the use of PGE related designs and associated electrical equipment.
Chapter 10: Landscape Design	Describes the furniture zone and reminds designers how to design the right-of-way for stormwater management, pedestrian use, and an urban landscape.
Appendices	Provides references, forms, and checklists that can be used during the design process.

1.3 ROLES

The City's policy requires compliance with Oregon Revised Statute (ORS) 672 for professional engineers.

All engineering plans, reports, or documents shall be prepared by a registered professional engineer or a subordinate employee under the engineer's direction and shall be signed by the engineer and stamped with the engineer's seal to indicate the engineer's responsibility for them. For design and construction projects, a private development or City contracted Engineer of Record is responsible for preparing project documentation and plans based on City standards. The City Project Engineer or City Project Manager is responsible for reviewing any proposed public facility addition, extension, modification, or other type of project within the city to determine if the proposal is permissible, if it meets City standards, and if there are any special requirements before or during engineering or other proposed design work.

City comments or approval of the plans and any related documents for any job does not in any way relieve the Engineer of Record of their responsibility to meet all City requirements or obligation to protect the life, health, and property of the public. The plan for any project shall be revised or supplemented at any time it is determined that the City's full requirements have not been met.

Specific titles and roles of those involved in preparing, reviewing, and approving plans and design decisions for City projects are described below.

A. Development Personnel

1. **Applicant:** Property owner or person designated by the property owner to be the representative for an application for a development proposal, permit, or approval. May be referred to as "owner" or "developer."
2. **Engineer of Record/Inspecting Engineer:** A professional engineer with civil engineering expertise holding a valid license from the State of Oregon that is responsible for stamping plans and documents prepared for a project and/or primary inspection of construction for a project. This person is part of a consulting engineering company working for either the Applicant or the City.

B. City Personnel

1. **City Engineer:** Oversees the Engineering Group and provides final direction and approval for City projects. May designate a subordinate to make decisions required of the City Engineer.
2. **Engineering Group:** A group led by the City Engineer that provides professional engineering services to various City departments and the general public; includes the following groups:
 - a. *Engineering Services:* Manages capital projects and right-of-way management; provides erosion control inspection.
 - b. *Development Services:* Manages public and private development.
 - c. *Construction and Right-of-Way Management:* Provides inspection services for permits and provides permitting and oversight to the right-of-way.
3. **Community Development Department:** A group led by the Community Development Director that consists of Planning and Building.

- a. **Planning:** Staff members who provide planning, zoning, and land use services for the City.
- b. **Building:** Staff members who provide building permit and building inspection services for the City.
- 4. **Project Engineer/Project Manager:** The staff person who manages a City project or provides oversight and permitting to a private development project.
- 5. **City Inspector:** Provides secondary oversight and inspection to private development.

1.4 RELEVANT RESOURCES

The *Standards* are supported by and may be used in conjunction with other associated City, Clackamas County (County), Oregon Department of Transportation (ODOT), and national street design resources and publications. Where the *Standards* contained in this document do not address a particular situation, the standards contained in these other associated resources shall apply. The primary City, County, State, and national resources are below. Additional resources are in Appendix A.

City resources include:

A. Oregon City Municipal Code (OCMC)

B. Oregon City Concept Plans

- 1. Thimble Creek (Beavercreek Road) Concept Plan
- 2. Park Place Concept Plan
- 3. South End Concept Plan

B-C. Oregon City Corridor Plans and Studies

C-D. Oregon City Standard Drawings (Street Standard Drawings 500 Series)

NOTE: Standard Drawings will be noted as "Std. Dwg. OC###" throughout the *Standards*.

D-E. Oregon City Existing Design Standards and Manuals:

- 1. Transportation System Plan (TSP)
- 2. Sanitary Sewer Design Standards
- 3. Stormwater and Grading Design Standards
- 4. Water Distribution System Design Standards
- 5. Sewage Pump Station and Force Main Design Standards
- 6. Pavement Cut Standards
- 7. Erosion Prevention and Sediment Control Planning and Design Manual
- 8. Trails Master Plan

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9. City Transportation Demand Management Plan 2017, Final Report

The *Standards* presented in this document provide technical criteria to support the Oregon City Concept Plans, Corridor Plans, and Studies. The *Standards* do not intend to change the vision and goals presented in existing plans and studies. The *Standards* take precedence over technical criteria presented in other City plans and studies, if conflicts exist. The City Engineer will provide final direction if there are interpretation questions or if there are any conflicts between documents. Projects should also review and consider the information provided in specific Oregon City Concept Plans. City plans and studies may introduce the need for additional design flexibility on projects to meet the vision and goals for the community. In these cases, the City's design modification process presented in Chapter 2, Section 2.1 can support the decision-making process and documentation.

County, State, and national resources include:

- A. *Clackamas County Roadway Standards*
- B. *ODOT Blueprint for Urban Design*
- C. *ODOT Highway Design Manual*
- D. *ODOT Traffic Signal Guidelines*
- E. American Association of State Highway Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* (AASHTO Green Book)
- F. *AASHTO Roadside Design Guide*
- G. Federal Highway Administration (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD) for Streets and Highways with Oregon Supplement
- H. Oregon Standard Specifications for Construction and Standard Drawings
- I. Chapter 333 Oregon Administrative Rules
- J. Oregon Fire Code
- K. Oregon Certification Office for Business Inclusion and Diversity (COBID)
- L. Oregon Metro Designing Livable Streets and Trails
- M. Oregon Highway Plan
- N. *ODOT Speed Zone Manual*
- O. FHWA Intersection Control Evaluations

1.5 PERFORMANCE-BASED AND CONTEXT-BASED DESIGN

Integrating a performance-based and context-based design approach into project decision-making can verify that each City project meets the City Commission's goals and vision. Performance-based design establishes project goals early in the project and verifies that project decisions throughout the project's various stages align with the original goals.

Goals may address:

- A. The vision of the community, including existing characteristics and desired future lane-use patterns and growth.
- B. The role and function of the street within the network.
- C. The users of the street based on the surrounding land uses, future vision, and role of the street.

Project performance metrics are identified to evaluate alternatives based on the project goals. For each project, performance measures should be tailored to evaluate an alternative's ability to respond to the specific needs of the users and should relate directly to the project's documented goals. For example, a community may want to implement bicycle lanes on an arterial while minimally impacting traffic mobility. Bicycle level of traffic stress (LTS) or multimodal level of service (MMLOS) could be used to measure impacts to bicyclists, while the traditional vehicle volume-to-capacity (v/c) ratio could still be considered for traffic mobility.

The ODOT *Blueprint for Urban Design* provides additional guidance on how to identify project goals and performance metrics and how to implement a performance-based design approach. National activities and associated publications, such as FHWA's Performance-Based Practical Design initiatives and *NCHRP Report 785: Performance-Based Analysis of Geometric Design of Highways and Streets* (NCHRP Report 785), have resulted in a framework for executing this project approach. As presented in the AASHTO *Green Book*, this approach shapes how designers deliver projects in a variety of contexts and project stages. In addition, the ODOT *Blueprint for Urban Design* supports this approach and details how it may apply to a variety of projects.

The following section provides an overview of this approach, consistent with FHWA and ODOT roadway design approaches.

1.5.1 Performance-Based Design

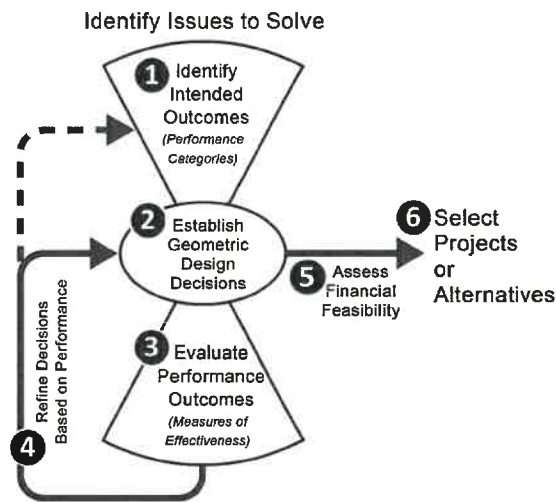
Performance-based design is a decision-making approach for guiding and documenting planning and design decisions. This approach:

- A. Emphasizes the outcomes of planning and design decisions as the primary measure for design effectiveness and project success.
- B. Guides practitioners to clearly outline intended project outcomes and select performance measures that align with those outcomes.
- C. Creates a method for documenting planning and design choices to allow agencies to make informed design decisions.
- D. Supports risk management and tort liability by providing a decision-making framework for documenting planning and design decisions and solutions.

The performance-based design approach includes frameworks that can help project teams evaluate the trade-offs of various design decisions. Making decisions based on the context and roadway users can help verify that project outcomes align with the current and/or future land use vision.

[Figure 1-1](#) provides an overview of the performance-based approach from NCHRP Report 785.

Figure 1-1: Performance-Based Design Approach



This performance-based approach considers:

1. Identifying desired project outcomes and performance metrics.
2. Establishing design decisions based on the desired outcomes.
3. Evaluating the performance of the design.
4. Iterating and refining the design to align solutions with desired outcomes.
5. Assessing the financial feasibility of the alternatives.
6. Selecting a preferred alternative that aligns with the desired outcomes.
7. Potentially reassessing desired outcomes if no acceptable solution is identified.

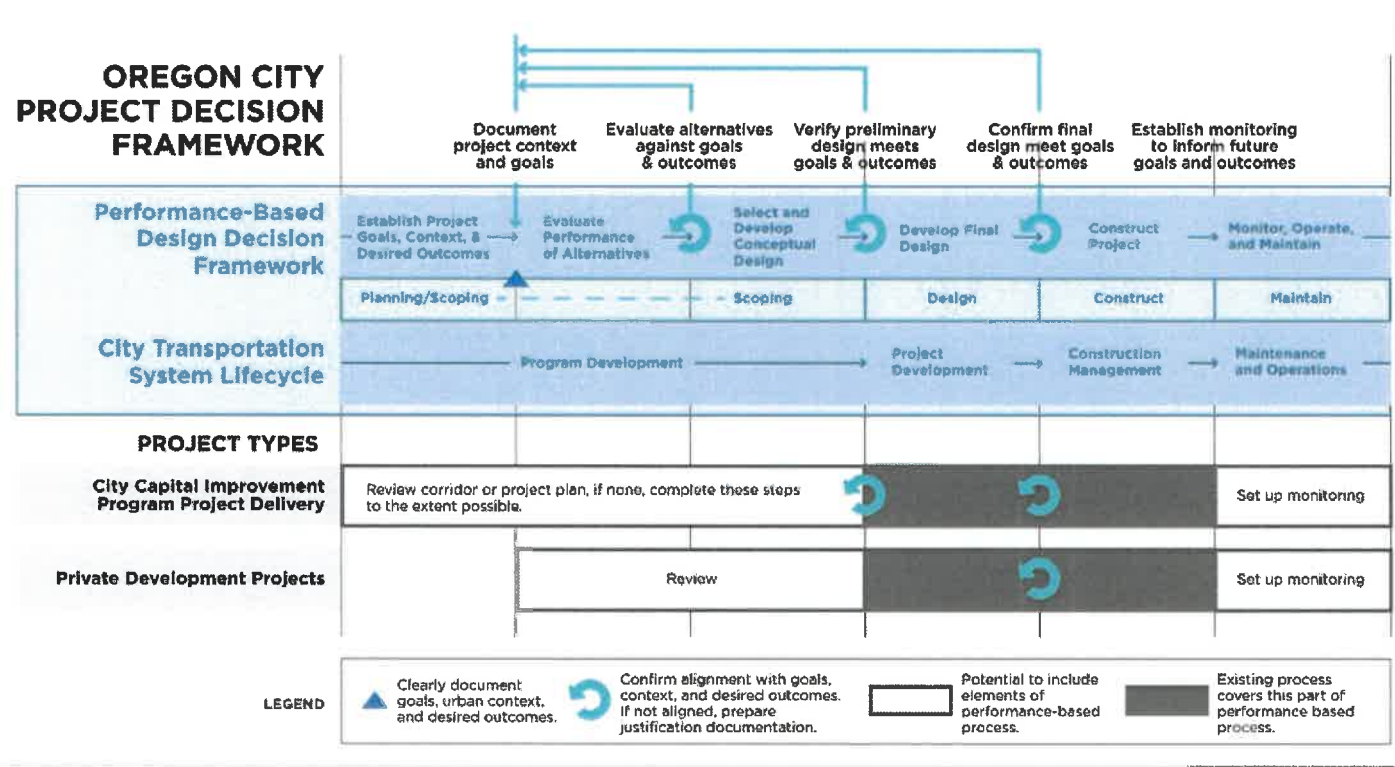
The performance-based framework is founded on three basic steps:

1. **Project Initialization:** Understand context classification (Section 1.3.2 and Section 1.3.3) and project context considerations to help establish intended project outcomes.
2. **Concept Development:** Generate specific alternatives best suited for the identified project needs and outcomes.
3. **Evaluation and Selection:** Use project-specific performance metrics to assess, refine, and advance the alternative.

Figure 1-2 provides a decision-making framework to guide practitioners through an iterative process that allows for flexibility in the design, continuous verification of desired project outcomes, and documentation of design decisions throughout each stage of the process.

The blue circular arrow symbols highlight milestones where the project goals and desired project outcomes should be revisited to verify that the planning and design decisions, alternatives development, and designs align with the original intent of the project and serve user needs. These are also milestones that require documenting planning and design decisions. If design decisions, project team discussions, and alternative evaluations have led to any changes in the performance measures or project goals, this information and the project team decisions should be clearly documented.

Figure 1-2: City Project Decision-Making Framework



1.5.2 City Functional Classifications and Street Types

Oregon City classifies the street system into a hierarchy organized by street function and type. These classifications ensure that streets reflect the neighborhoods through which they pass and consist of a scale and design appropriate to the character of abutting properties and land uses. The classifications also provide for and balance the needs of all travel modes, including pedestrians, bicyclists, transit riders, motor vehicles, and freight. The City's multimodal street system is detailed in the Oregon City TSP.

The functional classifications include:

- A. Major arterial
- B. Minor arterial
- C. Collector
- D. Local street

The street types include:

- A. Commercial
- B. Industrial
- C. Residential
- D. Mixed-use

1.5.3 Oregon Statewide Context-Based Design

In addition to the functional classifications and street types identified by the City, ODOT has established statewide urban context classifications. Project teams should consider how the City project may fit within the surrounding context established by the state, particularly if state facilities are adjacent to or are intersecting with the City streets within the project.

The ODOT *Blueprint for Urban Design* has identified six urban context classifications, including:

- A. **Traditional Downtown/Central Business District (CBD):** Areas with the highest development and building heights in an urban area. Typically, a few square blocks. Buildings have mixed land uses, are built up to the roadway, and are within a well-connected roadway network.
- B. **Urban Mix:** Mix of land uses within a well-connected roadway network. May extend long distances. Commercial uses front the street, with residential neighborhoods on top or immediately behind land uses.
- C. **Commercial Corridor:** Mostly commercial and industrial uses with large building footprints and large parking lots set within large blocks and a disconnected or sparse roadway network.
- D. **Residential Corridor:** Mostly residential uses within a well-connected or somewhat-connected roadway network. May extend long distances. Single-family homes may have direct access to the state roadway.

- E. **Suburban Fringe:** Sparsely developed lands, typically at the edge of an urban growth boundary. May be large-lot residential, small-scale farms, or have intermittent commercial or industrial uses.
- F. **Rural Community:** Small concentrations of developed areas immediately surrounded by rural, undeveloped areas.

The ODOT *Blueprint for Urban Design* (Chapters 2 and 3) provides additional information about designing roadways within each of the contexts that may help support City decisions for projects within these areas. Projects that integrate context considerations can help project teams:

- A. Understand the effects of existing and future land uses.
- B. Efficiently serve existing and emerging communities and the various users traveling along and crossing the streets.
- C. Provide better tools for streets transitioning between communities.

As projects consider design decisions to align with the project-specific needs, the statewide concepts for context classification should be used to evaluate tradeoffs and inform decision-making. Any decisions that result in designs outside of the City *Standards* need to be processed through a City Design Modification Process for Capital Improvement Program Projects or a Public Improvement Modification Process for Private Development Projects. Additional information on modifications is described in Section 2.1.

1.6 EQUITABLE DEVELOPMENT OF CLIMATE FRIENDLY NEIGHBORHOODS

In alignment with the City Commission goals, the City supports equitable development of climate friendly neighborhoods. Greenhouse gas emissions from motor vehicles and serious traffic crashes are two of the most pressing transportation issues; addressing these issues will require a transportation system designed to serve multiple modes of travel, including walking, bicycling, and accessing public transit. To enhance community livability, streets must function not only as corridors for moving people, goods, and services but as community gathering spots, public spaces, and stormwater management facilities. Street design determines how safe, sustainable, resilient, multimodal, and economically beneficial streets are. All projects should consider how to effectively integrate design features that align with community values.

In addition, the City is supportive of contracts, including those from minority-owned, women-owned, service-disabled veteran-owned businesses as well as emerging small businesses. Certified businesses using the Certification Office for Business Inclusion and Diversity (COBID) are encouraged.

1.7 GREEN STREETS

To limit how much stormwater and pollutants eventually make their way into vulnerable natural waterways, all streets must manage stormwater, treat runoff to reduce pollution, and infiltrate water into the ground. The City encourages projects to incorporate green infrastructure treatments, such as vegetated medians, planters, curb extensions, and street trees. This allows streets to not only manage stormwater but to mitigate the harmful impacts of transportation on air, water, and wildlife habitat and connectivity. This street function supports human and environmental health. Oregon Metro's *Designing Livable Streets and Trails Guide* provides additional information on green streets.

2.0 GENERAL POLICIES AND STANDARDS

Chapter 2 provides an overview of City general policies and standards. Specific information regarding design modification documentation is included to support decision-making.

2.1 DESIGN DECISIONS AND MODIFICATIONS

A performance-based design approach will help the design team consider the project context and the intended project outcomes when establishing the design controls and associated design criteria on a project-by-project basis. The design team for each project within the City is responsible for making every reasonable effort to meet these *Standards*. However, this will not always be practical or appropriate. These *Standards* are not meant to limit creative engineering efforts to provide alternate solutions to specific constrained areas or to relieve the responsibility for professional engineering judgment. When standards are not met, designers can document their design decisions through design modifications. Practical design modifications that preserve the function and safety of the street system and offer benefits to aesthetics, resource protection, ease of maintenance, and livability are encouraged.

Types of modifications are described below.

- A. The City's design modification processes should be used for capital improvement projects and represent a means for the design team to identify, justify, and implement design features that do not fall within the designated design standards established by the City.
- B. Private development projects should use the Public Improvement Modification process outlined in OCMC 16.12.013.
- C. The Americans with Disabilities Act (ADA) Modification Process follows the procedures detailed in Section 2.3.1.

When the City is providing maintenance to existing infrastructure and seeking to complete maintenance in a way that is contrary to the typical standards, it should follow the City Design Modification Process.

2.1.1 Design Modification Process for Capital Improvement Projects

If a capital improvement project cannot meet these *Standards* or those outlined in OCMC, a design modification is required to propose improvements less than or in contrast with the requirements. Requests to modify design standards shall use the City Design Modification form in Appendix B.

2.1.1.1 Criteria for Design Modifications to Standards

The City may grant a modification when doing so does not compromise public safety or the intent of the City's *Standards* if any one of the following conditions are met:

- A. The subject standard is deemed not applicable.
- B. Topographic, right-of-way, overlay districts (e.g., natural resource overlay district, historic, Willamette Greenway, and geologic hazards), or other geographic conditions impose an environmental concern or constrain constructability and an equivalent alternative that can accomplish the same design intent is available.

- C. A minor change to the standard is required to address a specific design or construction constraint that, if not enacted, will result in an undue hardship.
- D. The proposed modification does not compromise safety, function, appearance, and maintainability based on sound engineering and technical judgment.
- E. The modification does not conflict with land use requirements.

2.1.1.2 Review for Design Modifications to Standards

Design modifications are typically submitted before land use application approval or early in the design process when related to capital improvement projects.

- A. Modifications include but are not limited to:
 - 1. Geometric design and the modification or omission of standard roadway cross section elements
 - 2. Sight distance
 - 3. Access spacing
 - 4. Number of accesses
 - 5. Intersection angle
- B. The City Engineer will review a request to modify design standards and will make one of the following decisions:
 - 1. Approve as proposed
 - 2. Approve with changes
 - 3. Deny with an explanation
- C. Design modification approval does not constitute a precedent for use at other locations.

2.1.2 Public Improvement Modification Process for Private Development

If a private development cannot meet these *Standards* or those outlined in OCMC, a public improvement modification is required to propose improvements less than or in contrast with the requirements. Often, this modification is requested to reduce the required right-of-way dedication, reduce the size of the pavement required, eliminate a street parking requirement, or address other requirements outlined in the OCMC 16.12.016.

Land use conditions of approval are commonly written so that there is little flexibility after land use approval, so it is imperative to address design modification requests before land use approval. If a design modification is requested after the land use conditions of approval are issued, an additional application for a modification of the conditions of approval or a new land use application through the Planning and Zoning Division may be required.

2.1.2.1 Criteria for Public Improvement Modifications to Standards

The OCMC 16.12.013 outlines five criteria that shall be met for the City to support a change to the OCMC or these *Standards*:

- A. The modification meets the intent of the *Standard*.
- B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists, and freight.
- C. The modification is consistent with an adopted transportation and/or utility master plan.
- D. The modification is complementary to a surrounding street design.
- E. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the State or Federal constitution. The City is under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.

2.1.2.2 Review for Public Improvement Modifications to Standards

- A. A Public Improvement Modification is processed as a Type I or Type II Land Use Decision.
 - 1. Type I, including driveways and sidewalks, is processed through Public Works.
 - 2. Type II is processed through the Planning Division using the Land Use Application Form.
- B. If a property seeks a modification to the requirements on driveways found in OCMC 16.12.035 (the number of driveways, width of driveways, or spacing of driveways), the modification is processed through a Type I Decision through the Engineering Group using the Public Improvement Modification Application (see Appendix B).
- C. In either case, the five criteria in OCMC 16.12.013 shall be met, or the modification request will be denied. An appeal of denial is allowed per OCMC 17.50.190.

2.1.3 Americans with Disability Act (ADA) Modifications

All project designs shall comply with Title III of the Americans with Disabilities Act (ADA) of 1990 and the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG). The City uses the PROWAG standards for ADA accessibility within the public rights-of-way and easements under the City's jurisdiction. PROWAG justifies modifications to the standards for new construction and alterations to existing ADA accessibility features. Modifications are required for any accessibility feature that cannot meet the requirements due to a physical constraint identified in the following sections. Crosswalk closures are also reviewed under the ADA modifications process.

2.1.3.1 Modifications for New ADA Accessibility Features

Modifications to full compliance with PROWAG standards can only be granted for a limited number of physical constraints preventing full compliance. If a modification is required for a particular feature, efforts shall be made to ensure that other elements are accessible. Modifications for non-compliance PROWAG standards for new ADA

accessibility features can only be approved when full compliance cannot be achieved due to terrain or historic features. Where the Historic Review Board determines that compliance with a requirement would threaten or destroy historically significant features of a qualified historic facility, compliance is required to the extent that it does not threaten or destroy the facility's historically significant features (PROWAG R202.3.4).

2.1.3.2 Modifications for Alterations to Existing ADA Accessibility Features

Where existing physical constraints make it impracticable for altered facilities to fully comply with ADA requirements, compliance may not be required within the scope of the project. Existing physical constraints include but are not limited to underlying terrain, right-of-way availability, underground structures, adjacent developed facilities, drainage, or the presence of a notable natural or historic feature (PROWAG R202.3.1).

2.1.3.3 ADA Modification Request Submittal

Modification requests must be submitted using the ADA Modification Request form (see Appendix B) at the following points in the process:

- A. Requests for modifications to waive the requirement for a new ADA accessibility feature as part of a private development should be submitted and acted upon before land use approval since land use conditions are typically written with little or no flexibility.
- B. Requests for modifications to requirements for a particular element should be submitted during the first plan review and shall be acted upon before permit issuance.
- C. Requests for modification to requirements may be submitted during construction if physical constraints that were not included in the design are identified. In such situations, the Engineer of Record or City Project Manager shall prepare a revised design that maintains accessibility to the greatest extent practicable, and that modification shall be acted upon before constructing the accessibility feature.
- D. Modifications should not be provided for non-compliant features after construction.

The City Engineer will review all modification requests and approve or deny the requested modification.

2.2 PERMITTING/APPROVAL PROCESS

2.2.1 Private Development

The contract plans developed for the project act as the permit documentation required. For additional details and requirements on private development, refer to the OCMC 17.50.

Permits for private development are valid for three (3) months. If construction has not begun on site improvements or public improvements within three (3) months of approval, plans and documents are subject to additional review and revisions to meet any standards that have been updated since the time of plan approval. Installation of erosion and sediment control or early grading do not constitute the beginning of construction.

Approval of plans does not constitute a perfect adherence to these standards. Approval constitutes the City's best review of the plans at the time. While revisions are expected to be kept to a minimum, the City may require additional revisions during construction if standards are found to not be adhered to onsite or in the permitted plans.

2.2.2 Capital Improvement Projects

City capital project permitting and bond requirements are contained in the contract documents for each project.

2.3 CONSTRUCTION INSPECTION

2.3.1 Private Development

The Applicant shall provide the City with access to the facility for inspection of the work in accordance with the requirements and intent of the plans, specifications, permit conditions, and land use requirements (collectively known as “the permit”). Refer to the OCMC and Private Development Minimum Inspection Requirements for additional information and the checklist form on the City’s website (shown in Appendix C).

2.3.2 Capital Improvement Projects

City capital project inspection requirements are contained in the contract documents for each project.

2.3.3 General Requirements

- A. The City’s Construction Inspector shall be present at all public improvement inspections as noted on the Private Development Minimum Inspection Requirements.
- B. The City’s inspection services do not relieve the Engineer of Record or Contractor of their responsibility to properly comply with these *Standards*.
- C. City inspection services do not constitute approval of any modification to the approved construction plans.

2.3.3.1 City Responsibilities

Inspection services provided by the City Construction Inspector include:

- A. Acting as a liaison between the designated Engineer of Record and the City.
- B. Monitoring both work progress and performance testing results.
- C. Performing administrative and coordination activities as required for supporting the processing and completion of the project.
- D. Issuing a Stop-Work Order by notice to the designated Engineer of Record, Contractor, and Applicant, if required.

2.3.3.2 Applicant Responsibilities

Refer to the [Oregon City Minimum Guidelines for Inspection/Observation and Construction of Public Improvements](#). Inspection services provided by the Applicant include:

- A. Obtaining and using a copy of City-approved construction plans and specifications (the permit) and a copy of these *Standards*.

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- B. Reviewing and approving all pipe, pavement, concrete, and other materials to ensure compliance with *City Standards*.
- C. Approving all plan or specification changes in writing and obtaining City approval (see City Inspection Services above). The City must re-approve all changes to the approved plans or specifications before commencing work affected by the revision.
- D. Monitoring construction activities to ensure work meets City specifications.
- E. Performing (or having performed) material, composition, and other tests required to ensure City specifications are met.
- F. Providing inspection reports to the City at the end of each week.
- G. Certifying that all necessary public improvements have been installed and accepted in compliance with the City-approved permit construction plans. This certification should take place before requesting building occupancy on commercial, multi-family, and/or other projects with concurrent site development and building permits or before platting of subdivisions or partitions. This certification must also indicate that all items required through the land use process—including but not limited to the payment of all fees, recording of all public utility easements, and obtaining maintenance bonds—have been completed at or before occupancy of the first building or recording of the plat.

2.4 ACCESS MANAGEMENT

This section includes general requirements for **access management** and the City's access spacing standards. Refer to OCMC 17.52.090 for loading area requirements.

2.4.1 General Requirements

Access management for private accesses or public intersections is required to improve the safety and efficiency of traffic flow for transportation network users and to balance those needs with livability, economic, and community values. Managing roadway access benefits the overall roadway system by increasing safety, reducing conflicts for all users, increasing capacity, and reducing travel times. Controlling access must not become too restrictive; however, local businesses and homeowners deserve access to the roadway system. Overall, access management must balance the needs of through traffic, localized traffic, and pedestrians and bicyclists on a particular roadway.

The location and number of roadway intersections and other access points must be planned, coordinated, and controlled by the City. By the nature of the roadway functional classification system, higher-speed arterial streets require the highest level of access management restriction and tend toward less access. Lower-speed collector streets and connector streets require less restrictive access management. Local streets require very few access management restrictions and tend toward more frequent access.

Accesses are subject to the sight distance standards outlined in Section 3.5, and non-compliant accesses may not be approved. To comply with these requirements, existing accesses may require removal or modification due to safety issues.

2.4.2 Access Spacing Standards

The Oregon City TSP identifies the minimum and maximum street intersection spacing and minimum driveway spacing standards for streets in Oregon City (shown in Table 2-1). Additional information on driveway spacing requirements is described in the OCMC 16.12.035. Per OCMC 16.12.035, the distance from a street corner to a driveway is measured along the right-of-way line from the edge of the intersection (on the same side of the road) to the nearest portion of the driveway. The distance between driveways is measured at the nearest portions of the driveways (or from edge to edge). Block spacing between streets is measured between the right-of-way centerlines.

Any changes to the spacing standards require a Type I Driveway Modification, further described in Section 2.1. Additional City plans, such as the *Beavercreek Road Access Management Plan*, provide additional information on driveways that will be closed and combined.

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Table 2-1: Spacing Standards

	Mixed-Use or Residential				Commercial or Industrial			
	Major Arterial	Minor Arterial	Collector	Local	Major Arterial	Minor Arterial	Collector	Local
Maximum Block Size (Street to Street)*	530'	530'	530'	530'	530'	530'	530'	530'
Minimum Block Size (Street to Street)	150'	150'	150'	150'	150'	150'	150'	150'
Minimum Driveway Spacing (Street to Driveway and Driveway-to-Driveway)**	175'	175'	100'	25'	172'25"	172'25"	105'0"	25'

* Maximum except in zones General Industrial (GI), Campus Industrial (CI), Mixed Use Employment (MUE), Institutional (I), and Willamette Falls Downtown District (WFDD), where appropriate street spacing will be determined by the City Engineer. If the maximum block size is exceeded, midblock pedestrian and bicycle accessways must be provided at spacing no more than 330 feet, unless the connection is impractical due to existing development, topography, or environmental constraints. Alternatively, off-street pedestrian and bicycle accessways spaced 500 feet from a street may supplement block lengths exceeding 530 feet.

**Single-family dwellings are exempt from the driveway-to-driveway spacing standard.

When a property is zoned MUC-1, driveways for loading zones shall be separated from customer/employee access driveways when feasible. Access spacing is exempt for those properties and should be coordinated with the City Engineer (as determined by the City Engineer).

2.5 RIGHT-OF-WAY AND PUBLIC EASEMENTS

Refer to the City of Oregon City Municipal Code, which takes precedence if conflict exists within these *Standards*. Projects that do not meet the standards noted in this section and in the Code require a Design Modification (Refer to Section 2.1).

2.5.1 Requirement for Right-of-Way and Public Easements

As a condition of approval for a development, the City may require dedicating additional road right-of-way or other public easements in support of the proposed development to meet standard cross sectional elements. The City will determine the right-of-way and easement widths and types after reviewing the development with the requirements for dedications identified via land use requirements or as identified in the dedication review processes.

2.5.2 Minimum Width Requirements for Rights-of-Way and Easements

- A. Definition of standard road right-of-way widths by roadway functional classification is provided in OCMC 16.12.016 for required typical sections.
- B. Some corridor plans and concept plans require road designs specific to certain areas. Details specific to these can be found in the respective plans. Contact the City Engineering Group to verify details and standards for those areas.
- C. If dedicating a Permanent Public Utility Easement (PUE) or a combination of another easement that includes a PUE is required, an easement must be dedicated along the entire abutting right-of-way of all front lot lines (see Section 8.3).
- D. Additional easements for signing, slopes, and pedestrian facilities may be required via land use requirements or during construction plan review. This should also be considered for CIP projects.

2.5.3 Right-of-Way and Public Easement Dedication Process

Refer to OCMC 16.12.085 for details on the public rights-of-way and easement dedication processes and types of easements. Also refer to the Street and Easement Vacation Standard Operating Policy and Procedure. An overview of the process is below.

- A. Typical easements that may be required for dedication may include but are not limited to:
 - 1. Permanent Right-of-Way Dedication
 - 2. Permanent Public Utility Easement (see Section 8.3)
 - 3. Permanent Sign, Slope, Public Utility, and Sidewalk Easement
 - 4. Permanent Storm Drainage, Sanitary Sewer, or Water Easement (See Section 8.3)
 - 5. Temporary Construction Easement
 - 6. Unusual Facility Easement
 - 7. Watercourse Easement
 - 8. Resource Protection Easement
- B. Depending on the project's requirements, one or more of the above easement dedications may be required.

- C. An Applicant may be required to provide proof of recorded access from a public road or public easement through the proposed development to an abutting parcel.
- D. If proof of access easement cannot be provided or has not been previously created, then an Applicant will be required to dedicate a permanent public easement for the benefit of the abutting parcel on the face of the plat.

2.5.4 Street, Alley, and Easement Vacations

A street vacation is the termination of the public interest in a right-of-way, and it extinguishes the easement for public travel that the right-of-way represents. Whenever any street, alley, or public way is vacated by official action, the zoning districts adjoining the side of such public way shall automatically be extended to the side or sides to which such lands revert to include the right-of-way thus vacated, which shall henceforth be subject to all regulations of the extended district or districts. Refer to OCMC 17.06.035.

The following factors will be evaluated when considering whether the vacation will impact the public interest:

- A. The area proposed to be vacated is not presently needed and is not identified in any adopted plan for public services, transportation functions, utility functions, stormwater functions, view corridors and/or viewpoints, tree planting/retention, pedestrian amenities, community uses, or commercial uses.
- B. The vacation does not prevent the extension or retention of public services, transportation functions, utility functions, stormwater functions, view corridors and/or viewpoints.
- C. Public services, transportation functions, or utilities can be extended in an orderly and efficient way in another location.
- D. The vacation does not impede the future best use of, development of, or access to abutting property.
- E. The area of the vacation is not presently (or will not in the future be) needed as part of an interconnected system of public streets that is generally consistent with the street connection and bicycle/pedestrian spacing requirements.
- F. The vacation does not impact a Historic District.

When approving a petition to vacate a street, whether fully or in part, the City may make reservations or conditions, including:

- A. The maintenance and use of underground public utilities or service facilities in the portion vacated.
- B. Limits to using the area above and adjacent to underground utilities or service facilities.
- C. Moving the utility or service facilities either below, on, or above the surface at the petitioner's expense.
- D. Constructing, extending, or relocating sidewalks and curbs, shared-use paths, trails, or other similar pedestrian or bicycle facilities.
- E. Grading or pavement extensions.
- F. Dedication for street use or another area instead of the area to be vacated.
- G. Replat.

- H. Any other matter of like or different nature relating to the vacated area and remaining or relocated street area adjacent to the petitioner's property or area dedicated instead of the vacation area.

See Street and Easement Vacation Standard Operating Policy and Procedure for further information about policy and process of street and alley vacations.

2.5.5 Annexations

All annexations shall include the adjacent existing roadway in total. Annexations shall not stop at the centerline.

2.5.6 Obstructions

It is unlawful for any person to place or maintain any obstruction (permanent obstruction) other than a temporary obstruction in any public street or alley in the city without obtaining approval for a right-of-way permit from the City Commission by passage of a resolution.

A temporary obstruction is defined as an object placed in a public street, sidewalk, road, or alley that is not permanently anchored to another surface, such as the pavement, the sidewalk, or a building. A temporary obstruction includes but is not limited to moving containers, debris dumpsters, and seating. A short-term temporary obstruction is allowed for a period of no more than 60 consecutive calendar days and is permitted with a temporary obstruction in the right-of-way permit. A long-term temporary obstruction is allowed for no more than 1 year, and it is permitted with a renewable right-of-way permit.

To allow the City Commission to adequately consider whether to allow the placement of an obstruction and whether any conditions may be attached, the following information is required:

- A. Site plan showing right-of-way, utilities, and driveways.
- B. Sight distance per OCMC 10.32, Traffic Sight Obstructions.
- C. Traffic control plan including parking per the MUTCD.
- D. Alternative routes (if necessary).
- E. Minimized obstruction area.
- F. Hold harmless/maintenance agreement.

If the City Commission adopts a resolution allowing the placement of a permanent obstruction in the right-of-way, the City Engineer shall issue a right-of-way permit with any conditions deemed necessary by the City Commission. Signage that acts as an obstruction is approved through OCMC 15.28. While awnings are considered an obstruction, they may be allowed if the conditions in the Awning Standard Operating Procedure is met.

In determining whether to issue a right-of-way permit to allow a temporary obstruction, the City Engineer may issue such a permit only after finding that the following criteria have been satisfied:

- A. The obstruction will not unreasonably impair the safety of people using the right-of-way and nearby residents.
- B. The obstruction will not unreasonably hinder the efficiency of traffic affected by the obstruction.
- C. No alternative locations are available that would not require use of the public right-of-way.

- D. ADA standards are maintained.
- E. Any other factor that the City Engineer deems relevant.

OCMC 12.04.120 outlines requirements for temporary and permanent obstructions.

2.6 SURVEY/MONUMENTATION

The *Oregon Standard Specifications for Construction* and ORS 209.140155 define the requirements for the protection of existing survey monuments during any construction and the setting of new survey monuments following the construction of new roadways.

Refer to the *Clackamas County Roadway Standards*, Section 150 for Survey and Monumentation standards.

2.7 HISTORIC DISTRICTS AND DOWNTOWN

Oregon City has two local historic districts:

- A. McLoughlin Conservation District
- B. Canemah National Register District

Additional information for each district is provided at the districts' websites. OCMC 17.40 provides information on the Historic Overlay District for the City, including construction details for projects within this area. Refer to the Historic Design Guidelines for New Construction.

Downtown Oregon City is not a Historic District, but the downtown has specific guidelines to preserve this area. According to the 1999 *City Downtown Plan*, the City intends to verify that new construction and improvements are guided by a set of historic design guidelines that enhance and preserve this part of the City. Within this area, pedestrian-oriented design features are emphasized, including:

- A. Pedestrian crossings
- B. Street furniture
- C. Wider sidewalks
- D. River viewpoints
- E. Decorative railings

3.0 GEOMETRIC DESIGN

Chapter 3 provides the geometric building blocks for planning and designing a road by describing the typical cross section elements, outlining parameters associated with horizontal and vertical alignments, providing an overview of intersection design, discussing various sight distance needs, highlighting the assessment of roadside design, and providing features for traffic calming and additional design features. This chapter is consistent with the geometric design principles outlined in the AASHTO *Green Book* and the ODOT *Blueprint for Urban Design*. If the guidance in this section cannot be obtained, then a design modification is required for approval by City Engineer.

3.1 CROSS SECTION

Typical roadway cross sections vary based on functional classification. Roadway functional classifications are established in the Oregon City TSP. Table 16.12.016 from OCMC 16.12.016 implements the Oregon City TSP and illustrates the maximum design standards. These standards may be reduced with an alternative street design, which may be approved based on the modification criteria in OCMC ~~16.12.013, 16.12.013, and Std. Dwgs. OC500-OC502 for required typical sections.~~ For the Downtown District, Washington Street, 7th Street, and Molalla Avenue, refer to Section 5.8. When required as a condition of development, half-street improvements must include the entire area between the centerline and the edge of right-of-way. Table 3-1 provides general guidance and an overview on the typical uses for each cross sectional element and where to find additional information.

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Table 3-1: Typical Uses for Cross Sectional Elements

Cross sectional Element	Description
Travelway	Travelway width varies by functional classification—see Std. Dwg. OC 500-OC502. The number of travel lanes is determined by the Oregon City TSP.
Two-Way Left-Turn Lane/Median	Medians are to provide for left-turn lanes (e.g., two-way left-turn [TWLT]) as needed and used only on collector and arterial streets. Medians can be narrower if there is no need for left-turns and/or refuge islands for pedestrian crossings. Medians can be raised and landscaped; rocked medians should be provided in locations that need sight distance and where pedestrian crossings are present. Section 10.0 provides information on landscaped medians. Refer to Oregon City area-specific planning documents for guidance on where medians are required. Medians (and sometimes “pork chop” islands) are also used for access management purposes and to prohibit specific movements (e.g., right-in/right-out).
Parking	On-street parking shall be parallel along the curb per OCMC 16.12.016. Angled on-street parking is discouraged and shall only be implemented on a case-by-case basis with City Engineer approval.
Bicycle Facilities	Bicycle facilities are required on all roads City streets classified as collector streets or higher. The standard bicycle lane width is 6 feet based on the OCMC. However, when possible, it is desirable on collectors and arterials to have on-street buffered bicycle lanes (6-foot bicycle lane with a 2-foot buffer). Separated bicycle facilities may be necessary in higher-speed environments to improve bicyclists’ safety and comfort. The minimum bicycle facility requirement is on-street buffered bicycle lanes, but the preferred solution is to provide separated bicycle facilities. Alternative applications may include raised bicycle facilities or shared-use paths. For guidance, refer to Oregon City area-specific planning documents, such as the Oregon City TSP, which outlines future bicycle route connectivity throughout the City.
Curb and Gutter	The Std. Dwg. OC511 requires a 6” curb with an 18” gutter.
Landscaping	When required, landscaping can be installed on medians or between the curb and sidewalk. See Std. Dwg. OC530 for street tree planting details and OCMC 12.08 for street tree requirements. Refer to Chapter 10 for additional landscaping details.
Sidewalks	Typical sidewalk widths shall be per OCMC 16.12.016, Oregon City concept plans or other adopted plans.

3.1.1 Lane Widths

The Oregon City TSP provides guidance on how to determine lane widths based on functional classification. The City has four key considerations when deciding lane widths:

- A. Lane widths should be kept as narrow as possible.
- B. Wider lane widths should be considered when the mix of heavy vehicles is greater.
- C. When no bicycle facility or shoulder is present, a shy distance from a vertical curb should be considered.
- D. If the purpose of the design is a lower-speed environment, narrower travel lanes should be selected.

Oregon City TSP provides additional information on determining the lane arrangement and width of the street based on functional classification and potential route designations, such as freight and transit routes, as summarized below.

- A. Streets along regional and local truck routes should have a minimum lane width of 12 feet.
- B. A minimum lane width of 11 feet is required along a transit route.
- C. If the street is not along a designated route, the lane width can be reduced to a minimum of 12 feet along major arterials, 11 feet on minor arterials, and 10 feet along collectors and local streets, as determined by the City.

3.1.2 Constrained Street Section

~~Allowable applications and reduced cross-section widths~~ Constrained street sections may only be considered for local streets only if determined with approval by the City Engineer. Constrained streets may have reduced lane widths per 3.1.1 and may eliminate the following typical street components:

- bike lanes
- landscape strip and/or furnishing zone
- sidewalk on one side of a street

The following potential scenarios will be evaluated on a case-by-case basis:

- A. Constructing the standard street width would cause excessive impacts to adjacent businesses and/or homes.
- B. Constructing the standard street width is impractical based on topographical impacts (i.e., retaining walls or cut/fill would be required).
- C. Constructing the standard street width would unnecessarily impact environmentally sensitive areas.

For all cases, the City Engineer shall approve documentation through the design modification and public improvement modification process.

The AASHTO *Green Book* provides guidance for vertical and horizontal roadway elements. For constrained areas, the Engineer of Record and/or the City Project Manager should follow the principles from the *Green Book* and consider various dimensions for roadway cross sections to minimize impacts.

In addition, the practitioner should assess the *Oregon Fire Code Applications Guide*, Clackamas Fire District #1 to determine if sufficient width (i.e., 20 feet of unobstructed driving surface) exists to accommodate parked vehicles. Parking should be prohibited accordingly. A design modification from the typical standard widths require approval by the City Engineer.

3.1.3 Parking (On-Street)

On-street parking may be added in urban environments if approved or required by the City. The City standard is parallel parking in public right-of-way along the curb, and it requires the least paved width. Angled on-street parking may only be considered if there is adequate street width; speeds are below 25 mph; and other constraints, such as environmental, topographical, or other unique circumstances exist. Angled parking should be processed as a design modification to be approved by the City Engineer. The location of bicycle lanes should be carefully considered in areas with on-street parking. Separated bicycle facilities or shared-use travel lanes may be considered as discussed in Section 4.2.

On-street parking is required on both sides of the street in all street designations as outlined in OCMC 16.12.016. On-street parking may be restricted for safety and/or functionality. When determining the locations of on-street parking, designers should consider sight distance, delivery access, and emergency access for existing and proposed development along the street. Where on-street parking is provided, curb extensions should be provided at intersections and midblock crossings to minimize crossing distance.

To preserve safe sight distance, on-street parking is prohibited within 15 feet of the intersection and the accessway with public streets (OCMC 16.12.032).

3.2 HORIZONTAL ALIGNMENT

All roadway designs shall comply with the guidance in the current edition of the AASHTO *Green Book*, except as modified by this section. Centerline alignment of improvements should be parallel to the centerline of right-of-way.

3.2.1 Horizontal Curves

Requirements for horizontal curves include:

- A. Horizontal curves should meet the minimum radius requirements in Table 3-2.
- B. Reversing horizontal curves should be separated by at least 50 feet of tangent (100 feet on arterials).
- C. Horizontal curves should be designed using a maximum superelevation rate of 4% ($e_{max}=4\%$). See Section 3.3.2 for superelevation standards.

Table 3-2: Minimum Curve Radii

Design Speed (mph)	Minimum Curve Radius (ft) for Various Cross Slopes			
	(e) -2.5%	(e) 0%*	(e) 2.5%*	(e) 4%*
15	50	45	45	40
20	100	90	85	80
25	185	165	150	145
30	305	275	245	230
35	475	415	370	345
40	700	600	525	490
45	980	830	720	665

*Use of superelevation requires City approval.

3.2.2 Exceptions for Very Low-Volume (≤ 400 ADT) Local Streets with a Speed of 25 Miles Per Hour (mph) or less

The following are allowed under the listed circumstances on a limited basis:

- Horizontal curves on local roadways within residential areas may have a minimum centerline radius of 100 feet, as limited in this section.
- A single 15 mph maneuver is allowed on a local road on a limited basis when physical constraints or property boundary limitations exist.
- Residential driveways that serve no more than three lots, are less than 400 feet in length, or have topographic constraints may use a 50-foot centerline radius for a 12-foot width or a 40-foot centerline radius for a 20-foot width. Approval from the City Engineer and emergency services provider are required.

3.2.3 Roadway and Marking Transitions

Shifts in roadway alignment, widening, or narrowing within motor vehicle travel lanes are to be accomplished through roadway transitions as described below.

- Roadway transitions within through lanes:

$$L = S \times W \quad (S \geq 45 \text{ mph})$$

$$L = WS^2/60 \quad (S < 45 \text{ mph})$$

where
 L = minimum taper length (feet)
 S = design speed (mph)
 W = offset (shift) width (feet)

- Tapered widening for right-turn lanes at intersections should be designed according to the ODOT *Highway Design Manual* detail for "Right Turn Channelization."

- C. Tapered widening for left-turn lanes at intersections should be designed according to the ODOT *Highway Design Manual* for “Left-Turn Channelization.”
- D. For road widening to develop left-turn lanes, horizontal curves and tangents for the through lane may be substituted for the straight tapered widening noted above, provided that the curves and tangents meet horizontal alignment requirements for the given design speed of the roadway.
- E. Along local and connector roads, roadway width transitions are not required if traffic is not expected to use the shifting roadway (e.g., at the beginning or end of street frontage improvements).

3.3 VERTICAL ALIGNMENT

The vertical alignment of the City’s public and private roadways should conform to the following requirements:

- A. **Minimum Roadway Gradient:** The minimum tangent roadway gradient should be 0.5% along the crown and vertical curb line. The gradient along the curb return at the sidewalk ramp landing shall be designed to 0.5–1.5%.
- B. **Maximum Roadway Gradient:** The maximum roadway gradient is based on the adjacent land use contexts and should be 8% for commercial areas and 15% for residential areas.
- C. **Intersection Landing:** At intersections, a landing should be provided on the secondary or subordinate approach or on a stop-controlled approach.
 - 1. Landings should be 20 feet in length for private driveways, 50 feet in length for local roadways, and 100 feet in length for all other roadways.
 - 2. Landings should be measured from the edge of pavement of the intersected roadway at full development and shall have an average grade no greater than 5%.
 - 3. Cross slopes of the landings of both roadways should be flattened so that the pedestrian crossing is ADA compliant.

3.3.1 Vertical Curves

- A. Vertical curves should be used when design grade breaks of more than 1% are necessary. Grade breaks may be allowable on the side street and would need to be approved by the City Engineer, depending on a lower road hierarchy.
- B. The minimum vertical curve length should be 50 feet for the mainline street and 20 feet for the side street approach.
- C. Vertical curves shall conform to the values in Table 3-3 and be calculated according to the formulas below. K-Sag values may be reduced to K-Crest values if adequate street lighting is present along the entire sag vertical curve.

$$K = L / A$$

where

A = algebraic difference in grades (percent)

L = length of vertical curve (feet)

Table 3-3: Design Control for Crest and Sag Vertical Curves

Design Speed (mph)	Minimum Rate of Vertical Curvature (K)	
	Crest	Sag*
15	3	10
20	7	17
25	12	26
30	19	37
35	29	49
40	44	64
45	61	79

*Values are for roadways where street lighting is not present. The City may accept a lower K value for sag vertical curves if the roadway design includes lighting. The Engineer of Record shall calculate for the minimum-length curve based on comfort ($L=AV^2/46.5$).

3.3.2 Cross Slope and Superelevation

- A. Roadway cross slope should be no less than 2.5% and no greater than 4%. If existing conditions require different cross slopes, approval by the City Engineer is required. Intersection grading requirements are shown in Section 3.4.1.5.
- B. Design elements for superelevation should be based on the AASHTO *Green Book*.
- C. Superelevation is not allowed on roadways with a design speed of 35 mph or less.
- D. The maximum rate of roadway superelevation for urban conditions should be 4% ($e_{max} = 0.04$).
- E. The use of superelevation in the urban area is discouraged, and the City shall approve its use.
- F. Street grades, intersections, and superelevation transitions should be designed to prevent concentrations of stormwater from flowing across the travel lanes.
- G. On portland concrete cement (PCC) roadways with an odd number of lanes, the crown should be offset to a lane line to prevent locating a joint in the middle of a traffic lane.

3.4 INTERSECTIONS

The City uses various intersection control types based on the context and projected traffic volumes of the intersecting roadways.

Table 3-4 describes typical intersection control types. See Section 5.3 for additional guidance on analyzing and selecting the appropriate intersection control.

Table 3-4: Typical Intersection Control Types

Traffic Control/Intersection Form	Definitions
Two-Way Stop-Control (TWSC)	At TWSC intersections, the stop-controlled approaches are on the minor street, and the free-flowing approaches are on the major street. At TWSC intersections, drivers must find gaps in the major street traffic to make a turning or through movement. See the Oregon City Public Works <i>Stop Sign Brochure</i> for more information.
All-Way Stop-Control (AWSC)	AWSC intersections require every vehicle to stop at the intersection before making a turning or through movement. If other vehicles are present at the intersection, a driver may only proceed after determining that there are no other vehicles in the intersection and that it is their turn. See the Oregon City Public Works <i>Stop Sign Brochure</i> for more information.
Yield	A yield-controlled intersection requires vehicles to slow down and give way to all other traffic going through the intersection. If no other traffic is present at the intersection, a driver may slow down but not stop before entering the intersection.
Traffic signal	Traffic signals are electrically operated traffic control devices that indicate to roadway users when they may advance through the intersection. Traffic signals allow the shared use of road space by separating conflicting movements.
Roundabout	A roundabout is a generally circular intersection form that uses yield-controlled approaches for all legs of the intersection. Drivers must slow down prior to entering the roundabout and give way to vehicles that are in the roundabout.

3.4.1 Intersection Geometry

Intersection geometry outlines design guidance for the following elements:

- A. Design vehicle
- B. Tangent approach
- C. Curb radii
- D. Intersection angle
- E. Vertical geometry
- F. Sidewalk ramps
- G. Turn lanes
- H. Pedestrian refuge islands
- I. Roundabouts

3.4.1.1 Design Vehicle

The Engineer of Record and/or City Project Manager shall determine the appropriate design and control vehicles for a facility. Definitions and information for both vehicles are provided below.

- A. **Design vehicle:** Frequently uses a facility and must be designed without encroaching into adjacent and opposing traffic lanes (e.g., turning lane to lane).
- B. **Control vehicle:** Infrequently uses a facility, but encroachment into opposing traffic lanes, multiple-point turns, or minor encroachment into the roadside is acceptable (e.g., using available pavement).
- C. The project may be required to provide evidence that the designs can accommodate both the design vehicle and the control vehicle.
- D. Functional classification, safety, and roadway use all play a role in determining the acceptability of lane encroachment by control vehicles. For example, on a local road, full lane encroachment by a control vehicle may be acceptable if sight distance is adequate. However, on a major arterial, such encroachment may not be permitted.
- E. In urban and constrained contexts, coordinate with the City Engineer to determine how trucks will be accommodated and/or designed for at intersections.

Figure 3-1a illustrates the path of a design vehicle. Figure 3-1b illustrates the path of a control vehicle.

Figure 3-1a: Design Vehicle Path

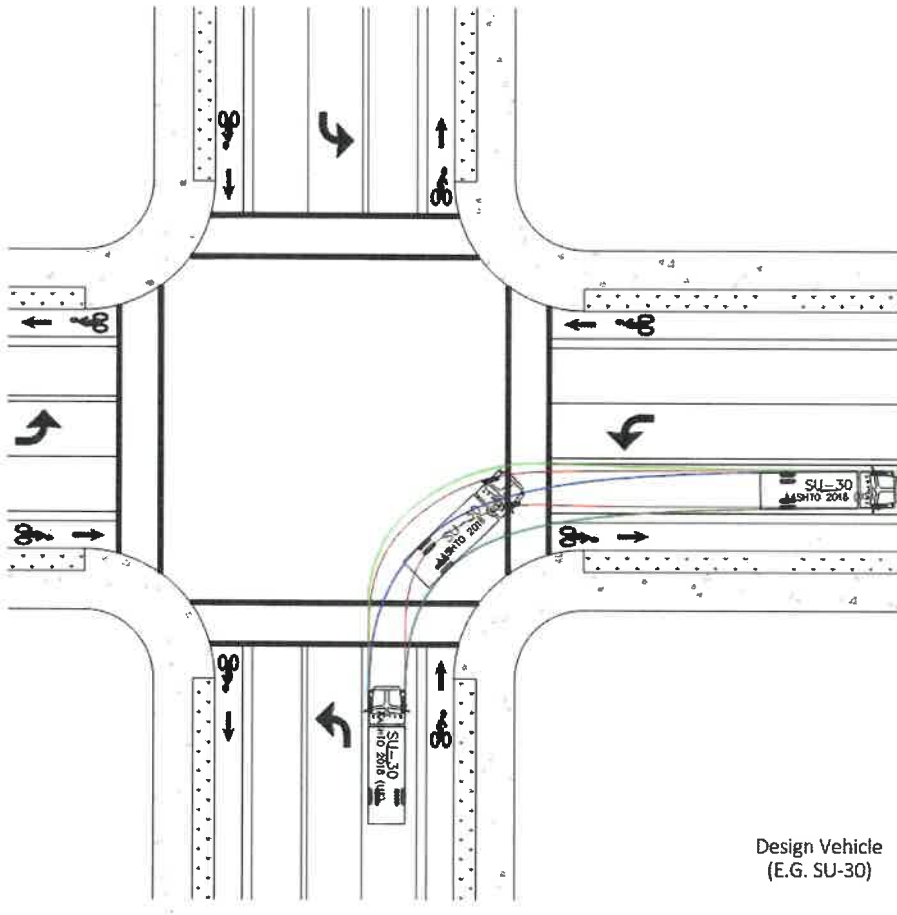
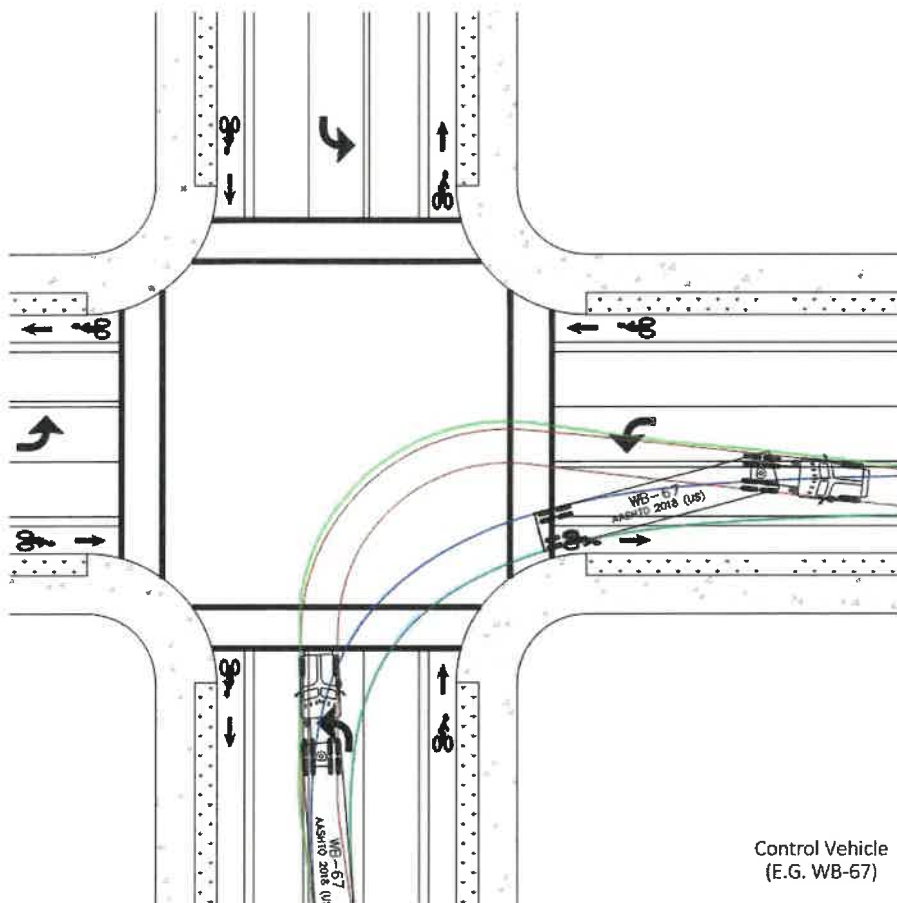


Figure 3-1b: Control Vehicle Path



3.4.1.2 Curb Radii

The minimum curb radii at intersections shown in Table 3-5 are for new roads. Larger curb radii may be required along designated truck routes based on an assessment of design vehicles; smaller curb radii may be allowable based on the land use context. Additional requirements for curb radii are described below.

- A. Verify that corner radii provide maneuverability for emergency response vehicles (refer to City Fire Code).

- B. Curb radii shall be approved by the City Engineer based on an assessment of design and control vehicle considerations as well as pedestrian and design speed considerations.
- C. The minimum right-of-way radii shall maintain at least the same distance from right-of-way to edge of pavement or curb as the lower classified roadway.
- D. In Table 3-5, if a designated bicycle lane or on-street parking exists on either intersecting roadway, then the initial radii may be reduced by 5 feet.

Table 3-5: Minimum Curb Radii

Major Roadway	Intersecting Roadway (ft)			
	Major Arterial	Minor Arterial	Collector	Local
Major Arterial	35'	35'	30'	25'
Minor Arterial	N/A	30'	30'	25'
Collector	N/A	N/A	25'	25'
Local	N/A	N/A	N/A	25'

3.4.1.3 Tangent Approach

To improve intersection safety, new intersections should conform to the tangent requirements of OCMC 16.12.020 unless otherwise approved by the City Engineer. Tangent sections are shown in Table 3-6.

Table 3-6: Tangent Sections

Major Roadway	Intersecting Roadway (ft)				
	Major Arterial	Minor Arterial	Collector	Local	Private Access
Major Arterial	100'	100'	100'	100'	100'
Minor Arterial	N/A	100'	100'	100'	100'
Collector	N/A	N/A	100'	50'	50'
Local	N/A	N/A	N/A	50'	50'

3.4.1.4 Intersection Angle

The intersection angle at intersecting roadways shall be as close to 90 degrees as possible. Intersection angles from 80 degrees to 100 degrees may be considered if approved by the City Engineer. Intersections with a skew angle of more than 10 degrees from a right angle are not allowed unless a design modification is prepared and approved by the City Engineer.

3.4.1.5 Vertical Geometry

At stop-controlled intersections, the crown of the major (higher classification) street shall continue through the intersection. The cross slope of the minor street shall flatten to match the longitudinal grade of the major street. A grade break of 5% or less may be allowed in the profile of the minor street as it crosses the crown of the major street. At intersections where both streets have the same functional classification, the City will either determine the controlling roadway or require the intersection to be designed accordingly.

At signalized intersections—and at intersections that may be signalized in the future—the cross slope of the major roadway should be such that the profiles of both roadways are flattened to a cross slope of 0.5%. This creates a 1% grade for the opposing through traffic rather than a 5% grade break (2.5% normal crown).

At intersections, the cross-slope of both roadways should be flattened so that the pedestrian crossing is ADA compliant. Intersection landings shall be provided according to Section 3.3.

3.4.1.6 Sidewalk Ramps

Sidewalk ramps (detailed in the list below) shall be provided for all directions at each corner of every intersection unless pedestrian safety concerns warrant a crosswalk closure, which the City Engineer must approve.

- A. Each street corner shall provide two directional ramps. At T intersections, the crossbar of the “T” should have two crossings equipped with ramps. All T intersections should have at least six ramps, with two ramps on each corner of the intersection. See [Figure 3-2](#) ~~Figure 3-2~~.
- B. Sidewalk ramps shall be designed according to Std. Dwg. OC509.
- C. See current ODOT Standard Drawings for additional ramp details. Figure 3-3 provides an example.
- D. See Section 5.8.1 for information about stamped street names.
- E. Sidewalk ramps shall be a minimum of 5 feet in width and designed and/or constructed according to ADA and PROWAG requirements.
- F. All existing sidewalk ramps abutting a street overlay or pavement reconstruction project shall comply with ADA requirements for sidewalk ramps.
- G. All crossings protected by a traffic signal shall have marked crosswalks. Marked crosswalks may be provided at other locations only when approved by the City Engineer based on a pedestrian crossing assessment.
- H. Ramps located within marked crossings shall be within the striped width of the crosswalk, excluding the flared wings.
- I. Where a crossing is not feasible due to topographical or safety concerns, the crossing can be closed through the approval of the City Engineer. Elimination of a crossing shall not conflict with ADA requirements. When a crossing is eliminated, alternative pedestrian routes with minimal out-of-direction travel should be provided.

Figure 3-2: Sidewalk Ramps at T Intersections

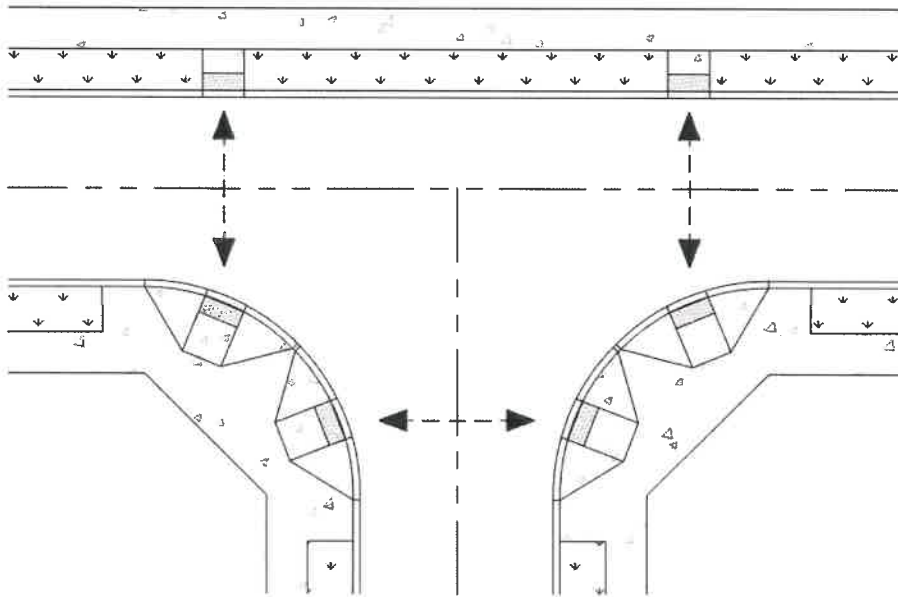
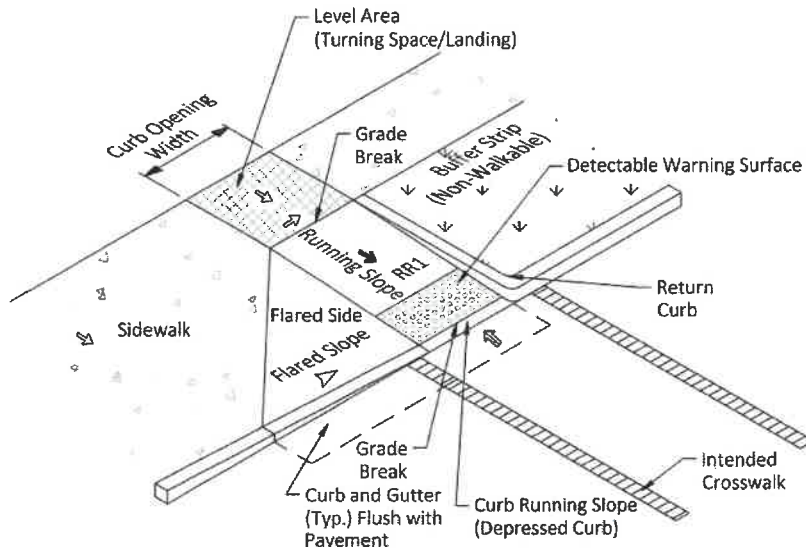


Figure 3-3: Example Ramp Details



3.4.1.7 Turn Lanes

The need for left- or right-turn lanes shall be based on a traffic operational analysis, such as a traffic impact analysis (TIA) (see Section 5.2.1), and/or as dictated by the Oregon City TSP or City Capital Improvement Program (CIP). The following general rules apply:

- A. Queue storage estimates shall be based upon a traffic operational analysis.
- B. Left-turn lanes, when provided, shall have a storage queue of at least 50 feet.
- C. Left- or right-turn lanes shall be based on ODOT's *Highway Design Manual*.

3.4.1.8 Pedestrian Refuge Islands

Medians that are crossed by a pedestrian access route and accessible route islands shall comply with ADA requirements as identified in Oregon City ADA Design Review Checklist—Medians/Traffic Islands (See Appendix C) and depicted in Oregon Standard Drawing RD710.

3.4.1.9 Roundabouts

Roundabout geometric design requires balancing design objectives with design flexibility to achieve multimodal planning and design objectives. When their geometric features promote slow entering and circulating speeds, roundabouts have fewer and less severe collisions. Undesirable roundabout geometry negatively influences roundabout operations by affecting driver lane choice and behavior through the roundabout.

A roundabout's basic form and features are influenced by location, desired capacity, available space, required lane numbers and arrangements, design vehicle, and other geometric attributes unique to each site. Design outcomes depend on the surrounding context and associated speed environment. Compared to other contexts, rural environments may have high approach speeds and low bicycle and pedestrian use. In urban environments, where bicycle and pedestrian safety is a primary concern, roundabouts typically have significantly different design objectives.

Many design techniques are substantially different for single-lane roundabouts than for multilane roundabouts with two or more lanes. Roundabouts in unique, low-volume/speed, or constrained reconstruction locations may include combinations of traversable and non-traversable features, including splitter islands and central islands. These configurations may require special consideration compared to roundabouts with non-traversable central island features.

Roundabout design is an iterative process that must consider and balance a variety of design objectives while working within site-specific constraints. Optimizing roundabout operational performance and maximizing safety require customizing a design rather than relying on a design template.

Roundabout intersections shall be designed according to *NCHRP Report 672 Roundabouts: An Informational Guide*. Roundabout consideration per Section 5.3 should happen before the approval of a traffic signal.

Roundabouts with pedestrian facilities shall comply with ADA requirements as identified in PROWAG Section R306.3. Additional guidance on pedestrian crossings at roundabouts can be found in *NCHRP Report 834: Crossing Solutions at Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities*.

3.5 SIGHT DISTANCE

Sight distance shall be determined and approved according to the procedures in the current AASHTO *Green Book* or AASHTO's *Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)*. The OCMC includes additional guidance as noted in the following sections.

3.5.1 Intersection Sight Distance

Intersection sight distance (ISD) should be evaluated according to OCMC 10.32. This applies to the design of new streets and driveways as well as to the placement of any object located within or behind the public right-of-way. ISD must comply with the following guidelines:

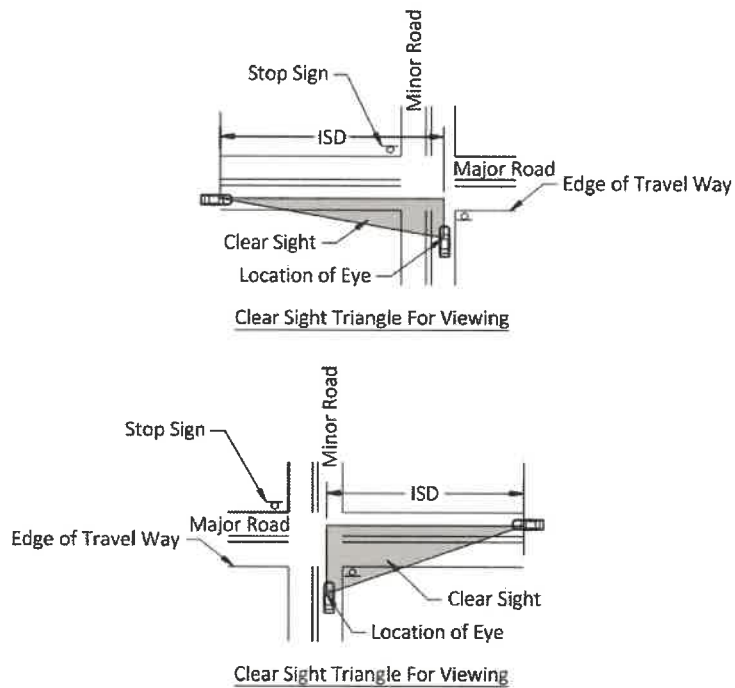
- A. No object taller than 36 inches or plant capable of growing taller than 36 inches is permitted within a sight clearance area. Poles, tree trunks, and similar objects less than 12 inches in diameter may be allowed in the sight clearance area if it can be proven that such obstructions do not prevent the continuous view of the vehicle approaching the intersecting street.
- B. Tree locations should be verified so they do not obstruct visibility of signing. Trees that obstruct signing should be removed or located elsewhere.
 1. Maintain existing street tree and tree-sized shrubs located within or overhanging the public right-of-way or visual clearance zone by trimming to a minimum of 8 feet above ground level per OCMC 10.32.030.

2. Existing trees or tree-size shrubs located within or overhanging the public right-of-way shall be kept trimmed to a minimum of 10 feet above local streets or alleys.
 3. Existing trees or tree-size shrubs located within or overhanging the public right-of-way shall be kept trimmed to a minimum of 12 feet above collectors and arterials.
 4. Trees shall be maintained following OCMC 12.08.025.
- C. Adjacent property owners are required to maintain adequate sight distance at intersections and driveways.
- D. ISD is measured from a point on the centerline of the minor road/driveway 14.5 feet from the edge of traveled way of the major road. It is measured from a height of 3.75 feet on the minor road to an object height of 4.5 feet on the major road.
- E. The required ISD is based on the posted speed limit of the major road (shown in Table 3-7 and [Figure 3-4](#)).

Table 3-7: Intersection Sight Distance

Intersection Sight Distance	
Posted Speed Limit (mph)	Required Sight Distance (ft)
25	250'
30	300'
35	350'
40	400'
45	450'

Figure 3-4: Intersection Sight Triangles



3.5.2 Stopping Sight Distance

Stopping sight distance (SSD) must be evaluated at horizontal and vertical curves, intersections, crosswalks, and any other scenario where a driver's view of the roadway ahead may be skewed. Sight line easements must meet SSD requirements. SSD must be evaluated per the most current AASHTO *Green Book*.

3.6 ROADSIDE CLEARANCE

A roadside clearance shall be provided on all street improvement projects according to guidance for urban areas in the most recent AASHTO *Roadside Design Guide*. The designer should follow the AASHTO *Roadside Design Guide* and key topics below.

- A. No fixed object (e.g., new light pole, utility pole, street furniture, trash can, or artwork) can be closer than 2 feet to face of curb.
- B. At street corners, no fixed object should be taller than 3 feet to maintain vision sight triangles.

- C. Sign placement should follow City Standard Drawings, with a 6-inch clearance between the face of curb and the edge of the sign.
- D. Mailboxes within the clear sight area must be constructed according to Std. Dwg. OC519.

3.7 TRAFFIC CALMING

The ODOT *Blueprint for Urban Design*, Section 3.2.4, explains how to achieve target speeds on highways within urban areas. Several traffic calming design treatments may be appropriate based on the context of the road. The City Engineer must approve all treatments. Coordination with emergency providers, transit agencies, Oregon City School District, and the Clackamas Fire District #1 needs to occur before traffic calming treatments are installed to confirm potential impacts to emergency and transit routes.

Traffic calming refers to street design techniques that recreate safe, slow, residential, and mixed-use streets without significantly changing vehicle capacity. The goal is to mitigate the impacts of traffic on neighborhoods and business districts that need greater balance between safety and mobility. Traffic calming seeks to influence driver behavior through physical and psychological means, resulting in lower vehicle speeds or through traffic volumes. Physical traffic calming techniques outlined in the Oregon City TSP include but are not limited to:

- A. Narrowing the street by providing curb extensions/bulb-outs or midblock pedestrian refuge islands.
- B. Deflecting the vehicle path vertically by installing speed humps, speed tables, or raised intersections (refer to Std. Dwg. OC528).
- C. Deflecting the vehicle path horizontally with chicanes or roundabouts.
- D. Narrowing travel lanes and providing visual cues (e.g., buildings, street trees, on-street parking, or landscaping) next to the street to create a sense of enclosure that prompts drivers to intuitively reduce vehicle speeds.

The Oregon City Neighborhood Traffic Fact Sheet outlines additional traffic calming techniques and weighs the benefits and drawbacks of each.

3.8 CUL-DE-SACS, EYEBROWS, AND OTHER DEAD-END ROAD TREATMENTS

As outlined in OCMC 16.12.025, the City discourages the use of cul-de-sacs, eyebrows, hammerheads, and permanent dead-end streets. These treatments should only be considered if construction of a through street is found to be impracticable due to topography or some significant physical constraints, such as geologic hazards; wetland, natural, or historic resource areas; pre-existing dedicated open space; pre-existing development patterns; or arterial access restrictions. If one of these treatment options is deemed necessary based on discussions with the City, general requirements include:

- A. At dead ends, a cul-de-sac must be constructed per Std. Dwg. OC503. Cul-de-sacs must have a turnaround radius of 48 feet. If a constrained section has been approved, a 41-foot turnaround may also be approved. Refer to OCMC 16.12.025 for additional details and requirements.
- B. Temporary dead ends on roads with planned future extensions must have an end-of-roadway marker per Std. Dwg. OC525. The City Engineer can approve street barricades (per Std. Dwg. OC512) in place of an end-of-roadway marker on local streets.

- C. Eyebrow corners may be constructed on new local streets per Std. Dwg. OC518. Stopping sight distance must be evaluated at all new eyebrow corners, and sight-line easements may be required.
- D. Hammerheads are only allowed on Private Streets.

If these requirements cannot be obtained due to constraints, then approval from the City Engineer is required through the design modification process. Section 3.11 provides additional requirements for street design features based on required access for fire apparatuses.

3.9 DRIVEWAYS

Driveways must meet the requirements in OCMC 16.12.035 and be constructed per Std. Dwg. OC504-OC506. This section provides a starting point for designers considering driveways and is not exhaustive of all information. Minimum driveway spacing is determined by the functional classification of the road (shown Table 3-8). Minimum and maximum driveway widths are determined by the property zoning (shown in Table 3-9). All new and replaced driveways must meet ADA and PROWAG requirements for accessibility. As more types of housing and styles of development change over time, OCMC 16.12.035 shall take precedence if any conflict exists. These charts are provided only as reference guides which mirror City Code at the time of adoption.

Table 3-8: Driveway Spacing Standards

Street Functional Classification	Minimum Driveway Spacing Standards	Distance (ft)
Major Arterial	Minimum distance from a street corner to a driveway and between driveways for all uses other than detached single- and two-family dwellings.	175'
Minor Arterial	Minimum distance from a street corner to a driveway and between driveways for all uses other than detached single- and two-family dwellings.	175'
Collector	Minimum distance from a street corner to a driveway and between driveways for all uses other than detached single- and two-family dwellings.	100'
Local	Minimum distance from a street corner to a driveway and between driveways for all uses other than detached single- and two-family dwellings.	25'

Table 3-9: Driveway Approach Widths

Property Use	Minimum Driveway Approach Width (ft)	Maximum Driveway Approach Width (ft)
Single family	10'	24'
Duplex	10'	24'
3- or 4-plex	10'	36'
Multifamily	18'	30'
Commercial, industrial, office, institutional, mixed-use, and/or nonresidential	One-way: 12' Two-way: 20'	40'

3.10 ALLEYS

Alleys are only allowed if required by an Oregon City Concept Plan. Alleys must be private.

3.11 PRIVATE STREETS

In certain circumstances, creating a private roadway may be permitted if it is the only reasonable way to provide access that minimizes impact to the proposed lots or parcels. Requirements for private streets include:

- A. Design and construction of a private roadway widths, cross section, and design speed must be consistent with the design standards for public roads classified as local streets, except as noted in these *Standards* (Section 3.0).
- B. All private streets must meet ADA accessibility standards; sidewalks and sidewalk ramps on private streets must be designed accordingly.
- C. The City will not be responsible for maintaining private roads. Formal maintenance agreements or equivalents should be established to ensure private responsibility for future maintenance.
- D. Private streets and their respective easements must be distinguished from public roadways. Any reservations, restrictions, and maintenance agreements related to the created private roadways must be described in the land division plat or deed records.
- E. The Engineer of Record and/or City Project Manager must consider utilities and roadway drainage.
- F. Private streets must also comply with Fire Code for load and fire apparatus access requirements if they are designated fire apparatus access roads. See Section 3.11 for additional information on fire standards.
- G. Documents defining ownership, use rights, and allocation for liability for maintenance of private streets must be submitted to the City before or in conjunction with final public facility permit approval.
- H. A blue street name sign must be posted at each private street entrance from a public street per OC521-522.

3.12 FIRE STANDARDS

City streets shall be designed and constructed based on the information presented in the 2022 Oregon Fire Code (OFC), which is based on the 2021 International Fire Code, or most recent code if a newer one exists. City amendments to the Oregon Fire Code are outlined in OCMC 15.40.030. Oregon City is located within Clackamas Fire District #1. Additional resources for the design of access roads, fire flow requirements, and hydrant placement include:

- A. *The Fire Code Applications Guide*
- B. Appendix D of the Oregon Fire Code
- C. Clackamasfire.com

If the guidance in this section cannot be achieved, then a design modification is required for approval by City Engineer.

3.12.1 Roadway Cross Section for Fire Apparatus

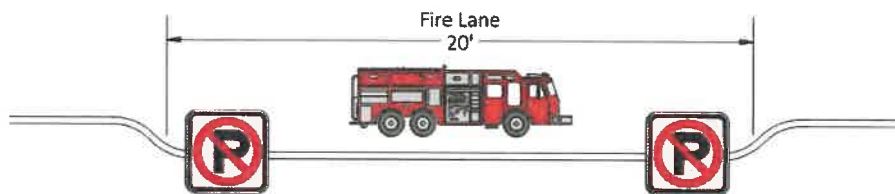
Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles, “No Parking” signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Table 3-10 and Figure 3-5 provide the appropriate guidance.

Table 3-10: Roadway Cross Section for Fire Apparatus

Roadway Paved Width	On-Street Parking
26 ft or less	None
26–32 ft	One side
32 ft or more	Both sides

Figure 3-5: Guidance for Fire Apparatus

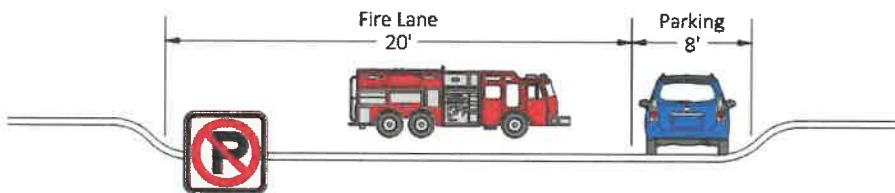
Fire Apparatus Access Road Width



Roadway no less than 26'

For Existing Fire Access Roadways, the Minimum Street Width Shall be 20 Feet, With No Parking on Either Side. The Width Shall be Increased to 26 Feet Within 30 Feet of a Hydrant, No Vehicle Parking Allowed.

*Parking is Prohibited and Roadway is Required to be Posted as a Fire Lane.



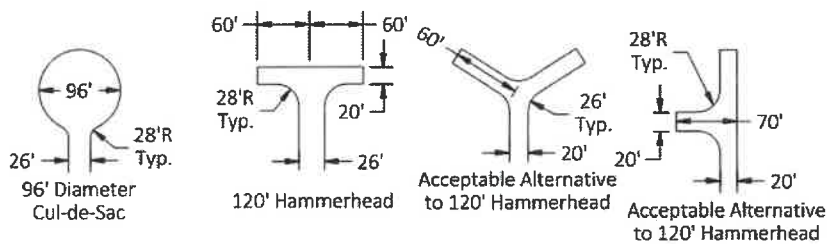
3.12.2 Fire Access Slope

Based on the Oregon Fire Code, Appendix D, D103.2 Grade, fire apparatus access roads shall not exceed 12% in grade, with up to 15% allowed if sprinklers are installed, unless it is approved by the Clackamas Fire District #1 Fire Chief. Intersections and turnarounds have a maximum grade of 5%. OCMC 16.12 provides additional information.

3.12.3 Dead-End Roads and Turnouts

Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround. Dead-end fire apparatus access roads in excess of 500 feet in length shall have a driving surface width of no less than 26 feet. Diagrams of approved turnarounds are shown in Figure 3-6 and OFC 503.2.5.

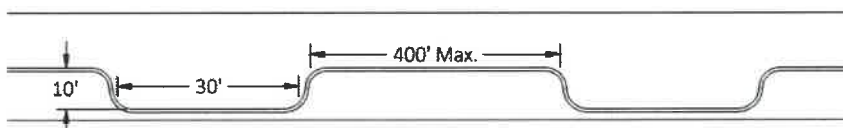
Figure 3-6: Dead End Roads



Source: Fire Code Applications Guide

When any fire apparatus access road exceeds 400 feet in length, turnouts 10 feet wide and 30 feet long shall be provided in addition to the required road width and shall be placed no more than 400 feet apart, unless otherwise approved by the City. These distances may be adjusted based on visibility and sight distances. Figure 3-7 provides a diagram of a turnout.

Figure 3-7: Turnouts



Source: Fire Code Applications Guide

4.0 MULTIMODAL DESIGN

All streets within the City should be multimodal to serve a range of needs for all street users, including pedestrians, bicycles, motor vehicles, transit, and freight. The adjacent land use and context, functional classification, and street network connectivity can influence the street design and how the transportation system serves each user. To account for this, Oregon City classified the street system into a hierarchy organized by function and street type. These classifications ensure that streets reflect the neighborhoods through which they pass and that they consist of a scale and design appropriate to the character of the abutting properties and land uses. The classifications also provide for and balance the needs of all travel modes, including people walking, biking, using transit, driving, and moving goods. Within these street classifications, context-sensitive design may result in alternative cross sections. The Oregon City multimodal street system is further described in the Oregon City TSP.

Chapter 4 outlines the standards for multimodal design, and the following sections discuss design guidance and standards for each travel mode.

4.1 PEDESTRIAN DESIGN

All pedestrian improvements shall comply with the PROWAG standards for a pedestrian access route. The specific provisions of the PROWAG standards for pedestrian access routes can be found in the Clackamas County ADA Design Review Checklist—Sidewalk/Multiuse Path (see Appendix C). The Oregon City TSP provides a map for future pedestrian connectivity planned throughout the City. Additional requirements for pedestrian design in the public right-of-way are described below.

- A. Pedestrian facilities are required on both sides of all City streets per City Code and policies. Pedestrian facilities may include sidewalks and/or a shared-use path.
- B. If right-of-way or public easement is adequate, the development is required to connect new pedestrian facilities to existing facilities that are terminated midblock and are within 15 feet of the proposed pedestrian facility. This includes associated improvements, such as curb, drainage, and landscaping.
- C. Minimum widths for sidewalks shall be per OCMC 16.12.016, Oregon City Concept Plans, or other adopted plans.
- D. Shared-use paths are allowed as an alternative or in addition to sidewalks (see Section 4.3).
- E. All pedestrian facilities should be located adjacent to a landscape strip or other physical buffer from vehicular traffic unless otherwise approved. See Chapter 10 for more information on landscape design.
- F. All roadway improvements, including sidewalks and shared-use paths, should be constructed within the public right-of-way. Sidewalks and shared-use paths may be located within a public easement if approved.
- G. Refer to Chapter 3: Geometric Design for additional details regarding horizontal and vertical clearance and curb ramps.

4.1.1 Pedestrian Crossings

The ODOT *Blueprint for Urban Design* (Chapter 3, Table 3-9) provides target pedestrian crossing spacing that depends on the context classification identified for ODOT urban roadways. A range, rather than a single target, offers flexibility for practitioners to make decisions based on roadway network characteristics (e.g., frequency and spacing of intersections), pedestrian destinations (e.g., transit stops), and a cluster of land uses.

4.1.1.1 Mid-Block Crossings

Marked midblock crosswalks may be considered in the following cases and may be provided if justified per the MUTCD:

- A. On arterial or collector roadways with a posted speed of 35 mph or less where existing intersections, proposed intersections, or existing crossing opportunities are more than 330 feet apart.
- B. In locations with existing or anticipated moderate-to-high pedestrian volumes.

Midblock crosswalks should be generally pursuant to the recommendations of Institute of Transportation Engineers (ITE) *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice*. They should be designed and constructed with the following features:

- A. A raised concrete median when crossing three or more lanes of traffic.
- B. Curb ramps meeting ADA requirements—curb ramps on both sides of the street per these *Standards* (see Appendix C).
- C. Curb extensions in areas where on-street parking lanes are present to enhance pedestrian visibility.

The ODOT *Traffic Manual* provides guidance and criteria to determine the appropriate treatment at crosswalk locations based on the number of lanes, refuge island, average annual daily traffic (AADT), and posted speed.

An engineering study documenting the need, location, and proposed treatment for the crossing should be prepared for approval by the City Engineer.

4.2 BICYCLE DESIGN

Encouraging and accommodating bicycles as a transportation mode is a priority for the City. Appropriate bicycle facilities need to be evaluated and included early in project planning and development. The ODOT *Blueprint for Urban Design* (Chapter 3) provides additional information on bicycle facility selection, and the approach is based on FHWA's *Bikeway Selection Guide*.

The ODOT *Blueprint for Urban Design* provides guidance on bicycle facility selection and how it relates to the context classification identified for ODOT urban roadways. It outlines a selection process, provides a tier identification matrix based on volume and speed, and recommends preferred bicycle facility design for the respective context classifications.

Bicycle facilities are required on all City streets classified as collector streets or higher. The standard bicycle lane width is 6 feet based on the City Code. However, when possible, it is desirable on collectors and arterials to have on-street buffered bicycle lanes (6-foot bicycle lane with a 2-foot buffer). Separated bicycle facilities may be necessary in higher-speed environments to improve bicyclists' safety and comfort. The minimum bicycle facility

requirement is on-street buffered bicycle lanes, but the preferred solution is to provide separated bicycle facilities. Alternative applications may include raised bicycle facilities or shared-use paths. Refer to Oregon City area-specific planning documents for guidance. For alternative bicycle facility design, refer to FHWA's *Separated Bike Lane Planning and Design Guide*. See Table 3-1 for additional information.

Refer to Std. Dwg. OC529 and OC529A for additional design details.

The Oregon City TSP provides a map for bicycle routes and connectivity planned throughout the City.

4.3 SHARED-USE PATHS

Shared-use paths may be allowed as an alternative or in addition to sidewalk and separated bicycle facilities in constrained environments that require City Engineer approval. The Oregon City Trails Master Plan outlines design guidance for regional community and local trails, including information about shared-use paths for each type of trail. The location of various trails is provided in the Trails Master Plan Map. Integrating shared-use paths can affect the overall street cross section. The Trails Master Plan identifies the path widths depending on the type of trail. The required shared-use path width varies depending on the facility's anticipated use and topography, preservation of significant trees, safety, and right-of-way. Deviation from the cross section identified in the Trails Master Plan must be processed through the modification process. Deviation from the routes identified in the Trails Master Plan must also be processed through the modification process, and the modification request shall include a shadow plat demonstrating how the path will extend through adjacent properties.

The Oregon City TSP provides a map of shared-use paths for existing and future connectivity throughout the City.

Shared-use paths are also identified as "public off-street pedestrian and bicycle accessways" in the OCMC. Pedestrian and bicycle accessways are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding 330 feet of frontage, or where the lack of street continuity creates inconvenient or out-of-direction travel patterns for local pedestrian or bicycle trips. Such paths must meet OCMC 16.12.032 requirements.

In some cases, a single path can be implemented to meet the intents and/or requirements of The Trails Master Plan, Oregon City TSP, and OCMC 16.12.032.

4.4 ALTERNATIVE TRANSPORTATION MODES

Alternative transportation modes include micromobility technology, such as e-bicycles, e-scooters, and other modes beyond driving motor vehicles and freight, riding transit, walking, and bicycling. Alternative transportation modes should be considered when planning and designing roadways as emerging technology and new modes become more widely used on the transportation system. Project teams should collaborate and obtain approval from the City Engineer to determine the appropriate place for each user. For example, micromobility technologies, such as e-bicycles and e-scooters, should be planned and designed in coordination with current bicycle facilities.

4.5 TRANSIT

Oregon City is served by TriMet, ClackCo Connector Shuttle, Canby Area Transit (CAT), and South Clackamas Transportation District (SCTD). This section describes information on their specific routes and connections. The TriMet *Bus Stops Guidelines* provides guidance and criteria to plan and design bus stops that are easily

identifiable, safe, accessible, and comfortable to wait for and access a bus. The Metro *Designing Livable Streets and Trails Guide* provides guidance for transit stop placement, transit stop and bikeway design configurations, and transit priority treatments.

Transit streets are defined in the OCMC 17.04.1310. Pedestrian/bicycle accessways must minimize the travel distance to transit streets and stops as well as neighborhood activity centers (Refer to Sections 4.1 and 4.2 for design related information for pedestrians and bicycles, respectively.) The City Engineer may require provisions, including easements, for transit facilities along transit streets where a need for bus stops, bus pullouts, or other transit facilities within or adjacent to the development have been identified. The Oregon City TSP outlines lane widths for streets on transit routes based on the optimum street design information.

4.5.1 General Requirements

- A. All transit stops, shelters, and associated appurtenances must be designed and constructed per the PROWAG.
- B. Placement of waste receptacles, signs, seating, or any other appurtenance must not infringe on an ADA area or the pedestrian access route, as defined by R302 of PROWAG. Placement also must not compromise direct access between the ADA waiting area and the ADA landing area or access between either ADA area and the sidewalk.
- C. Any installation of transit stops, shelters, or associated appurtenances requires approval from the transit agencies prior to obtaining approval from the City Engineer. TriMet should be contacted (Development_Review@trimet.org) to confirm improvements to transit stops and shelters. The design and bus zone needs are customized at each location depending upon service levels, amenities, number of routes, ridership, and turning movements.
- D. Before installation, the project must evaluate transit stops, shelters, and associated appurtenances for adequate sight distance.

4.5.2 ADA Landing Area Requirements

- A. ADA landing areas shall provide a minimum clear length of 8 feet (measured perpendicular to the curb) and a minimum clear width of 5 feet (measured parallel to the roadway).
- B. Where rear-door ADA landing areas are provided, they shall comply with this section.
- C. Parallel to the roadway, the grade of ADA landing areas shall be the same as the roadway. Perpendicular to the roadway, the designed grade of ADA landing areas shall be 1.5% or less.
- D. ADA landing areas shall connect to streets, sidewalks, or pedestrian circulation paths by ADA-accessible pedestrian access routes.

4.5.3 Transit Stop Clearances

All transit stops must meet the standard clearance requirements shown in Table 4-1.

Table 4-1: Transit Stop Clearance Requirements

Description	Requirement
Sidewalk clearance	Minimum of 5.0 ft of sidewalk clearance.
Accessible pathway	Minimum of 5.0 ft wide paths between shelter and any utility object.
Road clearance	2.5 ft minimum clearance between shelter and edge of curb, assuming pedestrian walking path is behind the shelter.
ADA landing area	See Subsection 4.5.2.

4.5.4 Transit Shelters

Transit shelter placement and orientation must provide the following:

- 5 feet of pedestrian pass-by, including clearance between poles, hydrants, and other obstacles.
- An ADA landing area adjacent to the bus stop sign and outside of the shelter.
- A clear pathway from the ADA waiting area inside the shelter to the ADA landing area.
- A clear pathway from the rear door landing area to the pedestrian access route.
- Interior lighting at the shelter for passenger visibility and security.

Transit shelters must meet the clearance requirements shown in Table 4-2.

Table 4-2: Transit Shelter Clearance Requirements

Description	Requirement
ADA waiting areas in shelters	A minimum of 2.5 ft x 4.0 ft space must be kept clear for a mandatory waiting area to accommodate mobility devices.
Visibility	Shelter must not block motorists' or pedestrians' lines of sight.
Building clearance	Minimum 12 inches from buildings, fences, and other structures to the bus shelter in order to allow room for maintenance.
Relation to bus stop	Shelter shall be within 25 ft of the ADA landing Area.
Sight distance	The shelter shall be placed so that the passengers waiting in the shelter can see approaching vehicles.

4.5.5 Transit Stop Seating

- Benches or seats must not be placed closer than 3.5 feet from the curb or 6 feet from the curb when a travel lane exists immediately adjacent to the curb.
- Clearance requirements for shelters apply to seating.
- Seating must be oriented toward the roadway or in the direction of approaching traffic.
- Furniture must be bolted to the sidewalk using stainless steel drop-in anchors sized according to the furniture manufacturer's recommendations.

4.5.6 Pavement Requirements

- A. Any damage to the sidewalk surface resulting from transit stop-related furniture is the transit authority's responsibility to repair (even in the event of an automobile crash).
- B. Sidewalk repairs must be completed according to Std. Dwg. OC508.
- C. In roadway areas where buses start, stop, or turn—or along roadways with high bus volumes—the following requirements must be met (refer to Chapter 6 for more details about pavement design):
 1. Concrete pavement must be used on roads carrying more than 150 buses per day.
 2. A reinforced concrete pad must be provided at high-volume bus stops and bus pullouts.

4.5.7 Standard Transit Stop Configurations

Standard transit stop configurations are shown in [Figure 4-1](#) through [Figure 4-3](#).

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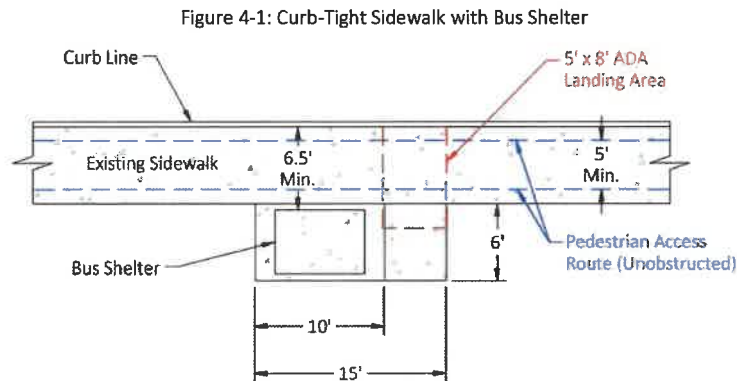


Figure 4-2: Separated Sidewalk with Rear Door Landing Area

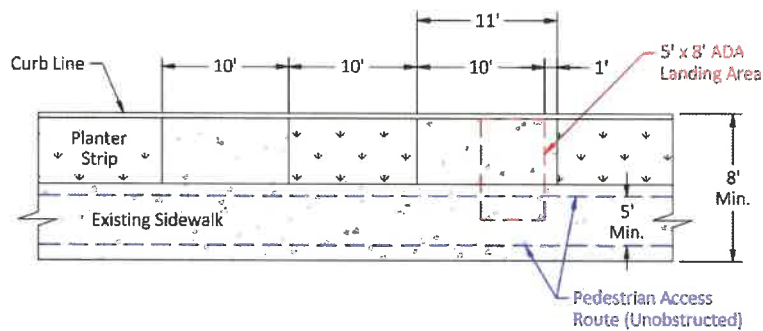
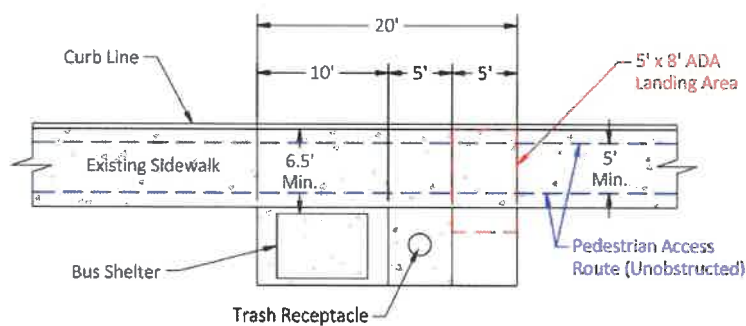


Figure 4-3: Curb-Tight Sidewalk with Shelter and Waste Receptacle



4.6 FREIGHT

Freight routes were designated in the Oregon City TSP to ensure freight trucks can efficiently travel through and access major destinations. The designation of through freight routes provides efficient movement while maintaining neighborhood livability, maintaining public safety, and minimizing roadway system maintenance costs.

The Oregon Highway Plan identifies Interstate 205 (I-205) as a freight route through Oregon City. While ODOT does not classify McLoughlin Boulevard (OR 99E) as a freight route, FHWA does designate it as a truck route.

Much of the freight activity in Oregon City is related to the employment areas located near the southeast corner of the City along Trails End Highway (OR 213), Beavercreek Road, and Molalla Avenue as well as within the Oregon City Regional Center. To allow for efficient movement between these designated areas and regional freight routes, Metro has classified several roadways in the City as freight connectors. The connector roadways link I-205 with the employment areas and include OR 213, Beavercreek Road, and OR 99E. Oregon City has designated these streets as local truck routes to ensure freight is adequately accommodated in the city.

5.0 TRAFFIC ENGINEERING

Chapter 5 provides general traffic engineering requirements and refers to other resources for the following topics:

- A. Design speed
- B. Operational standards
- C. Traffic control
- D. Stop control
- E. Traffic beacons and signals
- F. Signing
- G. Pavement markings
- H. Special street standards
- I. Transportation demand management
- J. Construction traffic control

5.1 DESIGN SPEED

The design speed establishes the geometric and roadside design of a road's physical features. Projects should consider street types (commercial, industrial, residential, or mixed-use) when identifying the design speed. The Engineer of Record and/or City Project Manager should coordinate with the City Engineer to confirm the selected design speed. The intent is for the posted speed to be consistent with the design speed.

Design speed is based on Oregon Revised Statutes (ORS) statutory speeds under ORS 801.100 (Definitions) and the criteria as described under ORS 811.105, ORS 811.111, and ORS 810.200. Refer to the ODOT *Speed Zone Manual* for additional information on design speeds for projects.

ORS 810.180 regulates the designation of maximum speeds when they are different from the statutory maximum speed limit of roadways.

Under subsection ORS 810.180 (5)(f), ODOT can delegate authority on low volume roadways to any city or county upon their request. This request can be made for specific roadways or for all low volume roads under the jurisdiction of the requesting agency.

Under subsection ORS 810.180 (5)(g) ODOT can delegate its authority of speed limit setting to any incorporated city.

5.1.1 Changing Speeds

In Oregon, ODOT sets speed limits on all roadways by issuing Speed Zone Orders. The ODOT Speed Zone Manual provides guidance for setting and changing a speed zone. As of January 2023, a state law went into effect that allows cities to set and change speed limits.

At the time of this writing, the City of Oregon City has not determined if it will continue to request ODOT to provide this service or if the City will be taking this service over. Either way, ORS 801.100, 811.105, and 811.111 will remain in effect.

Requests from private citizens are directed to the City Engineer, who will review and assess an applicable approach.

The City can request a speed zone review from ODOT by submitting a request to ODOT. ODOT's Traffic Engineering staff will then use nationally-accepted traffic engineering standards and procedures to review and investigate. Statutes require establishing speed zones on the basis of an engineering study. The engineering study should consider factors such as:

- A. Context and functional classifications
- B. Speed characteristics
- C. Crash history
- D. Roadside culture, including pedestrians and cyclists
- E. Traffic volumes
- F. Roadway alignment, width, and surface

5.2 OPERATIONAL STANDARDS

OCMC 16.12.033 provides mobility standards for City intersections on local roadways and State-owned intersections.

State-owned streets should comply with the mobility targets included in the Oregon Highway Plan. However, some roadways and intersections may be exempt from meeting the State mobility targets for proposed development that is permitted, either conditionally, outright, or through detailed development master plan approval. The Engineer of Record and/or the City Project Manager should review the 2018 Highway 213 Corridor Alternative Mobility Targets for City streets within this corridor area and verify exemptions with the City Engineer.

5.2.1 Traffic Impact Analysis Guidelines

The Oregon City *Guidelines for Traffic Impact Analyses* detail information about the City's required content for a Transportation Analysis Letter (TAL) and a Transportation Impact Study (TIS). In general, the TAL applies to smaller developments that are presumed to have a lesser transportation impact. The TIS applies to larger developments that are presumed to have a greater transportation impact.

5.3 IDENTIFYING TRAFFIC CONTROL

Traffic control at an intersection may include a yield, stop, signal, or roundabout. Section 3.4 provides geometric design guidance for the various types of intersections. Roundabouts should be considered in conjunction with the traffic operational analysis conducted for other traffic control types.

Identifying the appropriate type of traffic control at an intersection can be accomplished through an intersection control evaluation (ICE). ICE is a data-driven, performance-based framework to screen intersection alternatives and identify an optimal solution. The City does not have a specific ICE policy or associated guidance.

However, understanding the fundamental objectives and principles of conducting ICE can guide the decision-making process.

Key objectives when selecting the optimal or preferred intersection control alternative for a given project context include:

- A. Understanding the intended context and how operations, safety, and geometry fit that context for each intersection or corridor, including intended users (e.g., pedestrians, bicyclists, passenger cars, transit vehicles, freight, emergency responders, oversize/overweight vehicles).
- B. Identifying and documenting the overall corridor or intersection context, including the built, natural, and community environments and the intended performance outcomes of the intersection form.
- C. Considering and assessing a wide range of traffic control strategies and other practical improvement concepts to identify a worthy project-level technical evaluation.
- D. Comparing engineering and economic analysis results of practical alternatives that consider implementation costs, performance benefits and impacts (e.g., safety, multimodal, operations, environment), and the estimated service life of alternatives.

FHWA's *Intersection Control Evaluations* provides additional guidance to support intersection traffic control decision-making.

5.4 STOP CONTROL

Stop signs are installed where it may be unclear as to who has the right-of-way. Unnecessary stop signs can lead to drivers disobeying signs or creating cut-throughs in neighborhood streets. Before installing stop signs on City streets, the City Project Manager should consult the warrants described in the MUTCD (Section 2B.06 and 2B.07). As outlined in the MUTCD, considerations for stop sign installations include:

- A. Traffic volumes
- B. Sight distance
- C. Crash history

5.4.1 Stop Signs by Facility Type

Requirements for stop signs by facility type include.

- A. **Local to Local:** Do not place stop signs at intersections between two local streets unless engineering judgment deems it necessary for safety.
- B. **Collector to Local:** Place stop signs on the local street only.
- C. **Collector to Collector:** Place four-way stop signs on all approaches.
- D. **Collector to Arterial:** Place stop signs on the collector street only.

- E. **Arterial to Arterial:** Place four-way stop signs on all approaches, depending on the average daily traffic (ADT).
- F. No “except right turn” signs are permitted within the City unless approved by the City Engineer.
- G. Stop bars are only painted on collector or arterial streets.

The City Stop Sign Brochure provides general information about stop signs and criteria for two-way and all-way stop control. Criteria for two-way stop signs and four-way or all-way stop signs are provided below. Intersection sight distance requirements and additional information are provided in Section 3.5.

5.4.2 Two-Way Stop Signs

Two-way stop signs are installed at intersections where drivers cannot safely apply the right-of-way rule.

Two-way stop signs are used in the following locations:

- A. Where a street enters a through street.
- B. Where a safe approach speed is less than 10 mph due to permanent visibility obstructions, such as buildings, trees, or shrubs.
- C. Where crash history indicates three or more reported crashes over the past three years that could have been avoided with a stop sign.
- D. Where circumstances and crash history indicate that observing the right-of-way rule could still be hazardous and result in safety concerns.
- E. Where a local street intersects with a collector or arterial street.

5.4.3 Four-Way or All-Way Stop Signs

A four-way or all-way stop is considered only when an intersection with a two-way stop has a history of crashes and traffic congestion problems.

Four-way stop signs are used in the following locations:

- A. Where traffic signals are needed (four-way or all-way stop signs may be used as an interim measure).
- B. On local streets where there have been five or more reported crashes in a two-year period that would likely have been prevented by an all-way stop.
- C. On through streets where, within a two-year period, the intersection had at least 1.5 crashes per million vehicles entering the intersection that would likely have been prevented by all-way stop signs.
- D. Where the number of vehicles entering an intersection averages at least 500 vehicles per hour for any 8 hours of a typical day and the combined vehicular and pedestrian volumes from the minor street average at least 200 per hour for the same 8 hours.

5.5 TRAFFIC BEACONS AND SIGNALS

Traffic beacons and signals may include the following:

- A. Traffic signals
- B. Pedestrian and bicycle crossing traffic control devices
 - 1. Midblock pedestrian signals
 - 2. Pedestrian hybrid beacons (PHBs)
 - 3. Rectangular rapid-flashing beacons (RRFBs)

5.5.1 General Requirements

Before a traffic signal can be approved, a traffic analysis must take place. Installation and justification of a traffic signal or beacon should be based on operational analysis and warrant analysis outlined in the ODOT *Traffic Signal Guidelines* and the MUTCD. *Clackamas County Roadway Standards* provide additional information on traffic signal analysis in Section 260. FHWA's Safe Transportation for Every Pedestrian (STEP) initiative also provides additional countermeasures to improve pedestrian crossing locations. General requirements are described below.

- A. New traffic signals on City roadways should meet at least one of the signal warrants in the MUTCD within 3 years after construction and shall be approved for installation by the City Engineer. Peak-hour volume warrants will only be approved if the intersection serves a special generator with unique peak traffic characteristics.
- B. City Project Managers should base the signal cycle length and phasing for a new or modified traffic signal during different times of day on an approved signalized intersection operations analysis. Guidelines for selecting signal phasing are included in the ODOT *Traffic Signal Guidelines*. These guidelines also include warrants for left-turn protected, protected/permissive, and permissive/protected signal phasing as well as for protected right-turn signal phasing.
- C. New traffic signals should be separated from existing or planned traffic signals by a minimum of ¼ mile unless evidence supports adequate long-term operations at a lesser spacing.
- D. Mixing roundabouts and signals along a corridor requires additional evaluation of the unique intersection control to verify the design, safety performance, and traffic operations of the entire corridor. Evaluations may include addressing the presence of a single adjacent signal or a broader corridor with multiple signals that could affect the roundabout. *NCHRP Report 772: Evaluating the Performance of Corridors with Roundabouts* (NCHRP Report 772) researched corridors containing signals and roundabouts and noted the need to conduct corridor-specific evaluations to determine which form of intersection control is operationally preferred on a given corridor and to understand the effects of mixing various types of intersection control. Refer to NCHRP Report 772 for additional information on performance measurement tools and techniques to assist in the evaluation of a roundabout corridor.
- E. All new or modified traffic signals require installation of pan/tilt/zoom (PTZ) cameras.

- F. All new or modified traffic signals should include 2-inch conduit. If possible, fiber connections should also be included.
- G. Plans must incorporate emergency vehicle signal preemption into the signal operation of all approaches to the intersection. Railroad signal preemption is required when tracks are 200 feet or less from a signalized intersection. A green track clearance by vehicles and pedestrians must be incorporated into the signal preemption design.
- H. Separate bicycle detectors should be placed in all striped bicycle lanes and in streets with sharrows. All approaches of a signalized intersection must have pedestrian crossings unless traffic studies show that crosswalks should not be allowed. When pedestrian signal heads are not installed, the crosswalk must be closed by the City, with posted signs indicating that the crosswalk is closed. Sidewalk ramps or pedestrian landings are required for access to pedestrian signal push buttons.
- I. Audible pedestrian signals (APS) should be used at all pedestrian crossings.
- J. Signalized intersections with pedestrian access routes must comply with ADA requirements as described in the most recent version of ODOT's *Traffic Signal Policy and Guidelines*. This includes accessible pedestrian signals and push buttons that comply with the MUTCD and meet the provisions of PROWAG.
- K. RRFBs should be used at midblock pedestrian and bicycle crossings with traffic volumes or crash history that justify this type of device.
- L. New or existing schools with an expansion of 20% floor area or greater are required to install school zone flashers on roadways that are classified as arterial or collector roadways if the proposed or existing school speed zone signing supports a school speed 20 mph zone and the City supports a school speed zone installation. In addition to school zone flashers, radar speed signs may be required along arterial roadways. The Applicant is required to provide funds equal to 20 years of the maintenance and power of the school zone flasher and/or radar speed sign.

All traffic signal designs shall be reviewed by Clackamas County, who maintains all City traffic signals on behalf of the City. Clackamas County Standards take precedence for traffic signal design if any conflicts exist.

5.5.2 Design Standards

All new or modified traffic signal and beacon installations on City roadways must be designed based on the following resources and standards:

- A. Clackamas County Roadway Standards, Section 260
- B. MUTCD
- C. Oregon Supplement to the MUTCD

Specific signal design features to be included in a City signal design include:

- A. Signal Poles/Heads
 - 1. Use mast arm poles where possible.
 - 2. Use louvered traffic signal backboards.

3. Use elevated plumbizers for signals on mast arms whenever possible.
 4. Use decorative bases and powder coat all signal equipment (e.g., cabinets, poles, mast arms) black.
 - a. No decorative bases are used on RRFBs and pedestrian pedestals.
 5. Materials used in the construction of traffic signals shall be approved by the City Engineer and comply with the Oregon Standard Specifications for Construction and the *Clackamas County Roadway Standards*.
- B. Detection
1. Use radar detection per current ODOT Standard Specifications for Construction and Standard Drawings and Oregon Traffic Signal Guidelines.
- C. Wiring
1. Use Clackamas County color coding for signal wires.
 2. Use International Municipal Signal Association (IMSA) cable in conduit, poles, and arms.
 3. Use single conductors for power service and street lighting.
 4. Install electrical meter bases without the meter for power service.
- D. Power Source
1. Use electric power sources (coordination with PGE required). Solar options are not allowed.
- E. Intelligent Transportation System (ITS)
1. Coordinate with the City Engineering Group regarding applicable ITS applications.
 2. Refer to the Clackamas County ITS Action Plan.
- F. Maintenance
1. Clackamas County maintains all beacons and traffic signals on City and County facilities. ODOT maintains all beacons and traffic signals on State facilities.

5.6 SIGNING

Signing materials and layout plans should be approved by the City Engineer before installation. City Project Managers must base signing design and construction on the following:

- A. *Clackamas County Roadway Standards*, Section 270
- B. MUTCD
- C. Std. Dwgs. OC521, OC522, OC523, and OC524

5.7 PAVEMENT MARKINGS

The City Engineer must approve all striping materials and layout plans before installation. Striping design and construction must be based on the following:

- A. ODOT Standard Drawings TM500 series
- B. *Clackamas County Roadway Standards*, Section 280
- C. MUTCD
- D. Std. Dwg. OC529 and OC529A

City-specific pavement marking design standards that may differ from the ODOT and County standards include:

- A. All pavement markings must be thermoplastic, and all longitudinal markings must be Method A extruded, surface, non-profiled, thermoplastic.
- B. Green thermoplastic is allowed on arterial streets.
- C. Elongated arrows are required.
- D. Recessed pavement markers should be used.
- E. All intersections that include stop signs shall include painted stop bars.

5.8 SPECIAL STREET STANDARDS

5.8.1 Stamped Sidewalk Street Names

For all projects, stamped street names are required on sidewalk corners at intersections in the following areas:

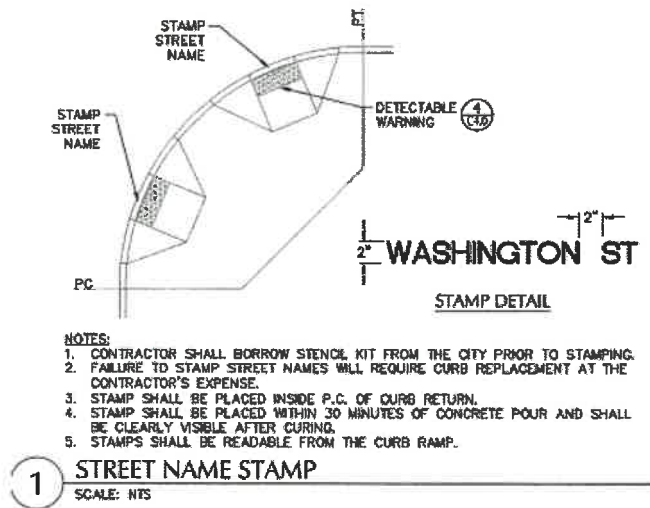
- A. McLoughlin Conservation District
- B. Willamette Falls Downtown District Zone
- C. Canemah Historic District
- D. Downtown Parking Overlay District
- E. "Presidential" Streets not listed in other districts up to Division Street or 18th Street

For sidewalk repairs and/or reconstruction projects, street names in existing sidewalk corners must be preserved or re-stamped into the new concrete.

The Engineer of Record must coordinate with the City regarding borrowing the stencil kit from the City.

Figure 5-1 provides an example of a Street Name Stamp.

Figure 5-1: Street Name Stamp



5.8.2 Sidewalk Scoring

Requirements for sidewalk scoring include:

- All sidewalk scoring shall follow OC508, except as noted.
- Decorative sidewalk scoring shall occur in the Downtown District and along Washington Street, 7th Street, and Molalla Avenue.
- Decorative Sidewalk Scoring Detail applies to all locations, except the Washington Street corridor between Abernethy Road and 7th Street.

5.8.3 Tree Grates

Special tree grates shall be used in the Downtown District and along Washington Street, 7th Street, and Molalla Avenue.

- Tree Grates:** Street trees shall have tree grates with frames and tree supporting systems. Tree grates and frames must meet the following requirements:
 - Two-piece cast iron grate with a natural finish with fitted frame manufactured by FairWeather SF or approved equal. Frame shall include rebar studs on three sides for sidewalk mounting, and one side shall include steel tabs to accept expansion bolts for curb mounting.

2. Where 10-foot sidewalks are being constructed, a tree grate with frame shall be the FairWeather SF CNK 4872, size 48" × 72" (overall dimensions 4 feet × 6 feet). Where 8-foot sidewalks are being constructed, a tree grate with frame shall be the FairWeather SF style IVY 3660, size 36" × 60" (overall dimension 3 feet × 5 feet).
3. Submit to the City for approval.

5.8.4 Benches

- A. Benches shall be provided in the Downtown District and along Washington Street, 7th Street, and Molalla Avenue.
- B. The type of bench to be used is Model No. 2123-6 Restoration Seat, BLACK CASPAX-7 powder-coated cast iron frames, Alaska yellow cedar slats, surface mount, 6-foot length, manufactured by Outdoor Cathedral, LLC or an approved equal product.

5.8.5 Litter Receptacles

- A. Litter receptacles shall be provided in the Downtown District and along Washington Street, 7th Street, and Molalla Avenue.
- B. The type of litter receptacle to be used, as of this writing, is Model No. 2816-DT-P, Renaissance litter container, side empty, with dome top, BLACK CASPAX-7 powder-coated steel finish, pedestal mount, manufactured by Outdoor Cathedral, LLC. Designers shall verify the current design to be used when needing to add these to their project.

5.8.6 Decorative Street lighting

Decorative street lights shall be provided in the Downtown District and along Washington Street, 7th Street, 99E, and Molalla Avenue according to Std. Dwg. OC536. Refer to Chapter 9 for additional street light details. While some decorative lighting exists in other neighborhoods, it is the intent of this code to limit decorative street lighting to the listed areas unless a land use decision or concept plan requires something different. In those cases, the design styles shall match those within Chapter 9 unless a specific new design is designated for a new neighborhood during the land use process.

5.9 TRANSPORTATION DEMAND MANAGEMENT

As noted in the *City Transportation Demand Management Plan 2017 Final Report*, transportation demand management (TDM) increases a transportation system's efficiency by shifting trips from single-occupant vehicles (SOVs) to non-SOV modes or from peak to non-peak periods. TDM seeks to increase the universe of trips by expanding travel options, encouraging individuals to modify their travel behavior, and reducing the need for travel through efficient land uses. TDM programs often cost little but yield high impacts and are typically implemented by employers, public agencies, or public-private partnerships. The Oregon City TDM Plan provides a range of strategies to be implemented over time to improve the transportation system's overall efficiency.

5.10 CONSTRUCTION TRAFFIC CONTROL

Traffic control in the public right-of-way is subject to a permit. Preparation of traffic control plans is based on project type, duration of work, and project characteristics and context. The Engineer of Record and/or City Project Manager must coordinate with the City Engineer to determine the need for traffic control plans.

The Engineer of Record and/or City Project Manager must submit a traffic control plan to be approved by the City Engineer before construction. *Clackamas County Roadway Standards*, Section 290, provides additional information on preparing traffic control plans.

Traffic control design in work zones must conform to the MUTCD and the ODOT Supplements to the MUTCD. Additional guidelines for preparing traffic control plans and identifying traffic control plan strategies are below:

- A. *ODOT Sign Policy and Guidelines*
- B. *FHWA Standard Highway Signs*
- C. *Oregon Standard Specifications for Construction and Oregon Standard Drawings* TM800 series
- D. *Oregon Temporary Traffic Control Handbook for Operations of Three Days or Less*
- E. *Oregon Traffic Control Plans Design Manual*

5.10.1 Control of the Site

Requirements for control of the site include:

- A. At no time shall flagging operations delay traffic for a period greater than 20 minutes.
- B. Work and activity zones (construction, restoration, and erosion control) shall extend no more than 2,500 lineal feet at any one time unless otherwise approved.
- C. Open trenches shall extend no more than 250 lineal feet at any one time unless otherwise approved.
- D. No trenches are to be left unprotected between dusk and dawn.
- E. Trenches shall conform to the technical requirements of Section 00405 of the Oregon Standard Specifications for Construction.
- F. Trench plating shall be positively secured from movement and ramped with anti-skid coated plate ramps.
- G. Roadway plates are only allowed on the road for a maximum of 7 days. Pavement patches must be completed in 7 days.

5.10.2 Temporary Pedestrian Accessible Route

If existing pedestrian access will be obstructed by construction, alteration, maintenance, or other temporary conditions, a continuous temporary pedestrian accessible route (TPAR) shall be provided consistent with the requirements of this section. TPARs shall conform to the requirements of Part 6 of the MUTCD and the most recent update of the Oregon Standard Specifications for Construction, Section 00220.02(b). The TPAR plan shall be included in the traffic control plans. The City Inspector will inspect the TPAR. If deficiencies are identified, the City Inspector will stop work until such deficiencies are corrected.

TPAR requirements include:

- A. In work zones, do not block pedestrian access with vehicles or equipment parking, materials storage, or for any other reason except construction.
- B. Keep the TPAR parallel to the disrupted pedestrian access route and be on the same side of the street where possible.
- C. Do not route bicyclists into the TPAR. If it is necessary to divert bicyclists around the work, provision should be made for a separate bicyclist route.
- D. If the work impacts the accessibility of pedestrian routes through or around the work zone, limit impacts to one corner of an intersection at a time.
- E. Close sidewalks at a point where there is an alternate way to proceed. Provide signing and other traffic control devices directing pedestrians to an alternate pedestrian route.
- F. The Applicant must inspect the on a regular basis to ensure it is safe and does not have gaps or surface displacements that create a hazard.
- G. The TPAR shall meet the standards of a pedestrian access route as defined in PROWAG:
 - 1. Keep the minimum width to 48 inches. Provide a 60 x 60 inch passing space every 200 feet along the route.
 - 2. Keep the surface smooth and nonslip.
 - 3. Keep vertical clearance of at least 8 feet.
 - 4. Keep the cross slope at be no more than 2.0% perpendicular to the direction of pedestrian travel.
 - 5. Keep the grade less than or equal to the grade of the adjacent road.
 - 6. Provide a minimum turning space of 4 feet x 4 feet shall wherever it is necessary for pedestrians to turn.
 - 7. If it is necessary to cross a curb, the TPAR shall include a temporary ramp meeting standards for a curb ramp.
 - 8. If it is necessary for the TPAR to cross a driveway or construction access, provide truncated dome warning. If it is not possible to provide truncated dome warning, provide construction staff whenever construction vehicles are crossing the pedestrian access route.
 - 9. Provide nighttime lighting.
- H. Provide and maintain pedestrian channelizing devices (PCD) through the period in which the permanent pedestrian access route is disrupted. Pedestrian channelizing devices intend to prevent people with disabilities from straying into the vehicular way or into an active construction area. Caution tape is not sufficient to guide people who are blind or have low vision. Use only PCDs that are on the approved ODOT Qualified Products List and are designed to be ADA compliant.

Provide pedestrian channelizing devices:

1. Between the TPAR and any adjacent construction site.
 2. Between the TPAR and the vehicular way if the TPAR is diverted into the street.
 3. Between the TPAR and any protruding objects, drop-offs, or other hazards to pedestrians.
 4. At a curb ramp if the opposite curb ramp is temporarily and completely blocked and no adjacent alternate circulation path is provided.
- i. When work briefly or intermittently blocks or restricts the use of a pedestrian route, and a temporary detour route is not practicable due to the short duration of the restriction, provide a temporary means of allowing pedestrian access through or around the work area. Means of providing temporary pedestrian accessibility may include but is not limited to temporarily suspending the work and making the pathway passable or using construction staff to guide pedestrians through or around the area. When a TPAR is created in the public right-of-way, both visual and audible warning shall be provided at both ends of the temporary pedestrian access.
 - j. When direction signing or warnings are provided, they should be located to minimize backtracking. Provide audible warnings for people who are blind or have low vision and include specific directions allowing them to find the desired path.

5.10.3 Temporary Road Closures

Temporary road closures are not for an Applicant's convenience or cost reduction. Proposed closures shall establish that a clear public safety and convenience benefit would result from a closure.

- A. Road closures for construction require the approval of the City Engineer.
- B. Projects should be evaluated for one-way flagging or other traffic control options prior to requesting a road closure. All other options must be exhausted before a road closure is reviewed for approval.
- C. Temporary road closures on collectors and arterials are only allowed when there are other comparable streets (high-traffic streets) available for a detour.
- D. The detour route shall be capable of safely and legally accommodating the detoured traffic.
- E. With increasing Average Daily Traffic (ADT), functional classification, and closure duration, an Applicant's burden becomes greater in establishing the benefit of a proposed closure.
- F. If a road closure is proposed, the following may be required:
 1. Evidence that other methods of traffic control and/or temporary improvements are not feasible to keep the road open.
 2. Time-of-day restrictions or extension of normal working hours and days.
 3. Contract requirements of incentives/disincentives for completing/not completing a closure on time.

4. A public engagement plan.
5. Off-site improvements to meet the minimum safety of the detour route and/or to return the detour route to its original condition prior to the detour.

5.10.4 Impacts to Traffic Signals

- A. In no case may flagging operations take place in conflict with the indications of an operating traffic signal.
- B. No flagging operations may take place within 200 feet of an operating traffic signal without a custom traffic control plan subject to a permit.
- C. Should traffic control requirements dictate the "turn-off" and/or "turn-on" of a traffic signal, the Applicant shall coordinate with the City Engineer at least two business days prior to turn-off and/or turn-on date.

5.10.5 Temporary Speed Reduction Process

For some projects, it may be necessary or advantageous to implement a temporary speed reduction through a work zone. The duration of the temporary speed zone reduction will vary based on the type and complexity of the work being done and how quickly the constraint or hazardous condition can be relieved or eliminated.

To obtain a temporary speed reduction in a work zone on a City street, the Engineer of Record and/or City Project Manager should complete the Work Zone Speed Reduction Request Form (Appendix B) and submit it to the City Engineer for review and approval.

A variety of circumstances can warrant a speed zone reduction, including:

- A. Reducing the number of lanes for traffic.
- B. Complex construction staging.
- C. Temporary alignments, crossovers, or on-site diversions.
- D. Nighttime paving operations on a high-speed, multilane facility.
- E. Workers present for extended periods within 2 feet of travel lanes and not behind a barrier.
- F. Lane widths (existing or due to construction) of less than 12 feet.
- G. Horizontal curves with a safe speed of 10 mph or more lower than the posted speed.
- H. Pavement edge drop-offs within 2 feet of the traveled way for more than ¼ mile.

5.10.6 Detour Routes

A traffic detour can be an effective traffic control measure within a traffic control plan. Detours for temporary road closures should follow the requirements outlined in the *Clackamas County Roadway Standards*, Section 290.5. When detours are considered, emergency services, solid waste disposal companies, and mail delivery must be notified.

The ODOT *Traffic Control Plan Design Manual* provides conditions for when a detour may be considered, including when:

- A. The physical work area cannot support live traffic and construction activities concurrently.
- B. The accelerated completion of a project is desired, and having uninterrupted use of the entire work site can facilitate a time-critical schedule.
- C. Construction constraints (e.g., vehicle weight/size restrictions) require specific vehicle classes to be precluded from the work zone.

Routes designated as detours must be able to reasonably accommodate the detoured traffic. An overview of design considerations is below.

- A. For signalized intersections along the detour route, consider adjusting signal timing while the detour is operating.
- B. Detours that significantly impact unsignalized intersections may require temporary signals.
- C. If a single roadway cannot manage the capacity of the detoured traffic, undesignated alternate routes can be offered to disperse traffic.
- D. Extended distance detours may inadvertently divert traffic and impact travel time and facility wear and tear on alternate routes.
- E. Detours must be designated using appropriate traffic control devices per MUTCD requirements and guidance.
- F. Changeable message signs may help supplement fixed signs.

6.0 PAVEMENT DESIGN

Chapter 6 provides detailed City standards for pavement design.

6.1 GENERAL REQUIREMENTS

Pavement materials and construction work must comply with the current *Oregon Standard Specifications for Construction* unless stated herein. Abbreviations and terms used within this section are as defined or used in the *ODOT Standard Specifications for Construction* unless otherwise noted. Additional general requirements are described below.

- A. Pavement designs must be developed and documented by an engineering report prepared and stamped by an engineer experienced in pavement design (Refer to Section 1.1.1). The report must include specific pavement design recommendations for materials and construction. Additionally, the report must include sufficient design documentation regarding site conditions, design assumptions, and design parameters to allow for independent peer review of the design recommendations. The engineering report must address considerations for year-round construction, including recommendations for both summer and winter construction.
- B. If a pavement design is not provided, default pavement sections identified in Section 6.8 must be used.
- C. Pavement materials for roadway construction must be recommended by the Engineer of Record and/or the City Project Manager. The report must describe the pavement type and reasoning behind the selected materials.
- D. Street functional classifications specific to Oregon City pavements include arterials (major and minor), collectors, local commercial and industrial, and residential. Additional paved surfaces include alleyways, shared-use paths, and private streets.
- E. The City Engineer must approve the use of pervious pavements, and the Engineer of Record and/or City Project Manager must include a stormwater analysis report. Specific pervious pavement design considerations are not included these *Standards*. If approved, the pavement report must include construction considerations, material properties and pavement thickness design calculations.
- F. The City Engineer must approve all proposed alternative materials. Benefit analysis and reasoning (e.g., noise) is to be included in the pavement design report.
- G. All asphalt pavement should be placed during temperatures that are 40 degrees Fahrenheit and rising.

6.2 DESIGN REQUIREMENTS

Design standards for the following categories can be found in the publications below.

- A. **Asphalt concrete pavement (ACP):** AASHTO *Guide for Design of Pavement Structures* (AASHTO Pavement Guide) and the design guidelines of the latest ODOT *Pavement Design Guide* (ODOT Pavement Guide).

- B. **Portland cement concrete (PCC):** 1998 *Supplement for Rigid Pavement Design* (AASHTO Pavement Supplement) or the StreetPave™ design software by the American Concrete Pavement Association (ACPA).
- C. **Overall:** Latest ODOT *Pavement Guide* for general guidelines and inputs, unless specifically described herein.

6.2.1 Pavement Design Period

The pavement design period is for major widening (e.g., adding travel lanes), adding new pavement, or rehabilitating pavement. For minor widening (e.g., bicycle lanes), pavement thickness should match adjacent pavement. Table 6-1 provides a summary of pavement design periods.

Table 6-1: Pavement Design Period

Project Type	Design Period
Newly-constructed streets (including $\frac{1}{2}$ streets and reconstructed streets)	30 years for flexible pavement 40 years for rigid pavement
Roundabouts	40 years for rigid pavement
Rehabilitation	Based on location and available funding
Major widening	20 years

6.2.2 Site Investigation

- A. **Explorations:** Conduct sufficient soil and/or existing pavement explorations (at least 1 per 500 feet of roadway and at least 2 total) to visually classify the soils within a minimum of 3 feet below the planned subgrade surface. Conduct laboratory testing on samples of the subgrade soils, including determination of moisture content and soil classification tests (Atterberg Limits, gradation, etc.).
- B. The Engineer of Record and/or City Project Manager must evaluate the subsurface exploration logs and the laboratory soils test data to determine if subgrade compaction is feasible, including a consideration of moisture conditions during construction and whether the compacted subgrade will support construction activities and traffic. If subgrade compaction is deemed feasible, the pavement section must be designed based on the subgrade support values determined from the laboratory tests of compacted subgrade. Compaction of the subgrade must be accomplished following the procedures and compaction criteria given in Oregon Standard Specifications for Construction 00330.43, including deflection testing according to ODOT Standard Drawing TM158.
 - 1. If subgrade compaction is not deemed feasible, the subgrade must be designed based on the in-situ subgrade capacity as defined by falling weight deflectometer (FWD), resilient modulus testing of in situ samples, or dynamic cone penetrometer (DCP) testing.
 - 2. The engineering report must include recommendations regarding the need for subgrade separation geotextile.
 - 3. The engineering report must include recommendations for increased subgrade stabilization and/or an additional aggregate base for winter construction. Options for the protection of native subgrade should include haul roads and/or staging plans to reduce vehicle-induced subgrade loads.

4. The Engineer of Record and/or City Project Manager should consult with the City Engineering Group regarding the potential for old market roads, underlying PCC, or historical data that may affect pavement rehabilitation performance.
- C. **Subgrade support inputs:** Subgrade support values for the design of flexible pavement (resilient modulus) and rigid pavement (modulus of subgrade reaction or k-value) must be estimated by one or more of the following methods:
1. Estimate in situ subgrade support values by back calculation of FWD deflections measured on paved or aggregate surfaced areas within the project limits. FWD testing must be conducted following the American Society for Testing and Materials (ASTM) D 4694 and D 4695 with a deflectometer that has been calibrated within 12 months preceding the testing. Back calculate the elastic modulus of the subgrade soil for flexible pavement design per the back-calculation procedures described in the AASHTO *Pavement Guide* or other procedures meeting the guidelines of ASTM D 5858. Use the modulus correction factors given in the ODOT *Pavement Guide* to convert back-calculated elastic moduli into equivalent saturated laboratory resilient moduli. Back calculate the dynamic k-value of the subgrade for rigid pavement design per the back-calculation procedures described in the AASHTO *Pavement Supplement* and correct the dynamic k-value to static k-value using a factor of 0.5.
 2. Estimate in situ subgrade support values by measuring subgrade soil penetration resistance using the DCP per ASTM D 6951. Estimate the subgrade resilient modulus for flexible pavement design from DCP Index (mm/blow) using the correlation given in the ODOT *Pavement Guide*. Use the modulus correction factors given in the ODOT *Pavement Guide* to convert DCP-determined resilient moduli into equivalent saturated laboratory-resilient moduli. Estimate the subgrade static k-value for rigid pavement design from DCP Penetration Rate (inches/blow) using the correlation given in the AASHTO *Pavement Supplement*.
 3. Determine in situ resilient modulus by laboratory testing of push tube samples of subgrade soil. Conduct the resilient modulus testing in general accordance with AASHTO *Pavement Supplement* T-307. Evaluate resilient modulus at a deviator stress of 6 pounds per square inch (psi) at a confining pressure of 2 psi.
 4. Determine the resilient modulus of compacted subgrade by testing laboratory compacted subgrade soil. Compact the subgrade sample to 95% of standard Proctor maximum dry density at a moisture content of 1-2 percentage points above standard Proctor optimum moisture content. Conduct the resilient modulus testing using the ODOT testing protocol. Evaluate resilient modulus at a deviator stress of 6 psi at a confining pressure of 2 psi.
 5. For rigid pavements, estimate the k-value of compacted subgrade by California Bearing Ratio (CBR) testing of a laboratory compacted subgrade soil. Compact the subgrade sample to 95% of standard Proctor maximum dry density at a moisture content of 1-2 percentage points above standard Proctor optimum moisture content. Conduct the CBR testing per ASTM D 1883 using surcharge weight equivalent to the proposed pavement section. Estimate the static k-value from the CBR value using the correlation given in the AASHTO *Pavement Supplement*.
 6. In place of testing to establish subgrade support values, presumptive design values of 3,500 psi for resilient modulus and 50 pci for k-value may be used.

6.3 TRAFFIC LOADING ANALYSIS

- A. The pavement design traffic loading is the total number of 18-kip equivalent single axle load (ESAL) repetitions that the pavement is expected to experience during the design period. The pavement design report must include a detailed description of design traffic loading and calculation steps used to generate the design ESAL. Traffic data or traffic studies used for generating pavement design ESAL must be no more than 4 years old.
- B. For rehabilitation and widening, ESAL is to be determined by daily traffic volumes, heavy vehicle percentage, traffic growth, and traffic classification counts with the distribution of heavy vehicle volumes according to the FHWA axle classifications and projected growth rate in heavy vehicle volumes during the design period. For local residential, the classification counts can be assumed if a valid basis for assumptions is presented in the pavement report. Widening design must consider the potential for new traffic volumes and additional lanes.
- C. For new roads, the Engineer of Record and/or City Project Manager must complete a traffic study that identifies the distribution of heavy vehicle volumes, traffic growth, and the expected types of trucks and truck frequencies. For specific heavy truck generation sites, a detailed account of trucks, truck types, and per-truck ESAL calculations are to be provided in the pavement design report.
- D. Daily heavy vehicle volumes must be multiplied by the conversion factors for FHWA heavy vehicle classes shown in the ODOT *Pavement Guide*, with the exception that buses should be broken down into school buses, two-axle transit buses, and articulated buses. Specific site traffic should have a site-specific per-truck ESAL if appropriate. (See Table 6-2).
- E. The presumptive traffic loadings shown in [Table 6-3](#) may be used as design values instead of a detailed traffic analysis. Lower assumed values than those shown in [Table 6-3](#) may be used for rehabilitation if the reasoning is provided in the pavement design report and the values are accepted by the City Engineer.
- F. The traffic loading for circulatory lanes within roundabouts must be calculated as two times the highest traffic loading on the approach lanes to account for the combined loading from the approaches. An alternative turning movement analysis can be conducted to calculate the roundabout quadrant with the highest traffic.
- G. If using StreetPave™-based rigid design, load spectrum traffic analysis is required. The Engineer of Record and/or City Project Manager should use site-specific total truck traffic, with the default typical traffic category corresponding to the road type. For transit bus routes, default to the major arterial traffic category.
- H. In no case shall the design ESAL be less than 40,000 for new or reconstructed pavement.

Table 6-2: Bus ESAL Conversion Factors

Bus Type	Daily Bus Volume to Annual ESAL Repetitions Conversion Factors	
	Flexible Pavement	Rigid Pavement
Weight-restricted buses, school buses	246	269
2-axle transit buses	780	1170
Articulated transit buses	1550	2320

Table 6-3: Presumptive Traffic Loadings

Road Type	Flexible Pavement 30-Year ESAL Repetitions	Rigid Pavement 40-Year ESAL Repetitions
Local Residential ¹	40,000	70,000
Local Commercial/Industrial	1,200,000	2,100,000
Collector	1,000,000	1,800,000
Arterial	2,000,000	3,500,000

¹ Use Commercial/Industrial Functional Classification traffic loadings if street will be used by a TriMet bus line or similar shuttle buses.

6.4 FLEXIBLE PAVEMENT THICKNESS DESIGN CRITERIA

Use the design parameter values in [Table 6-4](#) for flexible pavement design.

Table 6-4: Flexible Pavement Design Parameter Values

Parameter	Design Value
Design Reliability Level	90% Arterial, Collector, Local Commercial/Industrial & Bus Routes; 80% Local Residential & Neighborhood Routes
Initial Serviceability, P_o	4.2
Terminal Serviceability, P_t	2.5
Standard Deviation	0.49
New Asphalt Concrete Layer Coefficient	0.42
New Aggregate Base Layer Coefficient	0.10
New Aggregate Base Resilient Modulus, psi	20,000
New Aggregate Base Drainage Coefficient	1.0
New Aggregate Subbase Layer Coefficient	0.08
New Aggregate Subbase Resilient Modulus, psi	11,200
New Aggregate Subbase Drainage Coefficient	1.0

- The pavement section must be designed using the Layered Design Analysis method described in Part II of the AASHTO *Pavement Guide*. The calculated pavement thickness should be rounded up to the nearest 0.5 inch.
- The minimum roadway asphalt concrete (AC) section thickness is 4 inches, consisting of a 2-inch-thick base lift and 2-inch-thick wearing course. The minimum AC section for shared-use paths and alleys is 3 inches placed in a single lift.

- C. The minimum thickness of the aggregate base is 6 inches. A geotechnical engineer should provide analysis of rock sections' suitability to support construction traffic. Analysis should consider the construction time of year. A design acceptance may be provided for pavement in areas with shallow basalt.
- D. Full-depth reclamation or amended subbase with cement can be included if laboratory testing and design are provided in the engineering report. The layer coefficient must be 0.16, where at least 50% (by weight) of the existing material to be treated is granular. Otherwise, the layer coefficient must be considered equal to the aggregate subbase (0.08).
- E. The asphalt concrete pavement (ACP) should be ½- or ¾-inch dense, according to City modifications to Oregon Standard Specifications for Construction 00744. A request can be made for a lower nominal maximum aggregate size for thin lift paving if accepted by the City Engineer.
- F. Minimum and maximum lift thicknesses are 2 and 3 inches, respectively, for ½- or ¾-inch-dense ACP.
- G. Compact asphalt concrete to a minimum of 92% of moving average maximum density (MAMD) all lifts.
- H. Default binder for ACP is PG 64-22 for local, commercial, and collectors and PG 70-22 for arterials; however, the binder grade should be adjusted depending on aggregate gradation, traffic levels, and the amount of recycled asphalt material. The use of PG 64-22 binder for base paving lifts below the top 4 inches on arterials should be considered. Binder grade discussion and reasoning must be submitted in the engineering report.
- I. Rigid pavement with impact slabs is required for public transit bus stops. Flexible pavement at bus stops will only be considered with prior City Engineer approval and will require a separate pavement design to address bus loading.
- J. Impact slabs are required for all transitions from flexible pavement to rigid pavement, including rail crossings.
- K. For newly-constructed residential streets, pavement design and construction should include all asphalt layers placed before building construction. If staged flexible pavement (first lift placed, then building construction, then final lift) is preferred, the pavement design must take construction vehicles, time of year, and drainage into account. The staging of street construction in this manner must be approved by the City Engineer.
- L. Tack coat must be used for all paving lifts unless paving occurs on same day.

6.5 RIGID PAVEMENT THICKNESS DESIGN CRITERIA

Refer to Table 6-5, Table 6-6, and the following criteria for rigid pavement thickness design.

- A. Rigid pavement cannot be used for half-street or widening design when adjacent to flexible pavement.
- B. Rigid pavement must be used for widening design when adjacent to rigid pavement. Joints must either line up, or isolation joints must be used. No-load transfer should be used for widening.
- C. Rigid design is to be completed according to the AASHTO Pavement Supplement or StreetPave™ system. Other design methodology can be used only if accepted by the City Engineer.

- D. The minimum portland cement concrete slab thickness is 6 inches—except for streets with transit or shuttle bus traffic, for which the minimum slab thickness is 8 inches.
- E. The minimum thickness of the aggregate base is 4 inches. A geotechnical engineer analyze the aggregate base suitability to support construction traffic and should consider the construction time of year.
- F. The slab thickness design must consider the slab edge support condition as defined within the AASHTO Pavement Supplement and/or StreetPave™.
- G. Requirements under Oregon Standard Specifications for Construction 00756.60 must be met before opening to traffic.

Table 6-5: Rigid Pavement Design Parameter Values (AASHTO Pavement Supplement)

Parameter	Design Value
Design Reliability Level	90% arterial, collector, commercial, and bus routes. 80% local residential and neighborhood routes.
Initial Serviceability, P_o	4.5
Terminal Serviceability, P_t	2.5
Standard Deviation	0.40
28-day Flexural Strength, psi	600
Modulus of Elasticity of Concrete, psi	3,600,000
Modulus of Elasticity of Base Material, psi	Median value from Table 14 of AASHTO Supplement for the base type.
Drainage Coefficient for Faulting Analysis	0.80
Poisson's Ratio of PCC	0.15
Edge Support Adjustment Factor	As recommended in AASHTO Supplement for the type of edge support.
Friction Coefficient between Slab and Base	Median value from Table 14 of AASHTO Supplement for the base type.
Mean Annual Wind Speed, mph	7.9
Mean Annual Temperature, °F	53.6
Mean Annual Precipitation, inches	36.3
Moisture Gradient a Construction Temperature Differential in Slab	1 °F per inch of slab thickness.
Mean Annual Freezing Index	33-degree (F) days
Annual Temperature Range, °F	46.6
Number of Days with Maximum Temperature above 90 °F	10.8

Table 6-6: Rigid Pavement Design Parameter Values (StreetPave™)

Parameter	Design Value
Design Reliability Level	90% arterial, collector, commercial, and bus routes 80% local residential and neighborhood routes
Terminal Serviceability	2.5
28-day Flexural Strength, psi	600
Modulus of Elasticity of Concrete, psi	3,600,000
Slabs Cracked	5%
Drainage Coefficient for Faulting Analysis	0.80
Poisson's Ratio of PCC	0.15
Edge Support	Default no edge support.
Macro Fibers in Concrete	Default to no. maximum of 15% residual if approved by City.

6.6 RIGID PAVEMENT JOINTING DESIGN CRITERIA

- A. For rigid pavements, the pavement design report must provide maximum joint spacing. A jointing plan must be included in the project plans and must show the construction joints and transverse/longitudinal joints in the concrete pavement to control cracking. The jointing plan must show, at a minimum, the following: manholes, valve boxes, inlets, joint layouts, dowels, tie bars, and other required reinforcement and joint details (including sawing depths).
- B. The joint layout must be designed per American Concrete Pavement Association (ACPA) recommendations and the criteria described herein. Projects must avoid or minimize joints that intersect another joint or the pavement edge at an angle of fewer than 60 degrees, interior corners (L-shaped slabs), slabs less than 1 foot wide, and odd shapes (keep slabs rectangular, trapezoidal, or triangular). Isolation joints shall box out utility fixtures and isolate them from the main slab. Fixtures must be located so the joints are centered on the box-outs or coincide with the isolation joints around the box-outs.
- C. Gutter joints must align with the transverse joints on the adjoining slab unless an isolation joint is placed between the gutter and the slab. Design with isolation joints can allow offset of transverse to gutter joints; however, the pavement design must take edge conditions into account.
- D. Longitudinal joints must coincide with lane lines. Note that on streets with an odd number of lanes, this will require an offset crown. Spacing between longitudinal joints cannot exceed 15 feet or 24 × slab thickness on unbound base or 21 × slab thickness on stabilized base—whichever is less.
- E. Transverse contraction joints must be spaced at relatively equal intervals and be close to the same spacing as the longitudinal joints so that the panels are relatively square. The ratio of the maximum to minimum slab dimensions (aspect ratio) formed by joints must not exceed 1.25.

Spacing between transverse joints must not exceed 15 feet or 24 × slab thickness on unbound base or 21 × slab thickness on stabilized base—whichever is less. If the aspect ratio cannot be met, the slabs must be reinforced with the #5 bar at 12 inches on centers.

- F. Transverse joints (sawed or construction) in plain concrete pavement slabs 7 inches thick or greater must be dowelled. All joints within intersections must be dowelled when dowels are needed on the transverse joints in one of the approach lanes. Plate dowels are allowed. Dowel installation must be per Oregon Standard Specifications for Construction 00756.43(a).
- G. All joints must be sealed with joint sealant listed on the ODOT Qualified Products List (QPL) and placed in a joint reservoir sized in accordance with the recommendations of the joint sealant manufacturer. (Typically, the reservoir width should be twice the sealant depth for silicone sealant). The sealant must be supported by a backer rod of the size and material recommended by the joint sealant manufacturer. The top of the sealant must be recessed below the slab surface by 0.125–0.375 inch.

6.7 STRUCTURAL REHABILITATION DESIGN

- A. Pavement coring performed at representative locations shall be used to determine the thickness and composition of the pavement materials and evaluate the cracking depth, investigate the cracking mode (top-down or bottom-up), investigate for moisture-induced damage (asphalt stripping damage), determine delamination within the pavement. Areas of moderate-to-severe distress that are structural must be identified. Additional cores should be obtained if there are multiple travel lanes in one direction.
- B. Field investigation with falling weight deflectometer (FWD) testing of existing industrial, collector, and arterial pavement is recommended to determine the structural condition and remaining structural life.
 - 1. FWD testing will be conducted following ASTM D 4694 and D 4695.
 - 2. The FWD test data must be analyzed to delineate analysis units representing segments having distinctly different structural characteristics.
 - 3. The in situ resilient modulus of the subgrade and the effective structural number of the existing pavement structure must be estimated from back-calculation analysis of the FWD test data using the back-calculation analysis procedure described in the *AASHTO Pavement Guide* or other procedures meeting the guidelines of ASTM D 5858.
- C. The investigation must also include a visual survey of pavement distress. A distress survey must identify the pavement condition concerning rehabilitation needs. Areas of moderate-to-severe distress that are structural must be identified.
- D. If the FWD test is not used, resilient modulus should be determined by one of the options listed under the "Subgrade Supports Inputs" section of these *Standards*. Layer coefficients for surfacing should be based on a visual condition assessment and the values listed in Table 5.2 of the *AASHTO Pavement Guide*. Layer coefficients for the base should be based on dynamic cone penetrometer (DCP) testing in conjunction with Figure 2.7 in the *AASHTO Pavement Guide*.
- E. Design for structural rehabilitation of existing pavement must be accomplished using the procedures described in Part III of the *AASHTO Pavement Guide* and the rehabilitation design guidelines in the ODOT *Pavement Guide*. Rehabilitation recommendations must consider measures for mitigation of reflective cracking, layer delamination, and stripping.

- F. Rehabilitation design must include detailed information regarding pavement repair through dig-out and variable grind depths. Design must also include design section as well as location and approximate quantities.

6.8 DEFAULT PAVEMENT SECTIONS

The default pavement sections are based on conservative design criteria, including anticipated traffic and construction vehicle loading under poor soil conditions. These assumptions may not be representative of typical conditions for many locations. For local roads, use the commercial/industrial pavement section if a transit bus line or similar shuttle buses will use the street. Roundabout design must be site specific and cannot use the below default values.

Materials, construction practices, and general information from Sections 6.4 (Flexible Pavement) and 6.5 (Rigid Pavement) should be followed.

Table 6-7 provides default asphalt concrete pavement section information. Table 6-8 provides information for standard rigid pavement section.

Table 6-7: Default Asphalt Concrete (AC) Pavement Section

Functional Classification	Thickness				AC Mix Design Level ⁶
	AC Wearing Course ¹	AC Base Course ²	¾-inch – 0 Leveling Aggregate	Aggregate Base Course ^{3,4,5}	
Arterial	2"	7"	2"	14"	3
Collector	2"	6"	2"	14"	2
Local Commercial/Industrial	2"	6"	2"	12"	3
Local Residential	2"	2"	2"	10"	2
Alley	3"	N/A	2"	8"	2
Shared-Use Path ⁸	3"	N/A	6" of ¾-inch – 0 Aggregate		2

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¹Use ½-inch-dense ACP. Place in one lift. Conform to mix design levels as shown in the table. Use PG 70-22 binder for arterial and PG 64-22 binder otherwise.

² Use ½-inch-dense ACP. Place in lift thicknesses from 2 to 3 inches. Conform to mix design levels as shown in the table. Use PG 70-22 binder for asphalt concrete surfaced pavement for top 4 inches on arterials and PG 64-22 binder otherwise.

³ Use ¾-inch-0 or 1 1/2-inch-0 dense graded base aggregate meeting the requirements of Oregon Standard Specifications for Construction 00641.

⁴ Aggregate base thickness may need to be increased for constructability in areas of soft or wet subgrade.

⁵ Subgrade geotextile is required below the aggregate base for silt and clay subgrade types.

⁶ Collector may require Level 3 for roads identified as transit or trucking routes and with ESAL 1,000,000 or greater. Arterial may require mix design level 4 for ESAL in excess of 10,000,000.

⁷ A pavement design to accommodate anticipated traffic loadings and existing soil conditions shall be submitted to the city engineer for approval. ACP shall be compacted to 92% max density (rice density) per AASHTO T-209.

⁸Subgrade and base rock shall be compacted to 95% relative density per AASHTO T— 180.

⁹ See [Trails Master Plan for additional information](#).

Table 6-8: Standard Rigid Pavement Section

Functional Classification	Thickness		
	PCC ^{1,2}	AC Base Course ³	Aggregate Base Course ^{4,5,6}
Arterial	9"	4"	8"
Collector	8"	4"	8"
Local Industrial/Commercial	8"	4"	8"
Local Residential	8"	N/A	6"

¹ Use Class 4000, 1.5-inch paving concrete.

² Use epoxy-coated 18-inch-long smooth circular stainless steel dowel bars at 12-inch spacing along all transverse joints. Bars should be coated with a bond breaker to be approved by the City Engineer. For 7- to 8-inch-thick PCC slab, use 1-inch diameter bars, for 9- and 10-inch-thick PCC slab, use 1.25-inch diameter bars. For slabs less than 7 inches thick, joints should be un-doweled.

³ Refer to Section 6.6 for further jointing criteria.

⁴ Use ½-inch-dense ACP. Place in lift thicknesses from 2 to 3 inches. Conform to mix design levels as shown in the table. Use PG 64-22 binder for asphalt concrete.

⁵ Use ¾-inch-0 or 1 1/2-inch-0-dense graded base aggregate meeting the requirements of Oregon Standard Specifications for Construction 00641.

⁶ Aggregate base thickness may need to be increased to 12 inches or more for constructability in areas of soft or wet subgrade.

⁷ Subgrade geotextile is required below the aggregate base for silt and clay subgrade types.

7.0 STORMWATER

Chapter 7 provides an overview of City stormwater standards and primarily refers to the City *Stormwater and Grading Design Standards* for detailed requirements.

7.1 GENERAL DESIGN REQUIREMENTS

Stormwater design must include provisions to adequately control runoff development as defined by the City. The design must ensure the future extension of the stormwater drainage system to the entire drainage basin in conformance with the adopted City Stormwater Master Plans as well as the *Stormwater and Grading Design Standards*.

Design requirements include the following:

- A. The approved point of disposal for all stormwater must be discharged at the existing natural drainage outlet or outlets. Runoff is not allowed to flow over adjacent public or private property at a rate, volume, or location materially different from that which existed before development occurred.
- B. The peak runoff from all applicable designs must not be more than what existed before development. Retention and/or detention facilities are required where necessary to meet this requirement. Additional flow control requirements, as stated in the *Stormwater and Grading Design Standards* and adopted Stormwater Master Plan, must also be met as applicable.
- C. Vegetation must be established on areas disturbed or on areas of construction, as necessary, to minimize erosion per the City's *Stormwater and Grading Design Standards*.
- D. Stormwater facilities must control the discharge of pollutants according to the City's *Stormwater and Grading Design Standards*.
- E. All stormwater drainage system designs must make adequate provisions for collecting all stormwater runoff. The system must be able to accommodate all runoff from upstream tributary areas, and the amount of runoff to be accommodated will be based on the ultimate development of all upstream tributary areas.
- F. Swale breaks must be provided in stormwater planters around light poles.
- G. For information on drainage curbs, refer to ODOT Specifications and ODOT Standard Drawings.
- H. Green street infrastructure is encouraged when applicable to manage stormwater, treat runoff to reduce pollution and infiltrate water into the ground, and limit how much stormwater and pollutants eventually make their way into vulnerable natural waterways.

7.2 MINIMUM DESIGN CRITERIA

Refer to the *Stormwater and Grading Design Standards* for the minimum stormwater design criteria.

7.3 ALIGNMENT AND COVER

Refer to the *Stormwater and Grading Design Standards* for standards on alignment and cover.

7.4 PIPE MATERIAL AND SIZE

Pipe material and size must meet the requirements in the *Stormwater and Grading Design Standards*.

7.5 STRUCTURES

Refer to the *Stormwater and Grading Design Standards* for requirements for stormwater structures.

7.6 CULVERTS

Water crossing structures on all creeks and tributaries must not impede or eliminate a native fish species' access to habitat or ability to migrate. In general, projects should use bridge crossings rather than culverts wherever possible. If culverts are used, install slab, arch, or box type culverts, preferably using bottomless designs that more closely mimic stream bottom habitat. Proposed culvert crossings, regardless of tributary size or whether they are intermittent or perennial, must conform to Oregon Department of Fish & Wildlife and National Marine Fisheries Service's regulations and stream crossing guidelines. In addition to designing stream crossings for fish passage, culverts should include shelves and other design features to facilitate terrestrial wildlife passage.

Culverts within roadside ditches not deemed jurisdictional waterways and 18 inches in diameter or larger must have riprap installed at the inlets to protect from erosion. All riprap must be lined with drainage geotextile. Riprap for culvert outlets must be in accordance with the *Stormwater and Grading Design Standards*.

Cross culverts require headwalls in accordance with the *Stormwater and Grading Design Standards*.

Additional requirements may apply to meet State and Federal permitting requirements, which depend on the type of permit (Refer to Section 2.2).

7.6.1 Inlet and Outlet Control Analysis

The headwater depth for pipes under inlet or outlet control must be determined using the nomographs contained in the ODOT *Hydraulics Manual*.

7.6.2 Headwalls and Endwalls

Pipe headwalls, endwalls, or other approved end protection are required (1) where pipe material other than concrete or ductile iron is exposed in the design of an outlet or inlet pipe; (2) where required to provide slope stability; or (3) if properly-sized riprap cannot provide sufficient energy dissipation. Headwalls and endwalls must meet the requirements in the *Stormwater and Grading Design Standards*. In addition, the locations of the headwalls and endwalls relative to the edge of travel should be evaluated to meet roadside clearance (See Section 3.6).

7.7 CONVEYANCE SYSTEMS

Conveyance systems must be designed according to the *Stormwater and Grading Design Standards*. If a project uses an existing, undersized storm conveyance system, there must be a 1-foot minimum freeboard between the hydraulic grade line and the top of the structure or finish grade above pipe for the conveyance design storm post-development peak rate of runoff.

7.8 STORMWATER FLOW CONTROL

Stormwater flow control must comply with the *Stormwater and Grading Design Standards*.

7.9 STORMWATER QUALITY TREATMENT

Stormwater quality treatment must comply with the *Stormwater and Grading Design Standards*.

7.10 EROSION PREVENTION AND SEDIMENT CONTROL

Erosion prevention and sediment control must comply with the *Stormwater and Grading Design Standards*.

8.0 UTILITIES

Chapter 8 provides information on public and private utilities and the requirements for each type.

8.1 PUBLIC-OWNED UTILITIES

- A. Public-owned facilities include the sanitary sewer, storm drainage, and water distribution system.
- B. Refer to the *Sanitary Sewer Design Standards* and *Sewer Pump Station & Force Main Design Standards* for detailed design information and to Std. Dwg. OC513 for utility line placement.
- C. Refer to the *Water Distribution System Design Standards* for detailed design information and to Std. Dwg. OC513 for utility line placement.
- D. Refer to the *Stormwater and Grading Design Standards* for detailed design information and to Std. Dwg. OC513 for utility line placement.
- E. Utilities must not be located under the curb or on ADA ramps; refer to Std. Dwg. OC513 for utility line placement.

8.2 PRIVATE UTILITIES IN PUBLIC RIGHTS-OF-WAY

- A. Existing Facilities
 - 1. All private utility construction should adhere to OCMC 13.34 Utility Facilities in Public Rights-of-Way and established City franchises.
 - 2. Private utility systems shall not impede public infrastructure. All facilities shall abide by National Electric Safety Code, the ADA, and the locations outlined below.
 - a. Utility facilities shall be placed in the public utility easement. The City Engineer must approve locations outside of easements.
 - b. No utility shall cause a safety hazard in City right-of-way (ROW), including crash hazards, ADA non-compliance, and sight distance issues.
 - c. Support structures shall be used jointly in City ROW; no double pole locations are allowed.
- B. New Facilities
 - 1. New facilities refer to new installations and relocation of existing utilities.
 - 2. All new development installations should adhere to OCMC Chapter 16.12.095.
 - a. Poles must be relocated to the abutting development property line.
 - 3. All new utilities shall be placed in a public utility easement (PUE) unless approved by the City Engineer.

All utilities shall abide by Oregon State statutes. The use of City right-of-way is subject to national joint-use notification regulations and Oregon joint-use association requirements.

8.3 PUBLIC UTILITY EASEMENTS

8.3.1 Public Utility Easement

The minimum width for a public utility easement (PUE) must be 10 feet or 5 feet, as shown in Std. Dwg. OC513 and OCMC 16.12.085 or as approved by the City Engineer. The PUE shall be located along all property lines adjacent to public rights-of-way. The City may require a larger PUE in commercial and industrial areas and where right-of-way widths are constrained. See Std. Dwg. OC513 for easement grading requirements.

8.3.2 City-Owned Easements

- A. Public water lines shall be located in the public right-of-way. A public water line may only be located on private property upon approval and at the sole discretion of the City Engineer. A public water line on private property shall be centered within a permanent water facilities easement granted to the City. The easement shall have a minimum width of 15 feet along its entire length when placed in a roadway, parking area, or another hardscaped surface. The easement shall have a minimum width of 20 feet in unimproved or landscaped areas where vehicular access is not normally available. ~~Table 8-1~~[Table 8-1](#) provides minimum easement widths consistent with the City *Sanitary Sewer Design Standards* and City *Water Distribution System Design Standards*.

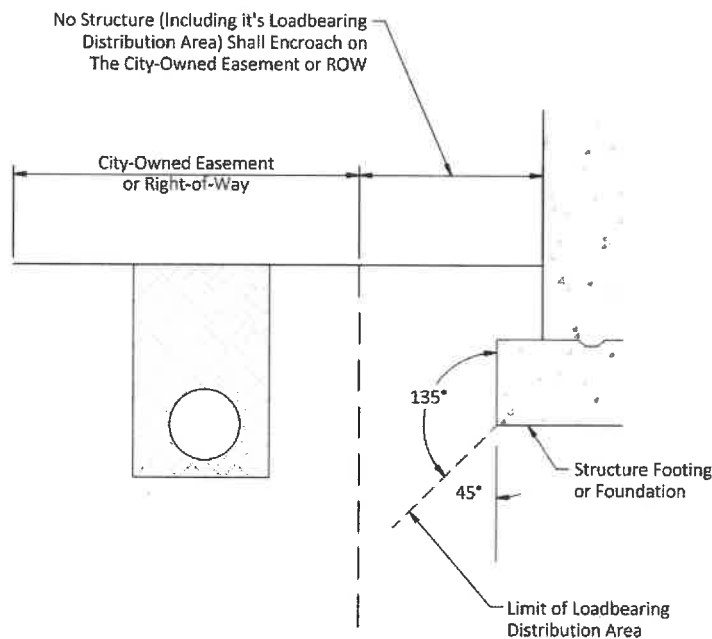
Table 8-1: Minimum Easement Widths

Easement Type	Width (ft)
Public Utility Easement (PUE)	10'/5'
Public Water Easement (paved surface)	15'
Public Water Easement (un-paved surface)	20'
Public Sewer or Storm Easement (paved surface)	15'
Public Sewer or Storm Easement (un-paved surface)	20'
Public Sewer Easement (15-inch diameter and greater and/or 15 ft sewer depth and greater)	20'
Shared (Parallel) Public Sewer Easement	25'
Access and Maintenance Easement	20'

- B. Public sanitary ~~sewer~~ lines shall be located in the public right-of-way. A public sanitary sewer line may only be located on private property upon approval and at the sole discretion of the City Engineer. A public sanitary sewer line on private property shall be centered within a permanent sanitary sewer easement granted to the City.
- C. Public storm and sanitary sewer located on private property shall be located within a permanent public storm and/or sanitary sewer easement granted to the City, with a minimum width of 15 feet along its entire length. Parallel public storm and sanitary sewer sharing an easement require the easement width to be increased to a minimum of 25 feet. Shared easements require City Engineer approval.
- D. The required width of an easement may be greater than the minimum requirement based on the surrounding conditions and property line configurations. There may be additional restrictions on the setback of structures near an easement to comply with building codes.

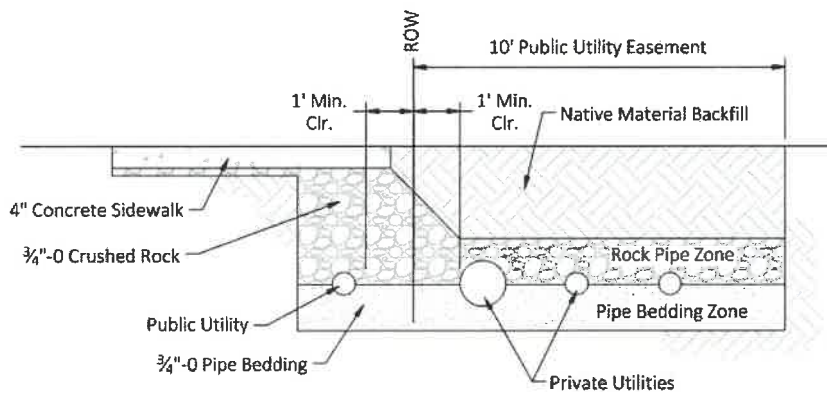
- E. A 20-foot-wide permanent access and maintenance easement to benefit the City may be required in instances where City-owned infrastructure is inaccessible by way of the permanent easement. The access and maintenance easement shall be along a route that the City's maintenance vehicles can access.
- F. Encroachments
1. There shall be no encroachment within a City-owned easement by a privately-owned structure, building, building overhang, retaining wall, monument sign, or any other object (including a structure's loadbearing distribution area as defined in [Figure 8-1](#)) that would adversely affect the City's ability to maintain public utilities.
 2. There shall be no parallel encroachment within a City-owned right-of-way or easement (including a PUE) by a private utility facility or structure (including a structure's loadbearing distribution area as defined in [Figure 8-1](#)) without prior written approval by the City. Private utilities shall cross City-owned easements at right angles. Private utility facilities and structures shall not be placed within the pipe zone. The City will not approve any encroachment that would adversely affect the City's ability to maintain public utilities.

Figure 8-1: Loadbearing Distribution Area



- G. Easement forms are subject to the approval of the City before recording.
- H. All recording costs for easements created by private development shall be borne by the developer.
- I. The construction plans must show all existing and proposed easements. This includes the easement type and recorded document information. All proposed easements shall include a blank space for final recording numbers to be added to the record drawings.
- J. Overhead utilities must meet the clearances as outlined in the National Electrical Safety Code (NESC) 234 Clearances to Other Structures.
- K. Figure 8-2 provides an example of the shared utility trench option.

Figure 8-2: Shared Utility Trench Option



9.0 STREET LIGHTING

Chapter 9 provides street lighting standards for the City. Street lighting levels shall follow PGE standards for all PGE-owned lights. For City lights, a lighting analysis should be completed during the design and approved by the City Engineer.

9.1 PORTLAND GENERAL ELECTRIC (PGE) AND CITY AGREEMENTS

PGE and City Agreements are described in [Table 9-1](#) ~~Table 9-1~~.

Table 9-1: PGE and City Agreements

PGE Option	Description
A	Developer to pay line extension fee, install PGE-provided light pole foundations, developer-provided junction boxes, and conduits with tracer wire. PGE to install the remaining equipment and own and maintain the street lighting system.
B	This option is not allowed within the City.
C	Developer to install the street lighting system, pay the line extension fee, and maintain the system through the maintenance period. Beyond the maintenance period, the City will own and maintain the street lighting system. Option C includes streets in the Downtown District and Washington Street, 7th Street, 99E , and Molalla Avenue.

9.2 PGE-RELATED DESIGN

- The Engineer of Record and/or City Project Manager is responsible for arranging with PGE to connect the street lighting system to the local distribution system and for locating the service cabinet.
- Street lights and poles shall be designed to be PGE Schedule 95 (by City direction only) or Option A (PGE-owned and maintained) or Option C (City-owned and maintained) light emitting diode (LED) lights. All Option C lights must be connected to a City-owned service and meter. The City has the final approval authority on which luminaire to use based on the specific lighting application. For Option C, luminaire information is shown on OC 536.
- For Option A, refer to PGE's Approved Equipment List for all items, including luminaires, foundation, poles, junction boxes, photocell, etc.

9.3 LIGHTING DESIGN CRITERIA

The lighting design criteria noted below applies to both Option A and Option C.

- All street lighting shall be designed by a licensed professional engineer (See Section 1.1.1) using the provisions in these *Standards*, and, where applicable, the current version of ANSI/IES RP-8 *American National Standard Practice for Roadway Lighting*.

1. Pedestrian-scale lighting should be adequate to illuminate pedestrian facilities that are a part of transit-oriented districts, town centers and plazas, off-street pathways and shared-use paths, or other areas identified in the Oregon City TSP or other area-specific plans. Typically, this lighting is positioned over the sidewalk rather than the street and is equal to or less than 16 feet above the sidewalk. All pedestrian-scale lighting equipment shall be approved by the City Engineer. Accessway lighting shall be to a minimum level of one-half (0.5) foot candle, a one and one-half (1.5) foot candle average, and a maximum to minimum ratio of seven-to-one (7:1) and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances.
 2. Illumination shall be provided and evaluated at midblock crossings per ANSI/IES RP-8.
- B. All electrical components shall be Underwriters' Laboratories (UL)-approved and testing lab-approved from labs accepted by the State of Oregon.
 - C. Street illumination design and installation shall conform with the Oregon Standard Specifications for Construction, Oregon Standard Drawings, and City Standard Drawings.
 - D. All street light plans shall include pole location by station, wiring, conduit, junction boxes, photocells, controller cabinets, power source location, lighting analysis output points, driveway locations, trees, and any other pertinent information. All backup lighting analysis, line loss, and service cabinet circuit load calculations shall be submitted for review along with the plans.
 - E. All street lights shall be LED.
 - F. The lighting plans shall include general installation notes, including the type, manufacturer, catalog number, number of LEDs, wattage, mounting height, arm length, and specification of the proposed equipment. Plans shall also include the wiring and circuit diagrams. The lighting color/temperature, and dark sky characteristics are per the PGE approved list and City standard drawings.
 - G. The lighting plans shall include photometric data, such as average foot-candles, average to minimum ratio, maximum to minimum levels, and lamp lumen depreciation factor. Photometric calculations shall be provided using separate calculation zones for roadway, intersection, and pedestrian facilities. The plans shall indicate the roadway and intersection functional classifications and pedestrian conflict assumed for calculations. An electronic file of the photometric calculations shall be provided as a PDF file.
 - H. Circuits and cable runs shall be designed to provide separate and independent circuits for street lights. Wire size shall be determined by the loading and distance of each circuit. Loading calculations shall be based on the maximum loading possible for the circuit, assuming all fixtures are operating at the maximum output for the highest drive current for the fixture. Wire shall be sized to limit voltage drops to a maximum of 2% between the utility service connection and the control panel and a maximum of 3% from the control panel to the most distant fixture served. The Engineer of Record or City Project Manager must submit an electronic file of the voltage drop/line loss calculations for the City Engineer to approve.
 - I. Photometric analysis shall include only light fixtures that are within the right-of-way. Light sources on private property cannot be included in the street lighting analysis.

- J. Photometric analysis shall include only light fixtures installed as part of the project for which the analysis pertains and existing light fixtures within the right-of-way. Street lighting analysis shall not include future light fixtures for roadways planned to be 2-3 lanes wide, but it is allowed for roadways planned to be greater than 4 lanes wide.
- K. Lighting design shall account for a modified photometric distribution when glare shields are used.
- L. A 10-day burn-in period shall be completed before the City's final acceptance of the street lights that are either metered or fall under PGE's Option C standard.
- M. The Engineer of Record or City Project Manager shall submit items for materials review to the City Engineer before ordering any street lighting equipment (poles, light fixtures, lighting controls, control nodes, junction boxes, foundations, services, cabinets, etc.) and pass applicable manufacturer warranties along to the City. Specific requirements for light fixtures are further described in Section 9.4.
- N. In systems with existing lights on both sides of the street, the circuitry shall be configured so that the lights on one side of the street can be "de-energized" without affecting the operation of the lights on the opposite side of the street. A maximum of 72 hours (3 days) of outage is permissible for existing street lighting. Where work would result in an outage for all existing lights, temporary lighting in a manner acceptable to the City shall be provided. Temporary lighting of up to 1 month (30 days) is allowed, and the Engineer of Record or City Project Manager shall strive to complete all street lighting work and energize lights within that timeframe.
- O. A minimum of 2-inch conduit shall run between junction boxes. Between each light pole and the adjacent junction box, there must be 1 conduit that is 2 inches in size. All conduit runs shall be marked with an underground marking tape per 00960.42(e) of the Oregon Standard Specifications for Construction. All conduits shall be Schedule 40 PVC, and all elbows shall be fiberglass. The Engineer of Record or City Project Manager must install bushings on all conduit ends and seal the ends with an approved conduit plug. See City Standard Drawings for additional details.
- P. The Engineer of Record or City Project Manager is responsible for locating street light poles so that no portion of the pole, mast arm, or luminaire is within 10 feet of an energized line. Installation shall conform to OAR 437-002-0047 and 437-002-2316.
- Q. Table 9-2 provides lighting levels for streets and parallel on-street bicycle facilities.
- R. Table 9-3 provides intersection lighting standards. ~~Table 9-4~~ provides unsignalized pedestrian/bicycle crossing target lighting values.

Table 9-2: Lighting Levels for Street and Parallel On-Street Bicycle Facilities (ANSI/IES RP-8)

Roadway Classification	Pedestrian Conflict Area	Average Maintained Illuminance on the Horizontal		
		Minimum Average Maintained in Foot Candles ¹		
		Concrete Street	Asphalt Street	Uniformity Ratio Avg. to Min.
Arterial	High	> 1.2	> 1.7	< 3:1
	Medium	> 0.9	> 1.3	< 3:1
	Low	> 0.6	> 0.9	< 3:1
Collector	High	> 0.8	> 1.2	< 4:1
	Medium	> 0.6	> 0.9	< 4:1
	Low	> 0.4	> 0.6	< 4:1
Local Road	High	> 0.6	> 0.9	< 6:1
	Medium	> 0.5	> 0.7	< 6:1
	Low	> 0.3	> 0.4	< 6:1

¹ Do not design roadways more than 1.3x above the minimum average foot-candlelight levels.

Table 9-3: Intersection Lighting Standards (ANSI/IES RP-8)

Intersection Classification	Pedestrian Conflict Area	Average Maintained Illuminance on the Horizontal		
		Minimum Average Maintained in Foot Candles ^{1 2}		
		Concrete Intersection	Asphalt Intersection	Uniformity Ratio Avg. to Min.
Arterial/Arterial	High	> 2.4	> 3.4	< 3:1
	Medium	> 1.8	> 2.6	< 3:1
	Low	> 1.2	> 1.8	< 3:1
Arterial/Collector	High	> 2.0	> 2.9	< 3:1
	Medium	> 1.5	> 2.2	< 3:1
	Low	> 1.0	> 1.5	< 3:1
Arterial/Local Road	High	> 1.8	> 2.6	< 3:1
	Medium	> 1.4	> 2.0	< 3:1
	Low	> 0.9	> 1.3	< 3:1
Collector/Collector	High	> 1.6	> 2.4	< 4:1
	Medium	> 1.2	> 1.8	< 4:1
	Low	> 0.8	> 1.2	< 4:1
Collector/Local Road	High	> 1.4	> 2.1	< 4:1
	Medium	> 1.1	> 1.6	< 4:1
	Low	> 0.7	> 1.0	< 4:1
Local Road/Local Road	High	> 1.2	> 1.8	< 6:1
	Medium	> 1.0	> 1.4	< 6:1
	Low	> 0.6	> 0.8	< 6:1

¹ Do not design intersections more than 1.3x above the minimum average foot-candlelight levels.

² Intersection analysis area includes curb ramp landings and crosswalks.

Table 9-4: Unsignalized Pedestrian/Bicycle Crossing Target Lighting Values (ANSI/IES RP-8)⁶

Average Maintained Illuminance on the Horizontal and Vertical ⁵			
Maintained Illuminance Values for Walkways in Foot Candles			
High Pedestrian Conflict Areas ⁴			
Location	Eavg ¹	EVmin ²	Uniformity Ratio ³
Mixed Vehicle and Pedestrian	> 2.0	> 1.0	< 4:1
Pedestrian Only	> 1.0	> 0.5	< 4:1
Maintained Illuminance Values for Walkways in Foot Candles			
Medium Pedestrian Conflict Areas ⁴			
Location	Eavg ¹	EVmin ²	Uniformity Ratio ³
Pedestrian Areas	> 0.5	> 0.2	< 4:1
Maintained Illuminance Values for Walkways in Foot Candles			
Low Pedestrian Conflict Areas ⁴			
Location	Eavg ¹	EVmin ²	Uniformity Ratio ³
Rural/Semi-Rural Areas	> 0.2	> 0.06	< 10:1
Low Density Residential (< 2 dwelling units per acre)	> 0.3	> 0.08	< 6:1
Medium Density Residential (2.1–6.0 dwelling units per acre)	> 0.4	> 0.1	< 4:1

¹ Eavg—Minimum maintained average horizontal illuminance at the pavement surface.

² EVmin—Minimum vertical illuminance at 5 feet above the pavement.

³ Ratio of Eavg to the minimum horizontal illuminance at the pavement surface.

⁴ Refer to ANSI/IES RP-8 for additional guidance regarding these tables.

⁵ Vertical illuminance is measured at a height of 5 feet in both directions and parallel to the main pedestrian flow.

⁶ Target values for midblock and RRFB enhanced crossings.

9.4 LIGHT FIXTURES

PGE light fixtures are the standard, which includes different types.

- The *decorative acorn light fixture* includes two City standards ~~and one PGE standard.~~
- The *tear drop light fixture* includes ~~two~~ ~~one~~ City standard~~s~~.
- The *decorative post top fixture* includes one PGE standard.

Designs should include the same type of fixture on both sides of the street.

Table 9-5 provides a summary of the light fixtures that shall be used on various streets throughout the City. Table 9-6 provides example photos for each type of light fixture presented in Table 9-5.

Table 9-5: Types of Light Fixtures By Street

Location	Tear Drop Style*	King Acorn Style*	Lumecon Acorn Style*	Town & Country Style*
99E : Clackamette Park to Tunnel	X			
Main Street : 99E to 15 th St plus Side Streets			X	
Washington Street: 7 th Street to Metro/Home Depot			X	
Washington Street: Home Depot to Prairie Schooner	X			
Molalla Avenue: Hwy 213 to Holmes		X		
Molalla Avenue: Holmes to Division			X	
7 th Street: Division to High	X			
Holcomb Boulevard: Front Avenue to Winston Drive				X

*See Standard Detail OC536 and OC536C for more information

Table 9-6: Examples of Light Fixtures



Note : The pictures above are for reference only and may not be identical to the specified fixture.

9.5 STREET LIGHT EQUIPMENT & PLACEMENT

Any work performed under permits issued by Oregon City Public Works shall be in accordance with the Oregon Standard Specifications for Construction as prepared by ODOT and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the City. Additional guidance for street light equipment and placement is described below.

- A. **Option A:** PGE street lighting equipment must be included in the most current PGE-approved street lighting equipment list.
- B. **Option C:** Street lighting equipment shall be as shown according to Std. Dwg. OC536.
 - 1. Street lighting along Molalla Avenue shall only be Option C and as shown according to Std. Dwg. OC536.
- C. Light poles and junction boxes shall be located per Std. Dwg. OC536.
- D. The Engineer of Record or City Project Manager is responsible for locating street light poles so that no portion of the pole, mast arm, or luminaire is within 10 feet of an energized line. Installation shall conform to OAR 437-002-0047 and 437-002-2316.
- E. Street lighting conduit shall be placed under the sidewalk where feasible.
- F. If the approved equipment is no longer available, the Engineer of Record or City Project Manager should coordinate with the City Engineer to obtain approval of the currently available alternative street lighting system.
- G. Solar-powered equipment is not allowed within the City unless approved by the City Engineer.

9.5.1 Junction Boxes

Standards below apply to Option A and Option C.

- A. Junction boxes shall be no more than 3 feet from each pole served, and there shall be 1 junction box for each street light pole. The Engineer of Record or City Project Manager must install 1 junction box for each lighting controller and include one spare 2-inch conduit installed to the controller with a pull string. See Std. Dwgs. OC536-OC536A.
- B. All junction boxes and lids shall be open bottom polymer concrete or polymer fiberglass with a skid-resistant cover marked "Street Lighting."
- C. The Engineer of Record or City Project Manager must not install junction boxes in sidewalk ramps or ramp wings. Junction boxes shall be placed in the following locations in order of preference or as approved by the City:
 - 1. Landscape strip
 - 2. Back of sidewalk with a concrete apron (within the public utility easement)
 - 3. Sidewalk (outside of primary walking route; i.e., furniture zone); see Std. Dwg. OC536A

9.5.2 Cable and Wire

Option A wiring shall conform to PGE standards. The following is for **Option C** only.

- A. A single-phase, 3 wire, 240-volt, dedicated metered service shall be provided for street lighting.
- B. All wires shall be stranded copper, single conductor, type XHHW, with 600-volt insulation (unless no insulation is provided as noted below). Solid wiring is not permitted. The minimum wire size for the lighting circuit is #10 AWG wire, and the maximum wire size is #1 AWG wire. All wire splices shall occur inside the junction boxes.
- C. Street lighting circuits shall be designed to ensure that no section of roadway shall end up completely unlit with the loss of a single circuit. The following circuit configurations apply:
 - 1. When lighting is provided on both sides of the street, each side of the street shall be on a different circuit.
- D. Wire insulation color shall conform to the following:
 - 1. **120-volt photoelectric circuit wires:** A black wire from the controller to the photocell or a red wire for the return to the cabinet shall be used.
 - 2. **240-volt line distribution wires:** Install circuit wire pairs as shown below, with each pair of wires sharing the same insulation color. If additional circuits are required, insulation color shall be approved by the City.
 - a. 1st circuit pair—black
 - b. 2nd circuit pair—red
 - c. 3rd circuit pair—blue
 - d. 4th circuit pair—brown
 - e. 5th circuit pair—yellow
 - f. 6th circuit pair—orange
 - 3. Grounded (neutral) conductors, if needed, shall be white or natural gray.
 - 4. Grounding electrode conductors from the light pole to the adjacent junction box shall be green insulated or bare stranded wire.
 - 5. Equipment ground conductors in the conduit raceways shall be green insulated.
- E. Color coding of each conductor shall remain consistent throughout the entire system. Factory supplied striping of conductors will be accepted when the required color insulation is not available. Color tape will not be accepted as an alternate for insulation color coding.

9.5.3 Poles and Foundations

- A. All poles shall be grounded. The Engineer of Record or City Project Manager must install a ground rod in the junction box located at each pole. This includes a 1-inch schedule 40 PVC conduit with a #6 green insulated or bare wire from the pole to the ground rod located in each junction box. (See *Oregon Standard Drawings*.)
- B. All light poles shall be constructed with a nominal 2-½-inch x 5-inch hand hole placed approximately 2-4 feet above the ground line. In plan view, the handhole shall be at 90 degrees from the mast arm or curbside of the pole. The hand hole must be secured with cast aluminum or galvanized steel cover painted to match the pole and held in place with a stainless-steel, tamper-resistant set screw.
- C. All poles should include flower basket irrigation.
- D. Breakaway designs shall be used for light poles located along roadways with posted speeds greater than 35 mph and within the clear zone as defined by Table 3-1 of the *AASHTO Roadside Design Guide*, except for those located in drainage ditches, near bus shelters, or in areas with extensive pedestrian concentrations.
- E. An inline fuse shall be installed between the circuit and each light fixture depending on whether it is metered or falls under PGE's Option C standard.
- F. Poles shall be located a minimum of 15 feet from street trees as shown on Std. Dwg. OC536A.
- G. Poles shall be located a minimum of 5 feet from driveway wings, fire hydrants, and other utilities.

9.5.4 Lighting Controller

- A. The controller cabinets shall be installed away from intersections and locations where an errant vehicle could damage the cabinet. The cabinet location should be near a side property line and should not detract aesthetically from the adjacent properties. In residential areas, locating cabinets within side yard frontages is preferred to locating them in front yard frontages. Cabinet locations should also consider future system growth. The Engineer of Record or City Project Manager should consult with the City Engineer and PGE regarding cabinet location at the beginning of design.
- B. The cabinet shall have a service panel that has a "Service Equipment" rated UL label attached to the panel. A 100-amp, single-phase, 3-wire, 240-volt, dedicated metered service is to be provided by the developer. Each street lighting circuit shall be wired 240 volts. The street light base-mounted controller shall be installed per ODOT's Std. Dwg. TM485 and shall be on *Clackamas County Roadway Standards* and details. The controller shall be made of stainless steel and include circuit breakers, a test switch, and neutral and ground bars. When only one illumination breaker is being installed, there shall be space for three additional illumination breakers. Designers shall follow NFPA 70E standards for arc flash, provide the required labeling for the controller cabinet, and attach available fault current to the inside of the door with a permanent label.
- C. The cabinet shall be stainless steel.
- D. A single, 3-inch spare conduit shall be installed from the controller cabinet to the nearest junction box with tracer wire and pull line.
- E. When designing or installing Option C, a single photocell shall be provided at the BMCL. Photocell model shall be from ODOT Qualified Product List or PGE Approved Equipment List.

City of Oregon City

GEOGRAPHIC INFORMATION SYSTEM

Decorative Lights Corridors

Map printed December 1, 2023

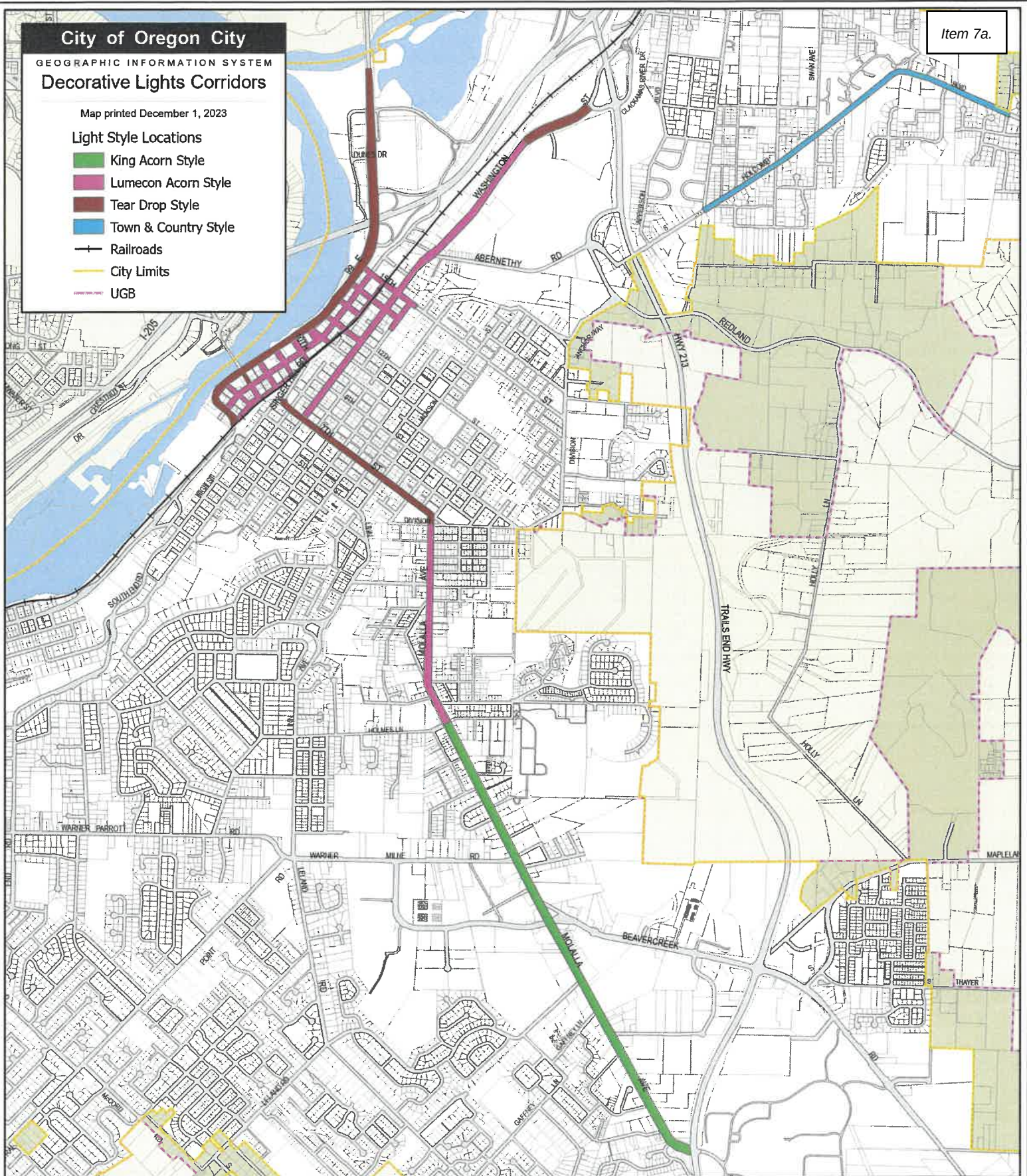
Light Style Locations

- King Acorn Style
- Lumecon Acorn Style
- Tear Drop Style
- Town & Country Style

- Railroads

- City Limits

- UGB



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, or surveying purposes. Notification of any errors is appreciated.



0 1,000 2,000 3,000 Feet

1 inch = 2,100 feet

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10.0 LANDSCAPE DESIGN

Chapter 10 provides information on landscape design for City streets and intersections. Additional design standards are provided OCMC 12.08. For roundabout landscape design considerations, refer to *NCHRP Report 672: Roundabouts, An Informational Guide*.

10.1 PLANT TYPES

- A. Trees
 - 1. Tree species type selections should comply with Section 10.2 Street Trees below.
- B. Shrubs and Groundcovers
 - 1. Shrub and groundcover species type selections should be drought-tolerant, suitable to the available space, and adapted to street-side environments. Shrubs and groundcover plants are to be selected from the Oregon City Native Plant List unless the City Engineer approves otherwise.
- C. Plants found on the Oregon City Nuisance Plant List or other invasive species should never be used.

10.2 STREET TREES

- A. Street tree species selection must be in accordance with OCMC 12.08.015—Street Tree Selection, Planting, and Maintenance Requirements. Section 3.5 provides additional information on sight distance considerations for tree planting and maintenance.
- B. Types
 - 1. The City will approve street tree species based on specific site conditions. Street tree species are to be selected from the Oregon City Street Tree List. Alternative species may be acceptable with prior City Engineer approval.
- C. Clearance Distances

The following distances shall be maintained between trees and street elements, as measured from the center point of the tree:

- 1. 5 feet from driveways as measured from edge of driveway apron.
- 2. 5 feet from any regulatory signs.
- 3. 15 feet from street lights.
- 4. 5 feet from fire hydrants.
- 5. 20 feet from intersections as measured from the right-of-way boundary of the intersecting street.
- 6. 5 feet from all public utilities (e.g., sewer, storm, and water lines, utility meters, etc.).

D. Planting Requirements

1. Refer to OCMC 12.08.015—Street Tree Selection, Planting, and Maintenance Requirements.
2. Plant street trees according to Std. Dwg. OC530, Street Tree Planting in Planter Strip.

E. Distance to Street Light Poles

1. Trees shall be located a minimum of 15 feet from street light poles, as shown on Std. Dwg. OC536A.

F. Irrigation

1. Irrigate new street trees by permanent or temporary means if required by the City Engineer. The City Engineer must approve all irrigation requirements and design/construction methods.
 2. In urban conditions, especially when planting in pavement (including median islands and sidewalk cutouts), a permanent irrigation system may be necessary to sustain living plants. The City Engineer must review and approve selection.
 3. Implement wise water-use techniques that include water distribution devices that apply water with no runoff or overspray onto pavement or buildings. Incorporate 'smart' controllers and sensors to synchronize water application with changing weather conditions.
 4. A qualified designer should prepare irrigation plans and specifications.
 5. Irrigation systems using an automatic controller shall have the ability to reduce water application over time to promote plant independence and sustainability.
- G. Street trees and their limbs and foliage must comply with OCMC 10.32.030—Sight Line Requirements. Other maintenance requirements related to landscape trimming are included in OCMC 12.08.025.**

10.3 MEDIAN DESIGNS**A. Style**

1. Street medians should be landscaped with City Engineer approval. Rocked medians should be used for medians near pedestrian crossings and when required for sight distance.
2. Street medians 4 feet wide or less (measured from back-of-curb to back-of-curb) must be designed with hardscape elements including but not limited to rocked areas, textured concrete, or modular unit pavers. This should not include trees, shrubs, or groundcover. Bark mulch may be used in street medians 4 feet wide or less, except for anywhere within a left-turn lane pocket taper.
3. Street medians wider than 4 feet (measured from back-of-curb to back-of-curb) must be planted with trees, shrubs, and groundcovers, including bark mulch, unless otherwise approved by the City Engineer. Median planting design must be in accordance with OCMC 12.08.015. Street medians wider than 4 feet may be designed without plants if unique site conditions warrant it. Median design without plant materials will require the City Engineer's approval.

B. Location

1. Locate street median designs in accordance with OCMC 16.12.016—Street Design. Street trees in planted medians must be spaced 35 feet on-center, and shrubs and/or groundcovers must be spaced 4 feet on-center.
2. Median plant materials must have size and shape characteristics that are appropriate for the available spaces.
3. Street trees shall not be planted closer than 15 feet from street light poles.

C. Pedestrian Refuge Islands

1. For pedestrian and motorist safety, trees, shrubs, and groundcover plants are not recommended in pedestrian refuge islands. Rocked medians should be used instead.

10.4 PLANTING STRIP DESIGNS

Planted landscape strip design shall be in accordance with OCMC 16.12.016.F. Street tree species shall be selected from the Oregon City Street Tree List. Alternative species may be accepted by the City Engineer.

10.5 FURNITURE ZONE

The future zone includes the area from the edge of curb to the right-of-way and may consist of landscaping and other objects associated with adjacent land uses.

- A. Planting may be permissible, with City approval, in street section furniture zones.
- B. Planting within furniture zones likely means plants in open tree wells, sidewalk cutouts, or tree grates. When planting in paved areas, if approved by the City, consider using structural soils (CU-Structural Soil™) beneath the adjacent pavement to promote healthy root spread and root access to subsurface air and water.
- C. For pedestrian and motorist safety, trees, shrubs, and groundcover plants must not restrict access to or compete aesthetically with other amenities located in the furniture zone.
- D. Beyond landscape features, items in the furniture zone may include hydrants, benches, trash containers, decorative tree lights, and electric outlets.
- E. All items in the furniture zone need to be evaluated together to maintain appropriate access to parking and other land uses.
- F. Items in the furniture zone must not impact ADA accessibility.

10.6 GREEN STREETS AND STORMWATER TREATMENT

Landscaping of stormwater treatment facilities must comply with the Oregon City Stormwater and Grading Design Standards. Metro's Designing Livable Streets and Trails Guide provides additional reference information for green streets.

The City encourages projects to incorporate green infrastructure treatments, such as vegetated medians, roadside swales, rain gardens and infiltration planters, permeable pavements, bioretention curb extensions, and street trees. These treatments allow streets to not only manage stormwater but to mitigate the harmful impacts of transportation systems on air, water, noise, and habitat function and connectivity. The goals of green streets are generally to provide stormwater source control, confine stormwater transport and pollutant conveyance to a collection system, restore pre-development hydrology to the extents possible, and provide environmentally enhanced roads. The successful application of green street techniques will promote soil and vegetation contact and onsite infiltration and retention of stormwater.

Examples of green street infrastructure include:

- A. **Street trees** support stormwater management, offer wildlife habitat, improve air quality, reduce heat island effects by providing shade, improve roadway aesthetics, promote human well-being through enhanced levels of interaction and carbon sequestration, and calm traffic. On streets with high levels of walking and bicycling, street trees provide buffers from traffic and air pollution.
- B. **Planters** are structured facilities with hard walls, generally flat bottoms, growing media, topsoil, and vegetation. They can be designed to promote infiltration directly into the native ground below or designed to be impermeable with liners when infiltration is either not desired or not feasible. When designed for impermeability, planters must be plumbed to a stormwater collection system. Planters are often used as one of a series of facilities within a streetscape to meet stormwater requirements.
- C. **Curb extensions with landscaping** have hard edges, generally flat bottoms, soil, vegetation, and the option of permeability or impermeability. Landscape extensions can also be combined with adjacent planters to further reduce runoff volumes, attenuate peak flows, and maximize resident stormwater storage capacity before discharging into a collection system.
- D. **Basins** (or rain gardens) are facilities that are depressed relative to the street and sidewalk elevations, and they may have hard edges or bermed side slopes, flat bottoms, topsoil and/or growing media, and vegetation. Basins are generally used when and where modeled infiltration rates into the site are acceptable and are not harmful to either the roadway pavement or base. They are typically used as a single facility to handle larger volumes of water within a catchment area.
- E. **Swales** are depressed landscape strips with sloped earthen sides. Swales take up more room within the right-of-way than planters because swales lack a hard edge and require side slopes to match adjacent street and sidewalk grades. Swales also convey water parallel to the roadway along their sloped surfaces, which can reduce subsurface collection system pipe needs.
- F. **Permeable Pavement** comes in four forms: permeable concrete, permeable asphalt, permeable interlocking concrete pavers, and grid pavers. Permeable concrete and asphalt are similar to their impermeable counterparts but are open graded. Concrete and grid pavers are modular systems installed with gaps between paver units to allow stormwater to infiltrate through to the aggregate base. Grid pavers are typically a durable plastic matrix that can be filled with gravel or vegetation. Grid pavers are commonly designed to accommodate emergency vehicle or fire truck access on private properties. ADA compliance must be verified in applicable areas.

11.0 REFERENCES

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APPENDIX A—ADDITIONAL RESOURCES

The *Standards* strive for consistency with the most recent versions of the City Relevant Resources described in Section 1.2.

If the *Standards* do not address a specific design issue, the most recent version of the following documents should be referenced. In all situations, engineering shall determine the appropriate design reference and its applicability.

American Association of State Highway and Transportation Officials (AASHTO), *A Guide for Achieving Flexibility in Highway Design*

AASHTO, Guide for the Development of Bicycle Facilities

AASHTO, Guide for the Planning, Design, and Operation of Pedestrian Facilities

AASHTO, Guidelines for Geometric Design of Very Low-Volume Local Roads

AASHTO, LRFD Bridge Design Specifications

AASHTO, A Policy on Geometric Design of Highways and Streets

AASHTO, Roadside Design Guide

AASHTO - Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals

American Society for Testing and Materials (ASTM)

The Asphalt Institute, *The Asphalt Handbook*

The Asphalt Institute, Thickness Design - Highways and Streets

Federal Highway Administration (FHWA), Manual on Uniform Traffic Control Devices (MUTCD)

FHWA, Standard Highway Signs

FHWA, Roundabouts: An Informational Guide

Institute of Transportation Engineers (ITE), Traffic Control Devices Handbook

ITE, Traffic Engineering Handbook

ITE, Trip Generation Manual

ITE, Trip Generation Handbook

International Building Code (IBC)

International Plumbing Code (IPC)

National Association of City Transportation Officials (NACTO), *Urban Bikeway Design Guide*

NACTO, *Urban Street Design Guide*

ODOT, Highway Design Manual

ODOT, Hydraulics Design Manual

ODOT, Oregon Temporary Traffic Control Handbook for Operations of Three Days or Less

ODOT, Traffic Control Plans Design Manual

ODOT, Traffic Line Manual

ODOT, Traffic Manual

ODOT, Traffic Signal Policy and Guidelines

ODOT, Sign Policy and Guidelines

ODOT, Oregon Standard Drawings
ODOT and American Public Works Association (APWA), *Standard Specifications for Construction*
Oregon Fire Code, Appendices B and D
Oregon Fire Code Metro Code Committee *Fire Code Applications Guide*
Oregon Supplement to the MUTCD
Other local fire codes
Transportation Research Board (TRB), *Highway Capacity Manual*
TriMet Bus Stops Guidelines

APPENDIX B—FORMS

1. Design Modification Form
2. Public Improvement Modification Application
3. ADA Modification Form
4. Work Zone Speed Reduction Request Form

DESIGN MODIFICATION FORM

PUBLIC IMPROVEMENT MODIFICATION APPLICATION

ADA MODIFICATION FORM

WORK ZONE SPEED REDUCTION REQUEST FORM

APPENDIX C—CITY WEBSITES AND CHECKLISTS

Websites and checklists associated with the *Standards* are provided below with associated sections in the *Standards*.

Section 2.2: Permitting/Approval Process

City Permits and Associated Checklist Information

<https://www.orcity.org/1111/Permits>

<https://www.orcity.org/1065/Engineering-Development-Services-Checklist><https://www.orcity.org/publicworks/engineering-permits>

Development [Forms & Services Permit](#) Checklists

<https://www.orcity.org/1058/Development-Forms-Checklists><https://www.orcity.org/publicworks/engineering-development-services-checklists>

Performance Bonds, Cost Estimates and Agreement Forms

<https://www.orcity.org/1076/Performance-Guarantee><https://www.orcity.org/publicworks/required-documents>

Engineering Fees

<https://www.orcity.org/1088/Engineering-Fees><https://www.orcity.org/publicworks/engineering-fees>

Section 2.3 Construction Inspection

Private Development Minimum Inspection Requirements

<https://www.orcity.org/1072/Inspection-Observation-Minimum-Guideline>https://www.orcity.org/sites/default/files/fileattachments/public_works/page/12662/minimum_inspection_requirements_checklist_11-2020_fillable.pdf

Section 3.4 Intersections

ADA Design Review Checklist—Medians/Traffic Islands

<https://dochub.clackamas.us/documents/drupal/6d27b366-4418-4dda-b3b9-d8bfc22161d1>

Section 4.1 Pedestrian Design

Clackamas County ADA Design Review Checklist—Sidewalk/Multiuse Path

<https://dochub.clackamas.us/documents/drupal/b4efebc9-754d-4506-89bd-6b09660384dc>

Clackamas County ADA Assessment Checklist—Curb Ramps

<https://dochub.clackamas.us/documents/drupal/18d3d081-2838-4186-8010-e5c690778f1f>



MEMORANDUM

DATE: January 17, 2024
TO: City Commission
FROM: Josh Wheeler, PE, Assistant City Engineer
SUBJECT: Street Design Standards – Response to City Commission
Comments from April 2023

The following is a response to questions/comments posed by the City Commission in April 2023:

Comment 1: How are we addressing the inconsistency and variety of decorative lighting throughout the City?

Answer 1: City staff along with Public Works Director John Lewis met with Commissioner Rocky Smith on December 5, 2023 to show the standard going forward and to discuss how we got to the current existing conditions. Staff has inventoried all lights on the areas planned to retain decorative lights. There are 426 total with a range of acorn, tear drop, and post top types many of which remain HPS (high pressure sodium : i.e. yellow light). 333 fixtures are currently LED. The goal over time will be to keep and/or replace lights so that all lights are one of the following :

- Acorn type, Lumecon style, LED
- Acorn type, King style, LED
- Tear Drop type, Holophane Memphis style, LED
- Tear Drop type, Holophane Esplanade style, LED
- Post Top type, Town and Country style, LED

Unless a request is made to increase the lighting budget, lights are replaced in the following priority :

1. When damage occurs (such as a crash or result of a wind storm), the fixture is replaced.
2. When a light goes out, the fixture is replaced.
3. At the end of the fiscal year, old fixtures are replaced with remaining funds.

The priority of old fixture replacement is as follows :

1. Molalla – Division to Beavercreek.
2. Main Street (and S curve on 99E)
3. Rest of 99E and Prairie Schooner/Washington area

Lights on Molalla between Holmes and Beavercreek will either be installed by adjacent redevelopment or by a future Molalla Streetscape project not currently being prioritized.

A map and chart for where each type and style shall be installed, remain, or replaced is within this document and the proposed Street Standards.

Comment 2: What are we doing about existing inconsistent decorative lights?

Answer 2: See answer 1. Existing lights not consistent with the lighting design standards as proposed in the Street Standards are replaced to the standard when crash or outage occurs and at the end of fiscal years with remaining funds as budget allows.

Comment 3: What does the Downtown District apply to?

Answer 3: The downtown district runs from 99E to 15th Street along Main Street and Railroad and all numbered streets in that area. A map has been completed which is added to the Design Standards to show where all lights shall be located.

Comment 4: What are we doing about places like Library/Carnegie Park and Home Depot Street?

Answer 4: There are several locations in the City such as Library/Carnegie Park and Home Depot Street as well as the train station which have many acorn style lights. These lights are considered private lighting and is based on the decisions of those developments. For decorative lighting on City property, Public Works recommends private lighting on City property to be standardized in the Facilities Master Plan. None of those lights would be addressed by the Street Light Standards in the Street Design Standards.

Comment 5: Will there be a phasing of lighting correcting lighting to the new Standard?

Answer 5: See answer 1 and 2. Without a request of increased funding by the general fund or by removing a project within the Transportation fund, phasing of lighting can occur within the limited budget by way of replacement due to crash or outage and then as remaining budget is available each fiscal year.

Comment 6: What are we doing about Main Street and the odd acorns near Willamette Falls at the S curve?

Answer 6: These will be replaced with Lumecon acorn for consistency. We anticipate that when Phase 2 of McLoughlin/99E pedestrian improvements is able to construct via future grant funding that these would likely be removed and replaced with Teardrop Esplanade style.

Comment 7: Why is half of Molalla one style and the other half another style?

Answer 7: Due to the locations lights needed to be installed due to the amount of existing driveways on Molalla between Beaver Creek and 213, the King acorn style was determined to be the closest acorn to a Lumecon acorn style that would provide the appropriate light spread.

The existing Lumecon acorn located on Molalla between Division and Holmes are more closely located where light spread is less of an issue.

It has been determined that the appropriate light for spacing ability on Molalla between Holmes and Beaver Creek is the King acorn light.

Comment 8: The Arc Light should not be placed anywhere besides 7th Street.

Answer 8: To address the existing conditions and the desire to retain the 7th Street lights, staff has proposed to retain the Holophane Memphis Teardrop style which is what was installed in 2006 with Project CI 03-001. Originally, those lights were installed as HPS. As they fail or become damaged, those lights will remain the Holophane Memphis teardrop style but will be changed to LED over time.

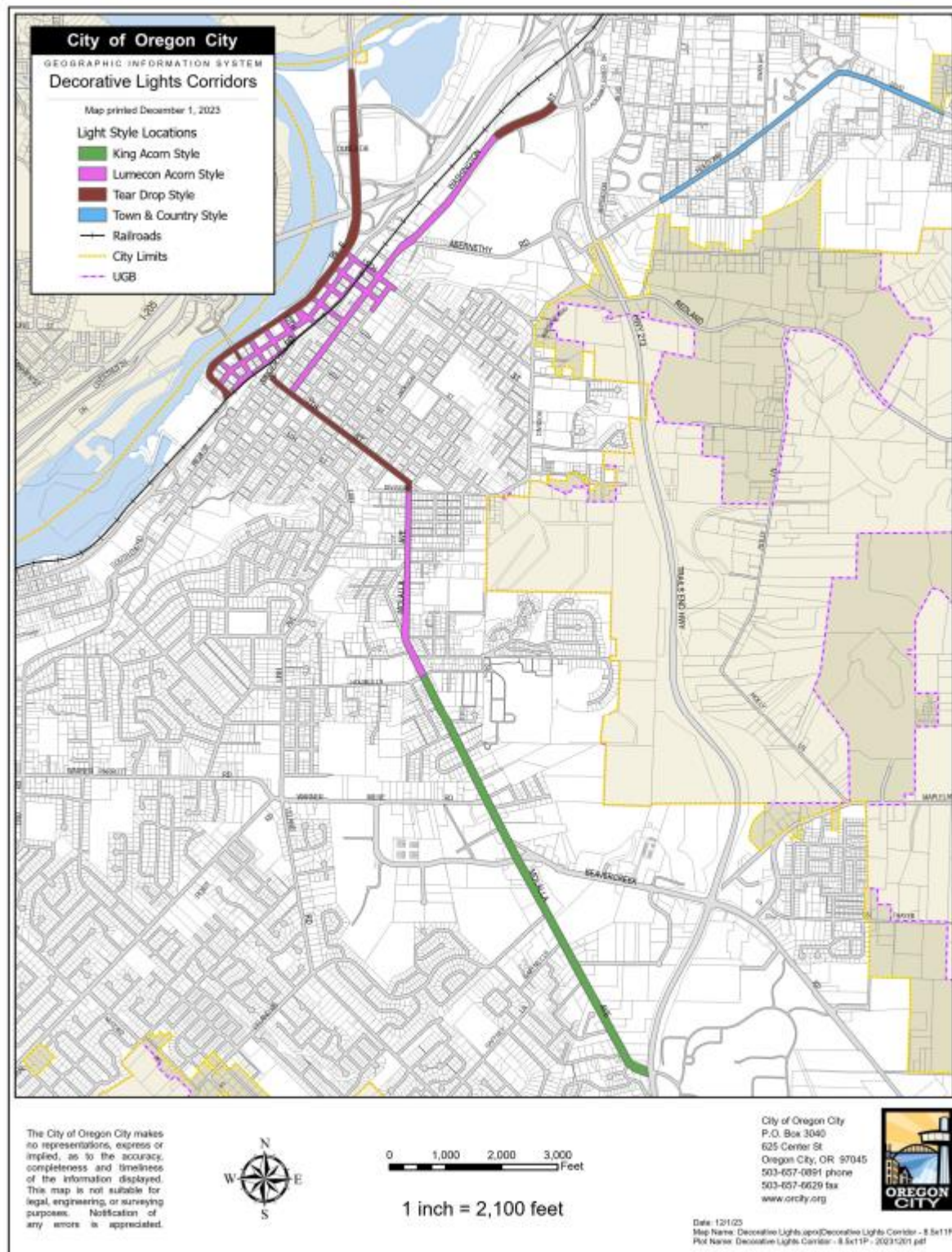
Other Teardrop lights within the City will remain teardrop in style due to the need to have higher intensity lights on those roadways, but to preserve the special neighbor style of 7th Street, all other teardrops will be the Holophane Esplanade Tear Drop LED. Analysis has been completed ensuring this light will be of the correct light spread and will work with existing poles and arms. All other teardrop styles would require a replacement of all arms which would be an additional cost the budget cannot normally absorb.

In summary, these items cover the comments and questions posed in the April 2023 City Commission meeting. In addition, the chart has been updated and the map has been added. A separate document outlines the history of decorative lighting for information only.

Street Light Standards

Location	Tear Drop Style*	King Acorn Style*	Lumecon Acorn Style*	Town & Country Style*
99E : Clackamette Park to Tunnel	X			
Main Street : 99E to 15 th St plus Side Streets			X	
Washington Street: 7 th Street to Metro/Home Depot			X	
Washington Street: Home Depot to Prairie Schooner	X			
Molalla Avenue: Hwy 213 to Holmes		X		
Molalla Avenue: Holmes to Division			X	
7 th Street: Division to High	X			
Holcomb Boulevard: Front Avenue to Winston Drive				X

*See Standard Detail OC536 and OC536C for more information



Decorative Light History

Using As-Builts and Project Files

Prepared : December 12, 2023

SP 99-11	Home Depot	July 2002	Unclear	200W HPS (Brand unknown)	Clack Co Project
CI 03-004	Washington Street : 11 th to 13 th	April 2003	*Acorn	Visco Style 197 (150W HPS)	OC Project
CI 02-003	Molalla : Pearl to Barclay Hills	May 2003	*Acorn	200W HPS (Brand unknown)	OC Project
SP 01-03 CI 04-003	Amtrak (Phase 1A)	Nov 2004	Acorn	Visco Style 197 (70-150W HPS)	OC Project
CI 03-001	7 th Street	Feb 2006	TearDrop	Holophane Memphis 150W HPS	OC Project
CI 06-001	Washington Street : 13 th to 15 th	April 2007	*Acorn	Visco Style 197 (150W HPS)	OC Project
E-mail	Molalla : Pearl to Barclay Hills	2008	*Acorn	Holophane Granville	City purchase
***Standards	Molalla Streetscape	2009	*/**Acorn	Holophane Granville HPS	City purchase
CI 06-006	Holcomb : Front to School	June 2009	Post	Town and Country PGE	OC Project
CI 09-001	Amtrak (Phase 1B and 2)	Dec 2009	Acorn	Visco Style 197 (70-150W HPS)	OC Project
CI 06-007	McLoughlin/99E : Dunes to 10 th	Sept 2010	TearDrop *Acorn	Holophane Memphis 200W HPS Holophane Granville 100W HPS	ODOT (OC light) ODOT (OC light)
CI 08-010	Jughandle (Washington)	March 2013	Hook TearDrop	Phoenix Concord 175W MH Holophane Memphis HPS 200W	ODOT (OC light) ODOT (OC light)
CI 09-009	Main Street : 5 th to 10 th	Jan 2013	*Acorn	Sternberg Old Town 96W LED	OC Project
CI 10-002	McLoughlin Phase 2 : River to Dunes	June 2016	TearDrop *Acorn	Sternberg 136W LED Sternberg 97W LED	ODOT (OC light) ODOT (OC light)

CI 18-004	Molalla Phase 3	2019/2020	Acorn	King/LED	OC Project
CI 22-011	Holcomb : School to Winston	2024	Post Top	Town and Country PGE	OC Project
CI 09-004	Jughandle Phase 2 (Design only)	unknown future date			

*These lights are being replaced systematically or have already been replaced with the Lumecon Acorn LED

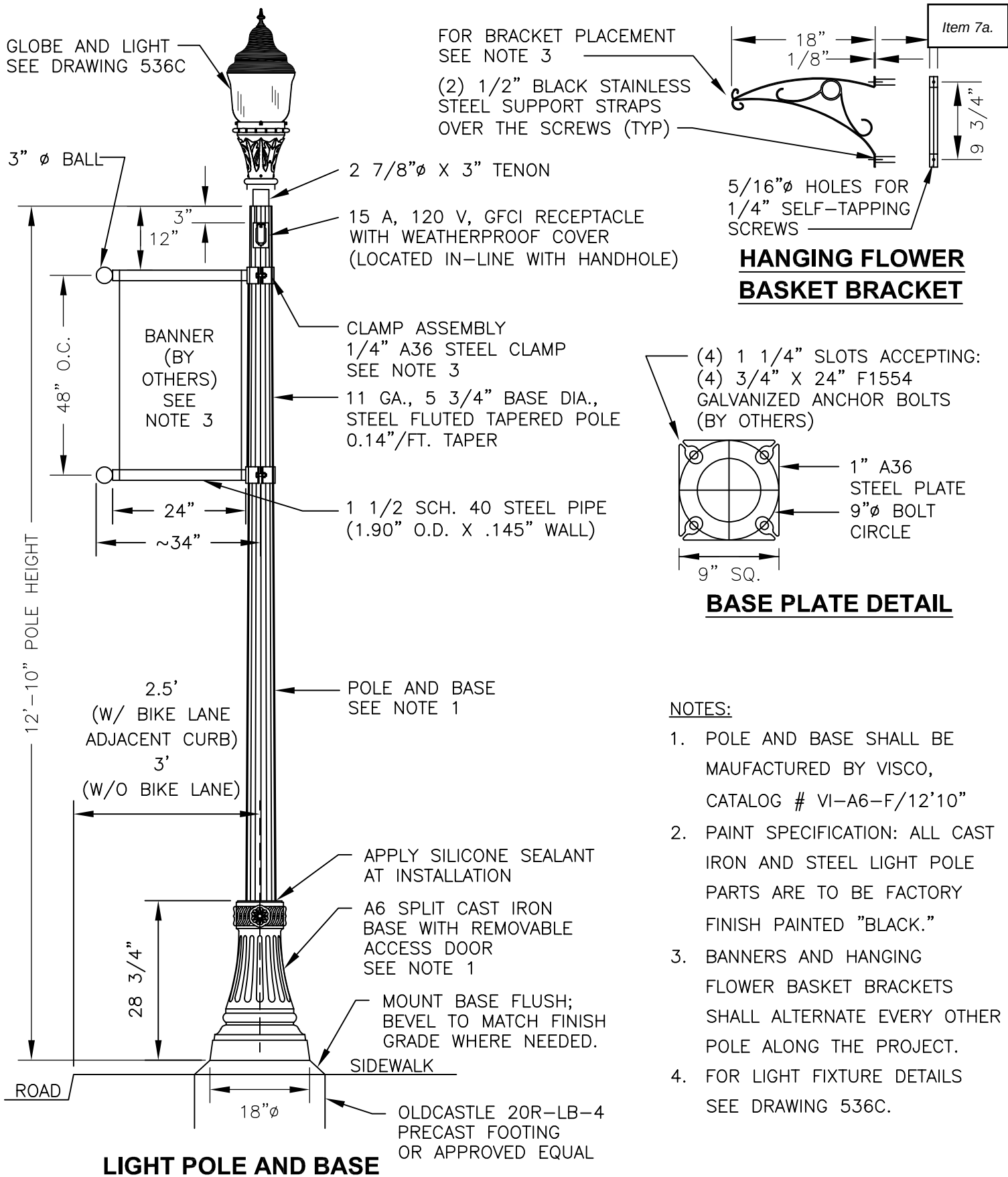
-These are for all acorns within the City except Molalla : Holmes to 213

**These lights are being replaced systematically or have already been replaced with the King Acorn LED

-These are only used on Molalla : Holmes to 213

***These standards are being replaced by the Street Standards

-This includes two different styles : Lumecon and King along Molalla



Public Works Standard Drawings

TYPICAL ACORN STYLE DECORATIVE
STREET LIGHT POLE DETAIL

SCALE NTS

DATE JAN '23 REV.

ENGR. DW

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DRAWING NO. 536

STREET LIGHT STYLE LOCATIONS

Item 7a.

LOCATION	TEAR DROP STYLE	KING ACORN STYLE	LUMECON ACORN STYLE	TOWN & COUNTRY STYLE
99E: CLACKAMETTE PARK TO TUNNEL	X SEE NOTE 4			
MAIN: 99E TO 15TH PLUS SIDE STREETS			X	
WASHINGTON: 7TH TO HOME DEPOT			X	
WASHINGTON: HOME DEPOT TO PRAIRIE SCHOONER	X SEE NOTE 4			
MOLALLA: 213 TO HOLMES		X		
MOLALLA: HOLMES TO DIVISION			X	
7TH: DIVISION TO HIGH	X SEE NOTE 3			
HOLCOMB: FRONT TO WINSTON				X

NOTES:

- KING ACORN STYLE LIGHT: CATALOG # K137R-P4AR-III-60(SSL)-1060-120:
277V-K14-PR7-4K-TB-DALI-#1-LPS-RAL9017
- LUMECON ACORN STYLE LIGHT: CATALOG # LDS-ROF-2-B-1-CW-C-B-8-S-H
- TEAR DROP STYLE LIGHT/POLE MANUFACTURED BY HOLOPHANE, MEMPHIS STYLE,
CATALOG #'S:
POLE: AORTS 25 70 3T12 GV/RAL44-80066 RFD328354
CLAMSHELL BASE: NY20CSB CA RCXX PP RAL44-80066 RFD328354
ROADWAY ARM: GAC 72IN 1A TN PP RAL44-80066 RFD328354
LIGHT: MSPL2 P30 40K MVOLT NPT BK TG4 PR7 PCLL L03 NL1X1
- TEAR DROP STYLE LIGHT/POLE MANUFACTURED BY HOLOPHANE, ESPLANADE STYLE,
CATALOG #'S:
POLE AND CLAMSHELL BASE: SAME AS ABOVE
LIGHT: E SPL3 P30S 40K MVOLT NPT BK TG4 PR7 PCLL L03 NL1X1
- TOWN AND COUNTRY STYLE: SEE PGE FOR MORE INFORMATION
- ALL FUTURE LIGHTS TO BE LED.

Public Works Standard Drawings

STREET LIGHT LOCATIONS
AND FIXTURE DETAILS

SCALE NTS

DATE JAN '24 REV. 1

ENGR. DW Page 273

DRAWING NO. 536C



RESOLUTION NO. 24-02**A RESOLUTION DECLARING AN EMERGENCY AND TEMPORARILY EXEMPTING THE CONSTRUCTION ACTIVITIES IN MOLALLA AVENUE RIGHT-OF-WAY AND TRAVEL LANES ASSOCIATED WITH THE 701 MOLALLA AVENUE DEVELOPMENT PROJECT FROM THE PROHIBITION AGAINST UNLAWFUL NOISES**

WHEREAS, Oregon City Municipal Code (OCMC) 2.52.020 defines “emergencies” to include “utility or transportation emergencies”; and

WHEREAS, OCMC 2.52.040(L) authorizes the City, in cases of emergency to “order such other measures as are necessary for the protection of life or property, or for the recovery from the emergency”; and

WHEREAS, the City would be acting in the best public interest by facilitating the completion of the fire service line serving the 701 Molalla Avenue Development (“Project”) and within the Molalla Avenue travel lanes; and

WHEREAS, transportation in the vicinity of the Project is vital to the community, and completing the needed work at night is vital to the economic and mobility interests of the City; and

WHEREAS, OCMC 9.12.023(E) declares the construction, demolition, alteration or repair of any building or the excavation of any streets and highways in a residentially zoned neighborhood between the hours of 10:00 PM and 7:00 AM, Monday through Saturday; and between 8:00 PM and 9:00 AM on Sunday to be a violation.

NOW, THEREFORE, OREGON CITY RESOLVES AS FOLLOWS:

Section 1. The City Commission declares an emergency, limited to the fire service line construction within the Molalla Avenue travel lanes associated with the 701 Molalla Avenue Development (“Project”) as shown in the map attached as Exhibit A to this resolution. Consistent with OCMC 2.52.070 and, by this resolution, the Commission declares an emergency from January 23, 2024 at 8:00 PM to January 26, 2024 at 7:00 AM.

Section 2. Based on the emergency identified above, the City Commission grants the construction activities in Molalla Avenue rights-of-way exemption from Section 9.12.020 of the Oregon City Municipal Code for construction activities associated with constructing the fire service line in the Project area and affecting the Molalla Avenue traffic, during the period identified above in Section 1 of this resolution.

Section 3. This resolution shall take effect immediately upon its adoption by the City Commission.

Section 4. The City Commission hereby directs the City Manager and City staff to undertake all appropriate and practical measures to lessen the impacts of night-time work on City residents and businesses as authorized by this resolution.

Section 5. The City Commission adopts these procedures to prevent, minimize, respond to or recover from the emergency consistent with OCMC 2.52.040.

Approved and adopted at a regular meeting of the City Commission held on the 17th day of January 2024.

Item 7b.

Denyse C. McGriff, Mayor

Attested to this 17th Day of January 2024

Approved as to legal sufficiency:

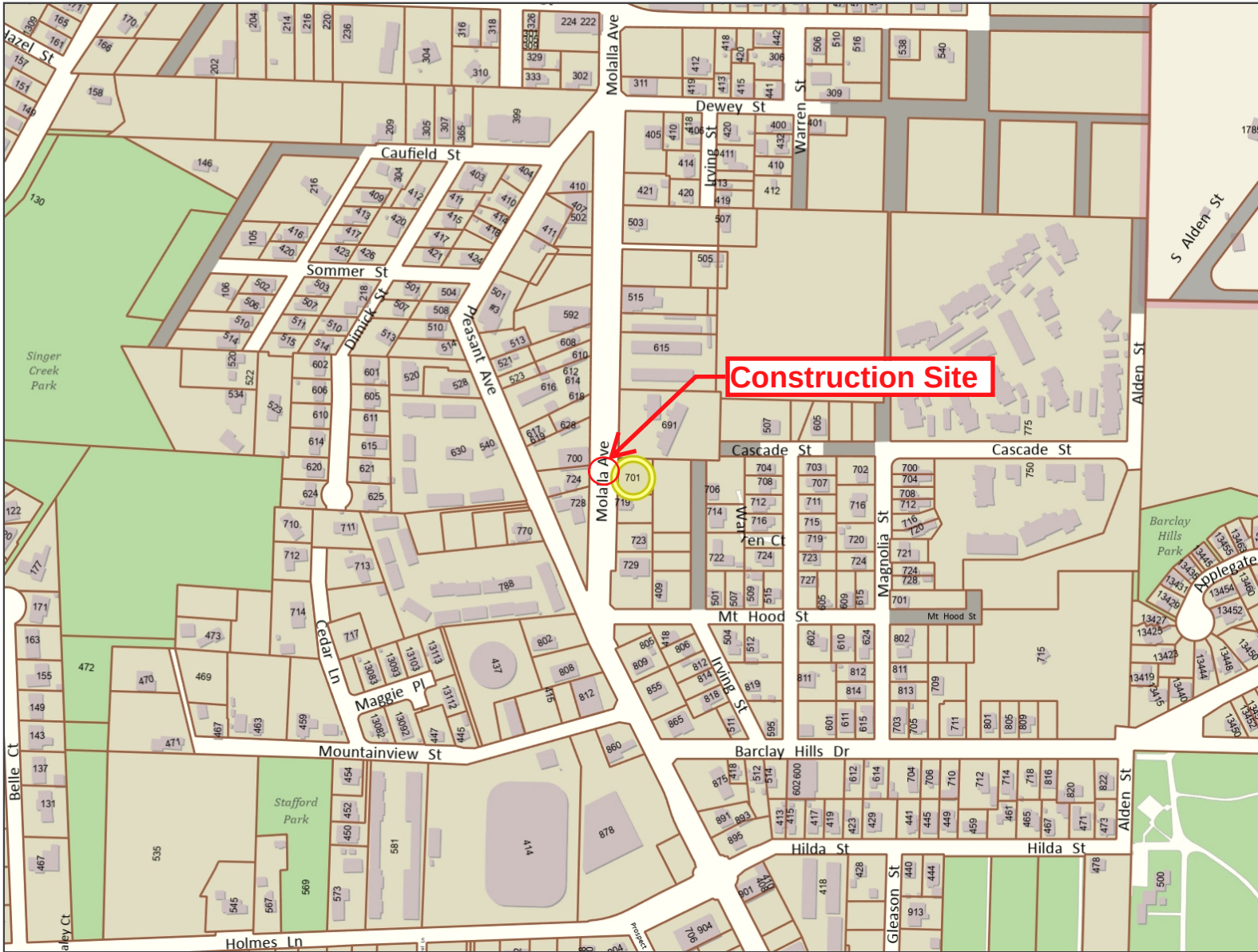
Jakob Wiley, City Recorder

City Attorney

Attachment:
Exhibit A – Site Map

Oregon City GIS Map

Item 7b.



Legend

- Street Names
- Taxlots
- Unimproved ROW
- City Limits
- UGB
- Basemap

Notes



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

Map created 1/5/2024



0 400 800 Feet

1: 4,800

701 Molalla Ave

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orecity.org





CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission
From: Chief Shaun Davis

Agenda Date: 01/17/2024

SUBJECT:

Resolution 24-04, appointing Municipal Court Judge Amy Lingren as code hearings officer

STAFF RECOMMENDATION:

Approve Resolution 24-04, a resolution to appoint Municipal Court Judge Amy Lingren as code hearings officer pursuant to OCMC 1.24.020.

BACKGROUND:

During the November 15, 2023 City Commission work session, staff presented information to the commission about potentially needing to change the Municipal Code to allow the Municipal Court Judge to be appointed as the code hearings officer pursuant 1.24.020. The Commission provided direction to work on a solution.

Staff worked with the City attorney, Municipal Court Judge Amy Lindgren, and determined a resolution appointing Municipal Court Judge Amy Lindgren as the code hearing officer would be most appropriate. This appointment of the municipal judge as the code hearings officer is not dependent on the continuation of the current municipal judge in office, but whenever a new municipal judge is appointed they shall, by virtue of that appointment, also be appointed as the code hearings officer.

OPTIONS:

1. Approve Resolution 24-04.
2. Deny Resolution 24-04

BUDGET IMPACT:

Amount: No budget impact

RESOLUTION NO. 24-04

A RESOLUTION APPOINTING THE OREGON CITY MUNICIPAL JUDGE AS THE CITY'S CODE HEARINGS OFFICER

WHEREAS, The Oregon City Charter provides for a municipal judge to exercise the judicial power of the City of Oregon City as set forth in Chapter V, Section 22 of the Oregon City Charter; and

WHEREAS, The Oregon City municipal judge is appointed to office by the Oregon City Commission, which has appointed the Honorable Amy Lindgren as the municipal judge; and

WHEREAS, The Oregon City code also provides for a code hearings officer to consider and apply regulatory enactments and policies pertaining to the matters set forth in the city code and that code hearings officer is also appointed by the Oregon City Commission under Oregon City Municipal Code (OCMC) 1.24.020; and

WHEREAS, The matters identified for consideration by the code hearings officer are also within the original jurisdiction of the municipal judge as set forth in the City Charter; and

WHEREAS, The City would be best served by having one venue for the consideration of all violations of the city code;

NOW, THEREFORE, OREGON CITY RESOLVES AS FOLLOWS:

Section 1. Pursuant to OCMC 1.24.020, the municipal judge is hereby appointed as the code hearings officer. This appointment of the municipal judge as the code hearings officer is not dependent on the continuation of the current municipal judge in office, but whenever a new municipal judge is appointed they shall, by virtue of that appointment, also be appointed as the code hearings officer.

Section 2. This resolution shall take effect immediately upon its adoption by the City Commission.

Approved and adopted at a regular meeting of the City Commission held on the 17th day of January 2024.

DENYSE C. McGRIFF, Mayor

Attested to this 17th day of January 2024:

Approved as to legal sufficiency:

Jakob S. Wiley, City Recorder

City Attorney



CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission
From: Chief of Police Shaun Davis

Agenda Date: 1/17/2024

SUBJECT:

OLCC: Liquor License Application – Off-Premises, 7-Eleven #20349D (dba Zara Enterprises, Inc.), 705 Washington Street, Oregon City

STAFF RECOMMENDATION:

Staff recommends the City Commission approve the OLCC Application for 7-Eleven #20349D (dba Zara Enterprises, Inc.), 705 Washington Street, Oregon City

EXECUTIVE SUMMARY:

The attached application is for an OLCC Full Off-Premises, 7-Eleven #20349D (dba Zara Enterprises, Inc.)

BACKGROUND:

The Oregon City Police Department ran a background check on Tahira Ashraf, and she is eligible to hold a liquor license. This application is for a change of ownership. All applicants must obtain an Oregon City business license before submitting their application for an OLCC liquor license. The Oregon City business license application process includes routing of the application for review through various City departments.

OPTIONS:

1. Approve the OLCC Application for 7-Eleven #20349D (dba Zara Enterprises, Inc.) – Oregon City
2. Deny the OLCC Application for 7-Eleven #20349D (dba Zara Enterprises, Inc.) – Oregon City

LIQUOR LICENSE APPLICATION

Page 1 of 4

Check the appropriate license request option:

☐ New Outlet | ☒ Change of Ownership | ☐ Greater Privilege | ☐ Lesser Privilege | ☐ Additional Privilege

Select the license type you are applying for.

More information about all license types is available [online](#).

Full On-Premises

- ☐ Commercial
- ☐ Caterer
- ☐ Public Passenger Carrier
- ☐ Other Public Location
- ☐ For Profit Private Club
- ☐ Nonprofit Private Club

Winery

- ☐ Primary location
- Additional locations: ☐ 2nd ☐ 3rd ☐ 4th ☐ 5th

Brewery

- ☐ Primary location
- Additional locations: ☐ 2nd ☐ 3rd

Brewery-Public House

- ☐ Primary location
- Additional locations: ☐ 2nd ☐ 3rd

Grower Sales Privilege

- ☐ Primary location
- Additional locations: ☐ 2nd ☐ 3rd

Distillery

- ☐ Primary location
- Additional tasting locations: ☐ 2nd ☐ 3rd ☐ 4th ☐ 5th ☐ 6th

☐ Limited On-Premises

☒ Off Premises

☐ Warehouse

☐ Wholesale Malt Beverage and Wine

INTERNAL USE ONLY

Local Governing Body: After providing your recommendation, return this application to the applicant.

LOCAL GOVERNING BODY USE ONLY

City/County name:

Date application received:

Optional: Date Stamp

- ☐ Recommend this license be granted
- ☐ Recommend this license be denied

Printed Name

Date

LIQUOR LICENSE APPLICATION

Page 2 of 4

APPLICANT INFORMATION

Identify the applicants applying for the license. This is the entity (example: corporation or LLC) or individual(s) applying for the license. Please add an additional page if more space is needed.

Name of entity or individual applicant #1:

Zara Enterprises, Inc.

Name of entity or individual applicant #2:

Name of entity or individual applicant #3:

Name of entity or individual applicant #4:

BUSINESS INFORMATION

Trade Name of the Business (name customers will see):

7-Eleven #20349D

Premises street address (The physical location of the business and where the liquor license will be posted):

705 Washington Street

City:

Oregon City

Zip Code:

97045

County:

Clackamas

Business phone number:

(503) 657-4861

Business email:

tahirarose2005@yahoo.com

Business mailing address (where we will send any items by mail as described in OAR 845-004-0065[1]):

Attn Licensing, PO Box 139044

City:

Dallas

State:

TX

Zip Code:

75313

Does the business address currently have an OLCC liquor license? ☒ Yes ☐ NoDoes the business address currently have an OLCC marijuana license? ☐ Yes ☒ No

AUTHORIZED REPRESENTATIVE – A liquor applicant or licensee may give a representative authorization to make changes to the license or application on behalf of the licensee or to receive information about a license or application.

I give permission for the below named representative to:

☒ Make changes regarding this license/application on my behalf.

☒ Receive information about the status of this application, including information about pending compliance action or communications between OLCC and the licensee/applicant.

Representative Name:

Alyssa Dickinson, Licensing Specialist

Phone number:

(850) 577-6962

Email:

alyssa.dickinson@gray-robinson.com

Mailing address:

GrayRobinson, 301 S. Bronough Street, Suite 600

City:

Tallahassee

State:

FL

Zip Code:

32301

Please note: liquor license applications are public records.

OLCC Liquor License Application (Rev. 2.1.2020)

LIQUOR LICENSE APPLICATION

Page 3 of 4

APPLICATION CONTACT INFORMATION – Provide the point of contact for this application. If this individual is not an applicant or licensee, the Authorized Representative section must be filled in and the appropriate permission(s) must be selected.

Application Contact Name:

Alyssa Dickinson

Phone number:

(850) 577-6962

Email:

alyssa.dickinson@yahoo.com

TERMS

- “Real property” means the real estate (land) and generally whatever is erected or affixed to the land (for example, the building) at the business address.
- “Common area” is a privately owned area where two or more parties (property tenants) have permission to use the area in common. Examples include the walking areas between stores at a shopping center, lobbies, hallways, patios, parking lots, etc. An area’s designation as a “common area” is typically identified in the lease or rental agreement.

ATTESTATION – OWNERSHIP AND CONTROL OF THE BUSINESS AND PREMISES

- Each applicant listed in the “Application Information” section of this form has read and understands OAR 845-005-0311 and attests that:
 1. At least one applicant listed in the “Application Information” section of this form has the legal right to occupy and control the real property proposed to be licensed as shown by a property deed, lease, rental agreement, or similar document.
 2. No person not listed as an applicant in the “Application Information” section of this form has an ownership interest in the business proposed to be licensed, unless the person qualifies to have that ownership interest waived under OAR 845-005-0311.
 3. The licensed premises at the premises street address proposed to be licensed either:
 - a. Does not include any common areas; or
 - b. Does include one or more common areas; however, only the applicant(s) have the exclusive right to engage in alcohol sales and service in the area to be included as part of the licensed premises.
 - In this circumstance, the applicant(s) acknowledges responsibility for ensuring compliance with liquor laws within and in the immediate vicinity of the licensed premises, including in portions of the premises that are situated in “common areas” and that this requirement applies at all times, even when the business is closed.
 4. The licensed premises at the premises street address either:
 - a. Has no area on property controlled by a public entity (like a city, county, or state); or
 - b. Has one or more areas on property controlled by a public entity (like a city, county, or state) and the public entity has given at least one of the applicant(s) permission to exercise the privileges of the license in the area.

LIQUOR LICENSE APPLICATION

Page 4 of 4

- Each applicant listed in the "Application Information" section of this form has read and understands OAR 845-006-0362 and attests that:
 1. Upon licensure, each licensee is responsible for the conduct of others on the licensed premises, including in outdoor areas.
 2. The licensed premises will be controlled to promote public safety and prevent problems and violations, with particular emphasis on preventing minors from obtaining or consuming alcoholic beverages, preventing over-service of alcoholic beverages, preventing open containers of alcoholic beverages from leaving the licensed premises unless allowed by OLCC rules, and preventing noisy, disorderly, and unlawful activity on the licensed premises.

I attest that all answers on all forms and documents, and all information provided to the OLCC as a part of this application, are true and complete.

Tahira Ashraf	<i>Tahira</i>	10/26/2023	N/A
Print name	Signature	Date	Atty. Bar Info (if applicable)
Print name	Signature	Date	Atty. Bar Info (if applicable)
Print name	Signature	Date	Atty. Bar Info (if applicable)
Print name	Signature	Date	Atty. Bar Info (if applicable)



OREGON LIQUOR & CANNABIS COMMISSION BUSINESS INFORMATION

Please Print or Type

Applicant Name: Zara Enterprises, Inc. Phone: (503) 657-4861

Trade Name (dba): 7-Eleven #20349D

Business Location Address: 705 Washington Street

City: Oregon City ZIP Code: 97045

DAYS AND HOURS OF OPERATION

Business Hours:

Outdoor Area Hours:

The outdoor area is used for: **N/A**

Sunday 24/7 to _____

Sunday N/A to _____

☐ Food service Hours: _____ to _____

Monday _____ to _____

Monday _____ to _____

☐ Alcohol service Hours: _____ to _____

Tuesday _____ to _____

Tuesday _____ to _____

☐ Enclosed, how _____

Wednesday _____ to _____

Wednesday _____ to _____

The exterior area is adequately viewed and/or supervised by Service Permittees.

Thursday _____ to _____

Thursday _____ to _____

Friday _____ to _____

Friday _____ to _____

Saturday _____ to _____

Saturday _____ to _____

(Investigator's Initials)

Seasonal Variations: ☐ Yes ☐ No If yes, explain: _____

ENTERTAINMENT

Check ALL that apply:

N/A

☐ Live Music

☐ Karaoke

☐ Recorded Music

☐ Coin-operated Games

☐ DJ Music

☐ Video Lottery Machines

☐ Dancing ☐ Nude Dancing

☐ Social Gaming

☐ Live Entertainment

☐ Pool Tables

☐ Minor Entertainers

☐ Other: _____

*Minor Entertainers in an area prohibited to minors need prior approval from the OLCC

DAYS & HOURS OF LIVE OR DJ MUSIC

Sunday N/A to _____

Monday _____ to _____

Tuesday _____ to _____

Wednesday _____ to _____

Thursday _____ to _____

Friday _____ to _____

Saturday _____ to _____

SEATING COUNT

N/A

Restaurant: _____ Outdoor: _____ Lounge: _____

Banquet: _____ Other (explain): _____ Total Seating: _____

OLCC USE ONLY

Investigator Verified Seating: ____ (Y) ____ (N)

Investigator Initials: _____

Date: _____

I understand if my answers are not true and complete, the OLCC may deny my license application.

Applicant Signature: Tahira Date: 10/23/2023

www.oregon.gov/olcc

Rev: 2.1



CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission
From: Public Works Director John M. Lewis, PE

Agenda Date: 1/17/2024

SUBJECT:

Personal Services Agreement with 3J Consulting for the Barclay Hills Storm Pond and Drainage Improvements Project (CI 23-014)

STAFF RECOMMENDATION:

Award the Personal Services Agreement (PSA) with 3J Consulting, Inc. in the amount of \$107,809.58 (for design services; preparation of bid documents; and construction services) for the Barclay Hills Storm Pond and Drainage Improvements Project (CI 23-014) and authorize the City Manager to execute the Agreement.

EXECUTIVE SUMMARY:

The existing Barclay Hills Storm Pond and downstream drainage way has not been functioning properly for years. This pond has eroded, and overflows are no longer occurring where they were designed to flow. Because of this, the drainage has excessive erosion, and the slope has been undercut behind some residential homes (along Peter Skene Way).

BACKGROUND:

In December 2020, the City contracted with 3J Consulting, Inc. to design the 2021 Water Utilities Improvements, and the Barclay Hills Storm Pond Improvements. The water utility work was completed in August 2022.

The Barclay Hills Storm Pond improvements include work to the outfall of the storm water detention pond (next to the Barclay Hills Sanitary Sewer Pump Station). This area will be evaluated, and reconfigured, to provide maximum storage and proper discharge of excess storm water. The receiving drainage course, from the pond, will also be evaluated and properly armored to provide bank side stabilization, while the storm pond design and permitting is under way.

During the state and federal permit review process of this project, it was determined that design revisions were needed to address constructability concerns. Because of this,

staff decided to create a new project focused solely on the storm pond work. To accomplish this, staff contacted 3J Consulting, Inc. (a consulting firm on the City's Civil Engineering shortlist) to prepare bid documents for the capital improvement projects.

For this project, 3 J Consulting, Inc. was asked to create a new scope and fee proposal (to complete the design); and administer the bidding and construction of the project improvements. The details of this project (i.e. design process, solicitation of bids and construction phase) are outlined in the attached scope of work (Exhibit A).

If the Commission approves this Personal Services Agreement, the project design completion is anticipated in the Spring of 2024 and construction in the Summer of 2024.

OPTIONS:

1. Authorize the City Manager to execute the Personal Services Agreement with 3J Consulting, Inc.
2. Authorize the City Manager to execute the Personal Services Agreement with 3J Consulting, Inc. with specific modifications.
3. Deny the Personal Services Agreement with 3J Consulting, Inc. If the Commission chooses to deny the Agreement, staff requests direction on how to proceed.

BUDGET IMPACT:

Amount: \$107,809.58
 Fiscal Year(s): 2023/24
 Funding Source(s): Storm Fund

CITY OF OREGON CITY PERSONAL SERVICES AGREEMENT

BARCLAY HILLS STORM POND AND DRAINAGE IMPROVEMENTS PROJECT (CI 23-014)

This PERSONAL SERVICES AGREEMENT ("Agreement") is entered into between the CITY OF OREGON CITY ("City") and 3 J CONSULTING INC. ("Consultant").

RECITALS

A. City requires services that Consultant is capable of providing under the terms and conditions hereinafter described.

B. Consultant is able and prepared to provide such services as City requires under the terms and conditions hereinafter described.

The parties agree as follows:

AGREEMENT

1. Term. The term of this Agreement shall be from the date the contract is fully executed until **December 31, 2024**, unless sooner terminated pursuant to provisions set forth below. However, such expiration shall not extinguish or prejudice City's right to enforce this Agreement with respect to (i) breach of any warranty; or (ii) any default or defect in Consultant's performance that has not been cured.

2. Compensation. City agrees to pay Consultant on a time-and-materials basis for the services required. Total compensation, including reimbursement for expenses incurred, shall not exceed **one hundred seven thousand, and eight hundred nine dollars and fifty-eight cents (\$107,809.58)**.

3. Scope of Services. Consultant's services under this Agreement shall consist of services as detailed in Exhibit A, attached hereto and by this reference incorporated herein.

4. Standard Conditions. This Agreement shall include all of the standard conditions as detailed in Exhibit B, attached hereto and by this reference incorporated herein.

5. Schedule. The components of the project described in the Scope of Services shall be completed according to Term, above.

6. Integration. This Agreement, along with the description of services to be performed attached as Exhibit A and the Standard Conditions to Oregon City Personal Services Agreement attached as Exhibit B, contain the entire agreement between and among the parties, integrate all the terms and conditions mentioned herein or incidental hereto, and supersede all prior written or oral discussions or agreements between the parties or their predecessors-in-interest with respect to all or any part of the subject matter hereof.

7. Notices. Any notices, bills, invoices, reports or other documents required by this Agreement shall be sent by the parties by United States mail, by hand delivery or by electronic means. All notices shall be in writing and shall be effective when delivered. If mailed, notices shall be deemed effective forty-eight (48) hours after mailing, unless sooner received.

To the City:

City of Oregon City
13895 Fir Street
Oregon City, OR 97045
Attention: John M. Lewis

To Consultant:

3 J Consulting, Inc.
9600 NW Nimbus Avenue, Ste. 100
Beaverton, OR 97008
Attention: John Howorth

Consultant shall be responsible for providing the City with a current address. Either party may change the address set forth in this Agreement by providing notice to the other party in the manner set forth above.

8. Governing Law. This Agreement shall be governed and construed in accordance with the laws of the state of Oregon without resort to any jurisdiction's conflicts of law, rules or doctrines.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly appointed officers on this _____ day of _____, 20____.

CITY OF OREGON CITY

3 J CONSULTING, INC.

By: _____

By: _____

Name: John M. Lewis, P.E

Name: _____

Title: Public Works Director

Title: _____

DATED: _____, 20____.

DATED: _____, 20____.

By: _____

ORIGINAL CITY COMMISSION APPROVAL (IF APPLICABLE):

Name: Anthony J. Konkol III

DATE: _____

Title: City Manager

DATED: _____, 20____.

APPROVED AS TO LEGAL SUFFICIENCY:

By: _____
City Attorney

ATTACHMENT A

Contract Statement of Work Delivery Schedule and Summary of Estimate for Services

Barclay Hills Storm Pond Improvements CI 23-014

City of Oregon City
Project Manager: John Burrell
625 Center Street
Oregon City, Oregon 97045
503-496-1556
jburrell@orc.org

3J Consulting, Inc.
Project Manager: Chase Welborn, PE
9600 SW Nimbus Avenue; Suite 100
Beaverton, Oregon 97008
503-946-9365, Ext 215
chase.welborn@3j-consulting.com

PROJECT UNDERSTANDING AND WORK SCOPE FOR COMPLETE PROJECT

The City of Oregon City is contracting with 3J Consulting (the "Consultant") for services with the following project (the "Project"):

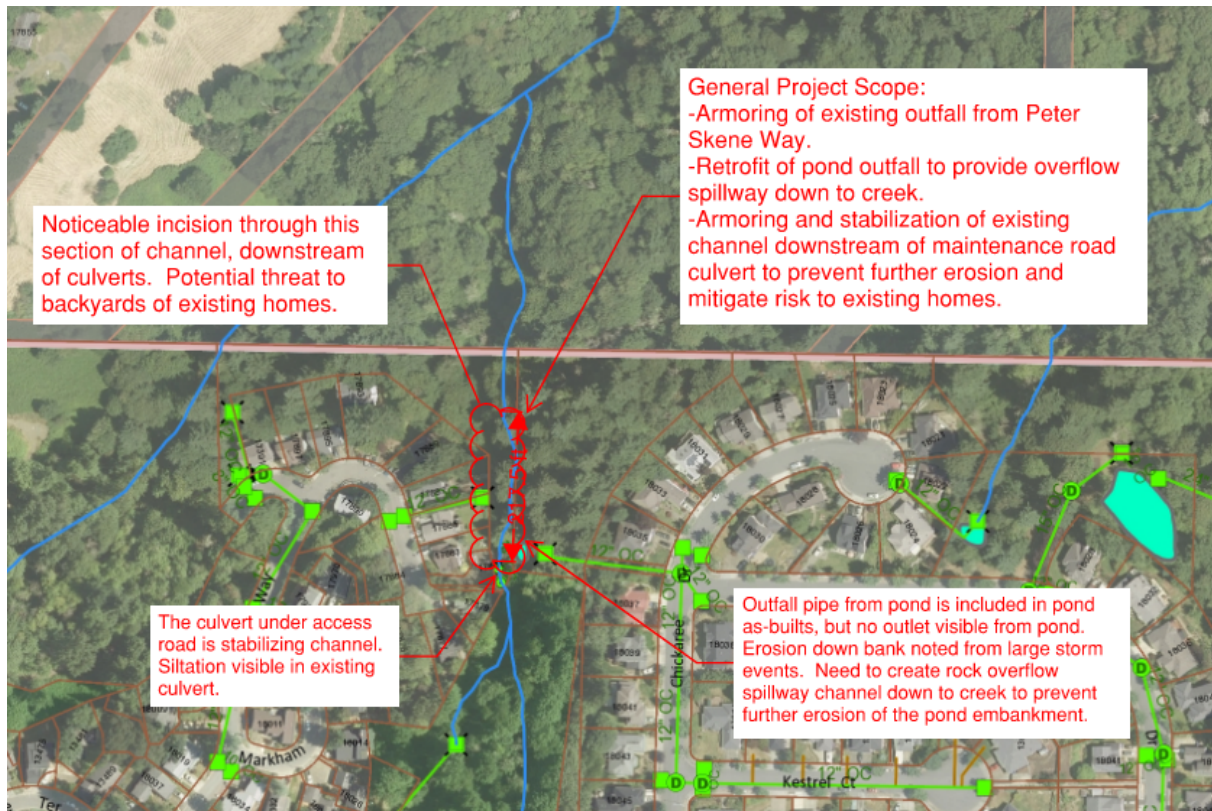
The City has experienced erosion within the existing stormwater pond and creek and would like to analyze and provide improvements to revise this pond and drainageway, and provide additional protection for the existing slope. The project will consist of environmental and storm analysis and improvements to protect the existing drainage system.

The City has previously completed a preliminary design for the Project under City Contract "CI 20-013, 2021 Waterline Replacement Projects and Barclay Hills Pump Station Stormwater Outfall Improvements". The preliminary design completed in that project is the basis for the Final Design in this Statement of Work.



Project Area:

The Project Area is shown in the figure below:



SPECIFIC SCOPE OF SERVICES

The following services are for the entire project which is to be completed by 3J staff and sub-consultants. The deliverables are listed for each task. Tasks include environmental, geotechnical engineering and civil engineering design. The tasks below are the result of our meeting with City staff and efforts as we understand them to be at this time. All work performed under this scope of work will be done in accordance with all applicable federal, state, and local design standards.

The design services work scope outlined below is anticipated to complete the project through construction.

Task 1.0	Project Management
Task 2.0	Final Engineering
Task 3.0	Bid Support
Task 4.0	Construction Services
Task 5.0	Extra Work as Authorized

TASK 1.0 Project Management

Project Administration

The duration of the project planning and design effort through construction is assumed to be nine (9) months from execution of the contract. The following items are included:

- Provide management, coordination and direction to the project team and sub-consultants for completing the project on time and on budget.
- Provide assistance in the day-to-day management and decision making for the project.
- Prepare and administer sub-consultant contracts.
- Track project costs and budgets on a monthly basis.
- Prepare monthly invoices for project and monthly summary reports. Nine (9) invoices and summary reports are included.

Project Scheduling

- Prepare and submit an activities list and schedule to the City following the notice-to-proceed. The schedule will show appropriate milestones for the project including intermediate and final submittal dates for design documents and key decision points.
- Revise project schedule to reflect changes in the project. Schedule updates will be completed monthly, or as requested by the City of Oregon City.

Project Meetings

The proposed approach to project coordination during design is to hold project meetings with key project team members and representatives from City of Oregon City and others as defined below. These will be scheduled and attended by the City's Project Manager. These meetings will have a specific agenda addressing and resolving project issues as they are encountered.

- Conduct periodic technical team meetings with the City of Oregon City and design staff to review comments received during the 90% and final project submittal for the project. These meetings will include the design engineer or project manager depending on the agenda. Assume up to

three (3) meetings, up to two hours each in duration, attended by 3J. Prepare the meeting agendas and summary notes for the meetings.

Task 1 Deliverables:

The following deliverables are part of this task:

- Monthly Summary Reports
- One (1) Draft schedule and up to six (6) schedule updates.
- Meeting Agenda and materials distributed prior to meetings.
- Attendance and participation at meetings as described herein.
- Draft summary notes

TASK 2.0 Final Engineering

90% Submittal

Prepare 90% Construction plans based on comments received from the City's from the preliminary plans.

- Prepare plan and profile sheets to the 90% level of completion based on the horizontal and vertical alignment.
- Illustrate locations of proposed easements and temporary construction easements.
- Prepare preliminary project details.
- Prepare preliminary storm drainage analysis outlining watershed basin of the channel to determine the flow in the flow and discharge at each outfall in the channel.
- Prepare preliminary storm drainage design for each existing pond outfall and destabilized areas in the channel.
- Prepare preliminary storm drainage report providing the preliminary design strategy to be implemented in the channel.
- Prepare updated construction cost estimate based on 90% design.

Deliverables:

The following deliverables are part of this task:

- One (1) electronic copy (.pdf) and hard copies of
 - 90% Construction Plans
 - Preliminary Stormwater Report
 - Updated Engineer's Opinion of Construction Cost based on the 90% design
 - Spreadsheet with review comments and responses.

100% Submittal

Prepare 100% Construction plans based on the City's comments to the 90% submittal.

- Prepare plan and profile sheets to the 100% level of completion based on the horizontal and vertical alignment.
- Finalize project details
- Prepare final storm drainage design for each existing pond out fall and destabilized areas in the channel.

- Prepare final storm drainage report providing the preliminary design strategy to be implemented in the channel.
- Prepare updated construction cost estimate based on final design.
- Address City review comments from 90% review in writing and within final design.

Prepare Technical Specifications

This task includes the following for the bid specification package:

- Identify appropriate technical sections from joint 2021 ODOT/APWA specifications to be included in project specifications.
- Prepare final technical specifications including special provisions based on the 90% design.
- Prepare City of Oregon City front end specifications.
- Address City comments to the special provisions
- Complete measurement and payment section for each project pay element.
- Finalize special provisions based on project constraints, property owner input, and identified construction impacts.

Environmental Studies / Reports

Consultant shall provide labor, equipment, and materials to complete the environmental assessment needs for the Barclay Hills Pump Station Stormwater Outfall Improvement project. The location of the project may contain wetlands and could require permits from the state and federal agencies and require addressing the Natural Resource Overlay District (NROD) code (per Oregon City Municipal Code, Chapter 17.49).

Address Natural Resource Overlay District (Chapter 17.49), if required by the City

- The City has mapped a Natural Resource Overlay District (NROD) on portions of the property. The Oregon City Municipal Code protects “sensitive areas” by enforcing a vegetated corridor around the outside of a wetland or creek. All development that does not meet the definition of a use allowed outright (exempted) is required to be reviewed by the city for compliance with Chapter 17.49 of the Oregon City Municipal Code. Mitigation for impacts the NROD is required.
- If the project requires an NROD review, Consultant will prepare a draft and final report describing the impacts and any mitigation that is required. It is assumed that our report will be reviewed by David Evans and Associates (DEA) on behalf of the City. This task includes responding to any comments that DEA has.
- PHS shall coordinate with representatives of 3J and the City throughout preparation of the NROD report to confirm design requirements and potential project effects. This coordination shall include correspondence in the form of telephone calls, e-mails, and meetings.

Update Previously Prepared Joint Permit Application

- A Joint Permit Application was prepared under the previous city project. Amendments to this application will be made to include the revised final design.
- Consultant will send a list of information that will be required for the application.
- Any permanent impacts to the wetland or the channel will need to be mitigated. This may require that we purchase credits from a mitigation bank. Consultant will coordinate with the mitigation banker and make a case for using the bank with DSL and the Corps. If on-site restoration of

mitigation is required, we will submit an additional proposal to cover the costs of preparing several documents that will be required by the agencies.

- The Corps can request a cultural resources review. Consultant believes a cultural resources survey will not be required, but if one is, we can recommend an archaeologist as we do not provide that service. If necessary, we will arrange an on-site meeting with the regulatory agencies to review the proposed plan prior to submittal of the JPA. We will also respond to any public comments received during the public review period.

Assumptions:

- The proposal does not include preparing a mitigation plan for the Corps and DSL
- The proposal does not include preparing an SFAM (stream function assessment)

Geotechnical Investigations / Reports

- Complete a detailed review of the existing information.
- Conduct a geologic reconnaissance to observe existing conditions of the east bank of the drainage channel in relation to those presented in the Slope Stability Memorandum.
- Provide a letter summarizing the results of our preliminary evaluation and our opinion relating to the adequacy of the conditions, conclusions, and recommendations of the Slope Stability Memorandum. The letter will include recommendations for additional geotechnical evaluations, if needed, and an opinion as to the adequacy of the proposed modified channel armoring cross section versus the originally planned section as it relates to slope stability.

Deliverables:

The following deliverables are part of this task:

- One (1) electronic copy (.pdf) and hard copies of
 - Construction Plans
 - Stormwater Report
 - Updated Engineer's Opinion of Construction Cost based on the Final design
 - Spreadsheet with review comments and responses.
 - Technical Specification
 - Full set of Bid Ready Documents (plans and specifications)
- Updated JPA Application
- NROD Report
- Updated Geotechnical Memorandum

TASK 3.0 Bid Support

Bid Support

- Provide design engineer for reviewing and answering questions via City interface with bidders.
- Support City in preparation of addenda's if required.
- Review Bids received
- Prepare Bid Tabulation Spreadsheet
- Prepare "Recommendation of Award Letter"

Deliverables:

The following deliverables are part of this task:

- Engineer available to answer technical questions during bid process
- Addenda preparation
- Bid Tabulation summary
- Recommendation of Award Letter

TASK 4.0 Construction Services

All construction assistance will be accomplished under the budget provided. Additional efforts during construction may require additional budget.

Technical Review of RFIs and Submittals

- Provide technical review of contractor requests for information (RFI) and Submittals.

Field Meetings

- Conduct periodic field meetings during construction at the request of the City Project Manager. Budget includes four (4) meetings.

Civil Engineering Site Observations/Inspections

- Barclay Hills Pump Station Stormwater Outfall Improvements
 - Provide Site observations to inspect stormwater improvement installations and provide written observations reports
 - Maintain as-constructed drawings/documentation for final as-built

Geotechnical Engineering Site Observations/Inspections

- Assuming that additional geotechnical explorations or geologic evaluation are not necessary and that, in our opinion, the Slope Stability Memorandum appropriately addresses geologic hazards for the project site, the purpose of our construction phase services will be to assume the role of Geotechnical Engineer of Record during project construction, and provide geotechnical construction observation services during earthwork construction to confirm that earthwork is completed in accordance with project plans and specifications as well as the recommendations of the Slope Stability Memorandum. Geotechnical construction observation services will be conducted by a member of our geotechnical staff and directly supervised by a professional engineer (PE) licensed in the State of Oregon. Our specific scope of services will include the following:
 1. Assume the role of Geotechnical Engineer of Record to provide project support.
 2. Provide part-time observation during general site grading and fill placement and compaction including observation of stripped subgrade and in-place density testing to evaluate relative compaction of structural fill by means of density testing or proof roll observation, as appropriate.
 3. Prepare field reports summarizing our observations after completion of each site visit.
 4. Provide project management, including review of field reports, consultation, responding to contractor requests for information (RFI) and client communication.
 5. Prepare a final summary letter for construction monitoring activities.

Punch List and Final Walk Through

- Conduct final walk through with the City Project Manager prior to City acceptance of the project.

As-built Documents

- Prepare as-built documents based on contractor mark-ups, design modifications during construction, and site observations.

Deliverables:

The following deliverables are part of this task:

- Preparation of RFI's if required
- Review of contractor submittals
- Field reports
- As-built documents

TASK 5.0 Extra Work as Authorized (Contingency Task)

Contingency budget is available only upon City authorization in writing.

S U M M A R Y O F F E E S

Task 1.0 Project Management	\$	9,600.00
Task 2.0 Final Engineering	\$	40,607.58
Task 3.0 Bid Support	\$	1,822.00
Task 4.0 Construction Services	\$	35,720.00
Task 5.0 Extra Work as Authorized	\$	20,000.00
Total Project Budget		\$ 107,809.58

SCHEDULE OF FEES

Standard Rates
(As of July 1, 2023)

Fees for professional services provided by 3J are based upon the time expended on the Project and the hourly fee rate for the professional or support staff performing the service. The following hourly rates will be used for any additional services not defined in the approved Scope of Services.

Civil Engineering Services

Principal Engineer	\$246
Director of Engineering	\$236
Chief Engineering Manager	\$234
Senior Project Manager	\$230
Project Manager II	\$194
Project Manager I	\$184
Senior Civil Engineering Manager	\$224
Civil Engineering Manager II	\$174
Civil Engineering Manager I	\$158
Senior Civil Engineer	\$162
Civil Engineer II	\$150
Civil Engineer I	\$140
Senior Civil Designer	\$140
Civil Designer II	\$128
Civil Designer I	\$116
Senior Civil Technician	\$124
Civil Technician II	\$114
Civil Technician I	\$102
Engineering Intern	\$ 80

Inspection Services

Senior Inspector	\$164
Inspector III	\$158
Inspector II	\$144
Inspector I	\$128

Development Specialist Services

Senior Development Specialist	\$164
Development Specialist III	\$154
Development Specialist II	\$144
Development Specialist I	\$128

Community Planning Services

Principal Planner	\$226
Director of Planning	\$214
Senior Planning Project Manager	\$194
Planning Project Manager II	\$184
Planning Project Manager I	\$174
Senior Urban Designer II	\$164
Senior Urban Designer I	\$144
Urban Designer II	\$130
Urban Designer I	\$114
Senior Planner II	\$164
Senior Planner I	\$144
Planner II	\$130
Planner I	\$114
Planning Assistant	\$ 94

GIS Services

Senior GIS Manager	\$164
GIS Manager	\$154
GIS Analyst II	\$140
GIS Analyst I	\$130
Senior GIS Technician	\$122
GIS Technician II	\$112
GIS Technician I	\$102

Graphic Design Services

Senior Graphic Designer	\$142
Graphic Designer II	\$124
Graphic Designer I	\$104

Administration Services

Administrative Project Specialist	\$116
Administrative Staff	\$ 98

STANDARD CONDITIONS TO OREGON CITY PERSONAL SERVICES AGREEMENT

Item 7e.

1. Consultant Identification. Consultant shall furnish to City its taxpayer identification number, as designated by the Internal Revenue Service, or Consultant's social security number, as City deems applicable.

2. Payment.

(a) Invoices submitted in connection with this Agreement shall be properly documented and shall identify the pertinent agreement and/or purchase order numbers.

(b) City agrees to pay Consultant within thirty (30) days after receipt of Consultant's itemized statement. Amounts disputed by City may be withheld pending settlement.

(c) City certifies that sufficient funds are available and authorized for expenditure to finance the cost of the services to be provided pursuant to this Agreement.

(d) City shall not pay any amount in excess of the compensation amounts set forth in this Agreement, nor shall City pay Consultant any fees or costs that City reasonably disputes.

3. Independent Consultant Status.

(a) Consultant is an independent consultant and is free from direction and control over the means and manner of providing labor or services, subject only to the specifications of the desired results.

(b) Consultant represents that it is customarily engaged in an independently established business and is licensed under ORS chapter 671 or 701, if the services provided require such a license. Consultant maintains a business location that is separate from the offices of the City and bears the risk of loss related to the business as demonstrated by the fixed price nature of the contract, requirement to fix defective work, warranties provided and indemnification and insurance provisions of this Agreement. Consultant provides services for two or more persons within a 12-month period or routinely engages in advertising, solicitation or other marketing efforts. Consultant makes a significant investment in the business by purchasing tools or equipment, premises or licenses, certificates or specialized training and

Consultant has the authority to hire or fire persons to provide or assist in providing the services required under this Agreement.

(c) Consultant is responsible for obtaining all assumed business registrations or professional occupation licenses required by state or local law (including applicable City or Metro business licenses as per Oregon City Municipal Code Chapter 5.04). Consultant shall furnish the tools or equipment necessary for the contracted labor or services. Consultant agrees and certifies that:

(d) Consultant is not eligible for any federal social security or unemployment insurance payments. Consultant is not eligible for any PERS or workers' compensation benefits from compensation or payments made to Consultant under this Agreement.

(e) Consultant agrees and certifies that it is licensed to do business in the State of Oregon and that, if Consultant is a corporation, it is in good standing within the State of Oregon.

4. Early Termination.

(a) This Agreement may be terminated without cause prior to the expiration of the agreed-upon term by mutual written consent of the parties or by the City upon ten (10) days written notice to the Consultant, delivered by certified mail, email, or in person.

(b) Upon receipt of notice of early termination, Consultant shall immediately cease work and submit a final statement of services for all services performed and expenses incurred since the date of the last statement of services.

(c) Any early termination of this Agreement shall be without prejudice to any obligation or liabilities of either party already accrued prior to such termination.

(d) The rights and remedies of the City provided in this Agreement and relating to defaults by Consultant shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

5. No Third-Party Beneficiaries. City and

STANDARD CONDITIONS TO OREGON CITY PERSONAL SERVICES AGREEMENT

Item 7e.

Consultant are the only parties to this Agreement and are the only parties entitled to enforce its terms. Nothing in this Agreement gives, is intended to give, or shall be construed to give or provide, any benefit or right, whether directly or indirectly or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Agreement.

6. Payment of Laborers; Payment of Taxes.

(a) Consultant shall:

(i) Make payment promptly, as due, to all persons supplying to Consultant labor and materials for the prosecution of the services to be provided pursuant to this Agreement.

(ii) Pay all contributions or amounts due to the State Accident Insurance Fund incurred in the performance of this Agreement.

(iii) Not permit any lien or claim to be filed or prosecuted against the City on account of any labor or materials furnished.

(iv) Be responsible for all federal, state, and local taxes applicable to any compensation or payments paid to the Consultant under this Agreement and, unless Consultant is subject to back-up withholding, the City will not withhold from such compensation or payments any amount(s) to cover Consultant's federal or state tax obligation.

(v) Pay all employees at least time and one-half for all overtime worked in excess of forty (40) hours in any one week, except for individuals excluded under ORS 653.100 to 653.261 or under 29 U.S.C. §§ 201 to 209 from receiving overtime.

(b) If the Consultant fails, neglects or refuses to make prompt payment of any claim for labor or services furnished by any person in connection with this Agreement as such claim becomes due, the City may pay such claim to the person furnishing the labor or services and shall charge the amount of the payment against funds due or to become due to the Consultant by reason of this Agreement.

(c) The payment of a claim in this manner shall not relieve Consultant or Consultant's surety from obligation with respect to any unpaid claims.

(d) Consultant and subconsultants, if any, are subject employers under the Oregon workers' compensation law and shall comply with ORS 656.017, which requires provision of workers' compensation coverage for all workers.

7. Subconsultants and Assignment.

Consultant shall neither subcontract any of the work, nor assign any rights acquired hereunder, without obtaining prior written approval from the City. The City, by this Agreement, incurs no liability to third persons for payment of any compensation provided herein to the Consultant.

8. Access to Records. City shall have access to all books, documents, papers and records of Consultant that are pertinent to this Agreement for the purpose of making audits, examinations, excerpts and transcripts.

9. Ownership of Work Product; License. All work products of Consultant that result from this Agreement (the "Work Products") are the exclusive property of City. In addition, if any of the Work Products contain intellectual property of Consultant that is or could be protected by federal copyright, patent, or trademark laws, or state trade secret laws, Consultant hereby grants City a perpetual, royalty-free, fully paid, nonexclusive and irrevocable license to copy, reproduce, deliver, publish, perform, dispose of, use and re-use, in whole or in part (and to authorize others to do so), all such Work Products and any other information, designs, plans, or works provided or delivered to City or produced by Consultant under this Agreement. The parties expressly agree that all works produced (including, but not limited to, any taped or recorded items) pursuant to this Agreement are works specially commissioned by City, and that any and all such works shall be works made for hire in which all rights and copyrights belong exclusively to City. Consultant shall not publish, republish, display or otherwise use any work or Work Products resulting from this Agreement without the prior written agreement of City.

10. Compliance With Applicable Law.

STANDARD CONDITIONS TO OREGON CITY PERSONAL SERVICES AGREEMENT

Item 7e.

Consultant shall comply with all federal, state, and local laws and ordinances applicable to the services to be performed pursuant to this Agreement, including, without limitation, the provisions of ORS 279B.220, 279C.515, 279B.235, 279B.230 and 279B.270. Without limiting the generality of the foregoing, Consultant expressly agrees to comply with (i) Title VI of the Civil Rights Act of 1964; (ii) Section V of the Rehabilitation Act of 1973; (iii) the Americans With Disabilities Act of 1990 (Pub. L No. 101-336), ORS 659.425, and all regulations and administrative rules established pursuant to those laws; and (iv) all other applicable requirements of federal and state civil rights and rehabilitation and other applicable statutes, rules and regulations.

11. Professional Standards. Consultant shall be responsible, to the level of competency presently maintained by others practicing in the same type of services in City's community, for the professional and technical soundness, accuracy and adequacy of all services and materials furnished under this authorization.

12. Modification, Supplements or Amendments. No modification, change, supplement or amendment of the provisions of this Agreement shall be valid unless it is in writing and signed by the parties hereto.

13. Indemnity and Insurance.

(a) Indemnity. Consultant acknowledges responsibility for liability arising out of Consultant's negligent performance of this Agreement and shall hold City, its officers, agents, Consultants, and employees harmless from, and indemnify them for, any and all liability, settlements, loss, costs, and expenses, including attorney fees, in connection with any action, suit, or claim caused or alleged to be caused by the negligent acts, omissions, activities or services by Consultant, or the agents, Consultants or employees of Consultant provided pursuant to this Agreement.

(b) Workers' Compensation Coverage. Consultant certifies that Consultant has qualified for workers' compensation as required by the State of Oregon. Consultant shall provide the Owner, within ten (10) days after execution of this Agreement, a certificate of insurance evidencing

coverage of all subject workers under Oregon's workers' compensation statutes. The insurance certificate and policy shall indicate that the policy shall not be terminated by the insurance carrier without thirty (30) days' advance written notice to City. All agents or Consultants of Consultant shall maintain such insurance.

(c) Comprehensive, General, and Automobile Insurance. Consultant shall maintain comprehensive general and automobile liability insurance for protection of Consultant and City and for their directors, officers, agents, and employees, insuring against liability for damages because of personal injury, bodily injury, death, and broad-form property damage, including loss of use, and occurring as a result of, or in any way related to, Consultant's operation, each in an amount not less than \$2,000,000 combined, single-limit, per-occurrence/\$4,000,000 annual aggregate. Such insurance shall name City as an additional insured, with the stipulation that this insurance, as to the interest of City, shall not be invalidated by any act or neglect or breach of this Agreement by Consultant.

(d) Errors and Omissions Insurance Consultant shall provide City with evidence of professional errors and omissions liability insurance for the protection of Consultant and its employees, insuring against bodily injury and property damage arising out of Consultant's negligent acts, omissions, activities or services in an amount not less than \$500,000 combined, single limit. Consultant shall maintain in force such coverage for not less than three (3) years following completion of the project. Such insurance shall include contractual liability.

Within ten (10) days after the execution of this Agreement, Consultant shall furnish City a certificate evidencing the dates, amounts, and types of insurance that have been procured pursuant to this Agreement. Consultant will provide for not less than thirty (30) days' written notice to City before the policies may be revised, canceled, or allowed to expire. Consultant shall not alter the terms of any policy without prior written authorization from City. The provisions of this subsection apply fully to Consultant and its Consultants and agents.

**STANDARD CONDITIONS TO OREGON CITY
PERSONAL SERVICES AGREEMENT**

Item 7e.

14. Legal Expenses. In the event legal action is brought by City or Consultant against the other to enforce any of the obligations hereunder or arising out of any dispute concerning the terms and conditions hereby created, the losing party shall pay the prevailing party such reasonable amounts for attorney fees, costs, and expenses as may be set by a court. "Legal action" shall include matters subject to arbitration and appeals.

15. Severability. The parties agree that, if any term or provision of this Agreement is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected.

16. Number and Gender. In this Agreement, the masculine, feminine or neuter gender, and the singular or plural number, shall be deemed to include the others or other whenever the context so requires.

17. Captions and Headings. The captions and headings of this Agreement are for convenience only and shall not be construed or referred to in resolving questions of interpretation or construction.

18. Hierarchy. The conditions contained in this document are applicable to every Personal Services Agreement entered into by the City of Oregon City in the absence of contrary provisions. To the extent there is a conflict, the terms of the Personal Services Agreement will control over the terms of the standard conditions. To the extent there is a conflict between the terms of the standard conditions and any other document, including the scope of services, the terms of the standard conditions shall control those other terms.

19. Calculation of Time. All periods of time referred to herein shall include Saturdays, Sundays and legal holidays in the State of Oregon, except that, if the last day of any period falls on any Saturday, Sunday or legal holiday, the period shall be extended to include the next day that is not a Saturday, Sunday or legal holiday.

20. Notices. Any notices, bills, invoices, reports or other documents required by this Agreement shall be sent by the parties by United

States mail, postage prepaid, or personally delivered to the addresses listed in the Agreement attached hereto. All notices shall be in writing and shall be effective when delivered. If mailed, notices shall be deemed effective forty-eight (48) hours after mailing, unless sooner received.

21. Nonwaiver. The failure of City to insist upon or enforce strict performance by Consultant of any of the terms of this Agreement or to exercise any rights hereunder shall not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights of any future occasion.

22. Information and Reports. Consultant shall, at such time and in such form as City may require, furnish such periodic reports concerning the status of the project, such statements, certificates, approvals, and copies of proposed and executed plans and claims, and other information relative to the project as may be requested by City. Consultant shall furnish City, upon request, with copies of all documents and other materials prepared or developed in relation with or as a part of the project. Working papers prepared in conjunction with the project are the property of City, but shall remain with Consultant. Copies as requested shall be provided free of cost to City.

23. City's Responsibilities. City shall furnish Consultant with all available necessary information, data, and materials pertinent to the execution of this Agreement. City shall cooperate with Consultant in carrying out the work herein and shall provide adequate staff for liaison with Consultant.

24. Arbitration.

All disputes arising out of or under this Agreement shall be timely submitted to nonbinding mediation prior to commencement of any other legal proceedings. The subsequent measures apply if disputes cannot be settled in this manner.

(a) Any dispute arising out of or under this Agreement shall be determined by binding arbitration.

(b) The party desiring such arbitration shall give written notice to that effect to the other party

**STANDARD CONDITIONS TO OREGON CITY
PERSONAL SERVICES AGREEMENT**

Item 7e.

and shall in such notice appoint a disinterested person of recognized competence in the field as arbitrator on its behalf. Within fifteen (15) days thereafter, the other party may, by written notice to the original party, appoint a second disinterested person of recognized competence as arbitrator on its behalf. The arbitrators thus appointed shall appoint a third disinterested person of recognized competence, and the three arbitrators shall, as promptly as possible, determine such matter, provided, however, that:

(i) If the second arbitrator is not appointed as described above, then the first arbitrator shall proceed to determine such matter; and

(ii) If the two arbitrators appointed by the parties are unable to agree, within fifteen (15) days after the second arbitrator is appointed, on the appointment of a third arbitrator, they shall give written notice of such failure to agree to the parties and, if the parties fail to agree on the selection of the third arbitrator within fifteen (15) days after the arbitrators appointed by the parties give notice, then, within ten (10) days thereafter, either of the parties, on written notice to the other party, may request such appointment by the presiding judge of the Clackamas County Circuit Court.

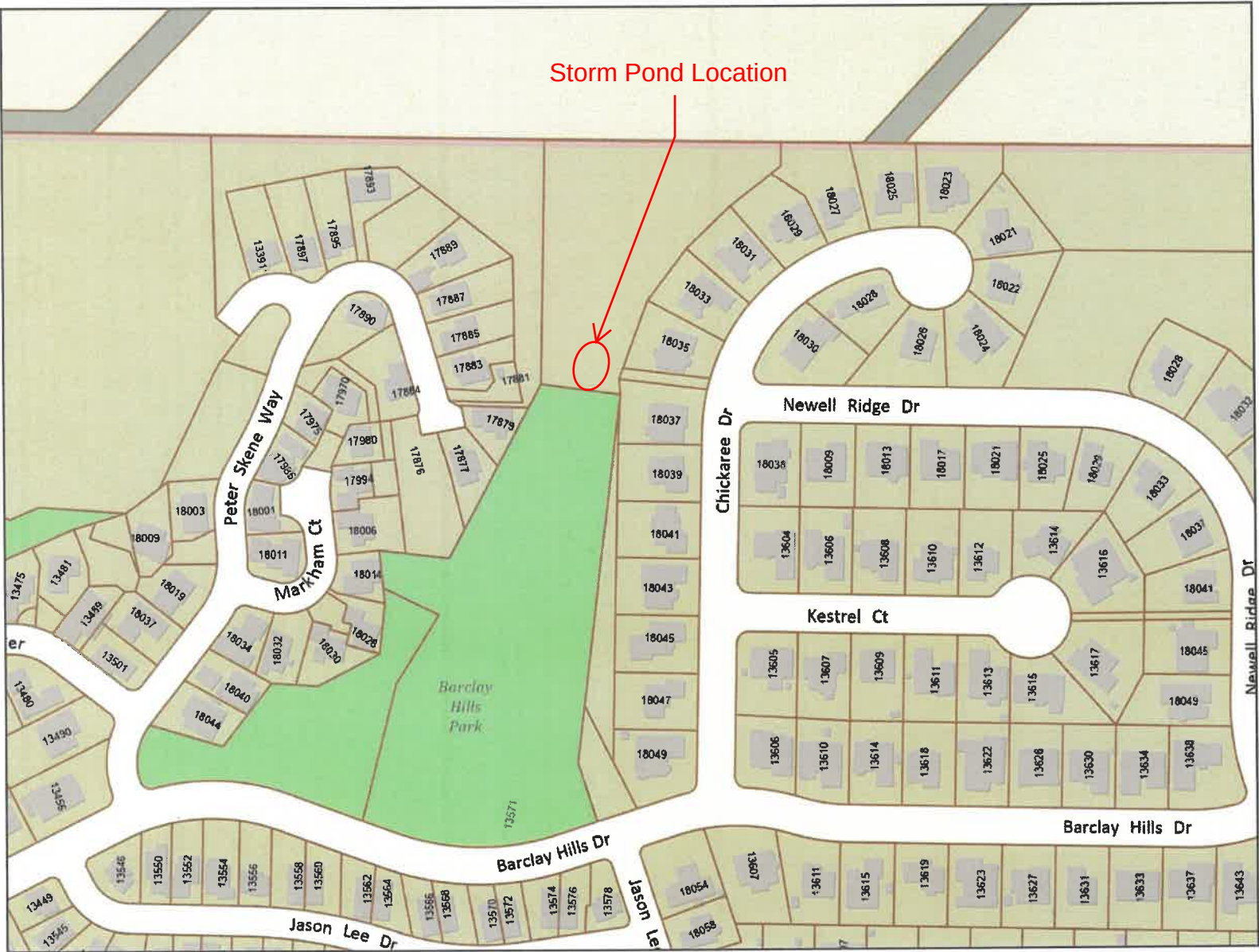
(c) Each party shall each be entitled to present evidence and argument to the arbitrators. The determination of the majority of the arbitrators or the sole arbitrator, as the case may be, shall be conclusive on the parties, and judgment on the same may be entered in any court having jurisdiction over the parties. The arbitrators or the sole arbitrator, as the case may be, shall give written notice to the parties, stating the arbitration determination, and shall furnish to each party a

signed copy of such determination. Arbitration proceedings shall be conducted pursuant to ORS 33.210 et seq. and the rules of the American Arbitration Association, except as provided otherwise.

(d) Each party shall pay the fees and expenses of the arbitrator appointed by such party and one-half of the fees and expenses of the third arbitrator, if any.

25. Governing Law. This Agreement shall be governed and construed in accordance with the laws of the state of Oregon without resort to any jurisdiction's conflicts of law, rules or doctrines.

Oregon City GIS Map



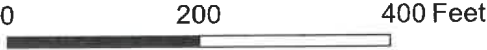
Legend

- Street Names
- Taxlots
- Unimproved ROW
- City Limits
- UGB
- Basemap

Notes



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.



1:2,400

Barclay Hills Storm Pond

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.oregoncity.org





CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission **Agenda Date:** 1/17/2024
From: Christina Robertson-Gardiner, Senior Planner

SUBJECT:

First Reading of Ordinance Number 23-1010: GLUA 23-000033/LEG-23-00002- Adopt the Oregon City Loop Trail Refinement Plan into the Oregon City Transportation System Plan, an ancillary document to the Comprehensive Plan

STAFF RECOMMENDATION:

Staff recommends the City Commission approve the first reading of Ordinance 23-1010 and GLUA 23-000033/LEG-23-00002

EXECUTIVE SUMMARY:

The project's central concept is that local governments should plan public services in accordance with the community's needs as a whole rather than be forced to respond to individual developments as they occur. The Oregon City Loop Trail Refinement Plan will provide a design for public facilities and a means to obtain future funding.

The Oregon City Loop Trail Refinement Plan analyzes existing conditions and provides direction for future development, funding, and needs for several segments of the previously adopted Loop Trail. The plan provides cross-sections of shared use paths to be used as a guide for future land use actions. The plan also includes construction cost estimates and contingencies for the planning and design of recommended system facilities.

The Oregon City Loop Trail Refinement Plan will be added to the Oregon City Transportation System Plan (TSP) as an additional document. The TSP is a technical document and conceptual guide that needs regular review and is a supplementary document to the Oregon City Comprehensive Plan. By approving the refined plan, it will be possible to implement it through proportional exactions at the time of any abutting land use proposal and will provide the necessary details to apply for competitive grants and implement one or more alignments through a future capital improvement project.

The refinement plan is consistent with the Oregon City Comprehensive Plan's vision, policies, and strategies. By providing safe connections between neighborhoods,

commercial centers, and community amenities, the trail segments provide additional opportunities for residents to walk or bike for shorter trips.

The Planning Commission unanimously recommended the City Commission approve the proposal on December 11, 2023.

BACKGROUND:

The Oregon City Loop Trail is a regional pathway that connects people traveling on foot, bicycles, or other small mobility devices to neighboring communities. It will form a loop around Oregon City through shared-use and on-street connections. The purpose of adopting the ambitious loop trail in 2013 into the Transportation System Plan (TSP) was to provide direction for long-term buildout. Some of the trail locations are outside the city limits and will be completed by governmental partners such as Metro and Clackamas County.

The loop trail segments are located in the southern section of the city (Gaffney Lane, Hillendale, Hazel Farm/Westling Grove, Caulfield Neighborhoods) within existing residential areas developed from the 1970s to the 2000s. These areas have traditionally received less attention for pedestrian and bike improvements.

This refinement plan looks at specific segments within the city limits that were identified as needing additional clarity. Some of the identified segments will be built by private development through the land use process, while others may be built as part of a future capital improvement project. Adopting a refinement document is an important step in applying for future construction grants. The refinement plan includes different funding sources that the City can use to design and construct the routes.

This plan focuses on refining two segments of the Loop Trail and two other paths connecting local users to the Loop Trail. The plan includes four segments, which are depicted in Figure 1.

- Meyers-Beavercreek Shared Use Path (S-22)
- Meyers Road Shared Use Path (S-23)
- Gaffney Lane Elementary Shared Use Path (S-24)
- Orchard Grove-Hazelnut Shared Use Path (S-30)

The refinement plan includes recommended alignments and cross-sections, planning-level cost estimates, and phasing that could be considered to align the construction of the paths with available funding.

OPTIONS:

1. Approve First Reading of Ordinance Number 23-1010: GLUA 23-000033/LEG-23-00002
2. Continue the First Reading of Ordinance Number 23-1010: GLUA 23-000033/LEG-23-00002 to the February 7, 2024 City Commission hearing with instructions for additional information or changes.



OREGON CITY

Planning Division and Public Works: Development Services

695 Warner Parrott Road | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LEGISLATIVE STAFF REPORT AND RECOMMENDATION

A preliminary analysis of the applicable approval criteria for a legislative proposal is enclosed within the following report.

December 1, 2023

HEARING DATE: December 11, 2023 - Planning Commission

FILE NUMBER: GLUA 23-000033/LEG-23-00002

APPLICATION TYPE: Legislative (OCMC 17.50.170)

APPLICANT: City of Oregon City, c/o Public Works Department,
PO Box 3040, Oregon City, OR 97045
John Lewis, Public Works Director

REQUEST: Adopt the Oregon City Loop Trail Refinement Plan into the Oregon City Transportation System Plan, an ancillary document to the Comprehensive Plan.

LOCATION(S): City Wide + Gaffney Lane, Hillendale, Hazel Farm/Westling Grove, Caulfield Neighborhoods

17.50.170 - Legislative hearing process.

A. Purpose. Legislative actions involve the adoption or amendment of the city's land-use regulations, comprehensive plan, maps, inventories and other policy documents that affect the entire city or large portions of it. Legislative actions which affect land use must begin with a public hearing before the planning commission.

B. Planning Commission Review.

1. Hearing Required. The planning commission shall hold at least one public hearing before recommending action on a legislative proposal. Any interested person may appear and provide written or oral testimony on the proposal at or prior to the hearing. The community development director shall notify the Oregon Department of Land Conservation and Development (DLCD) as required by the post-acknowledgment procedures of ORS 197.610 to 197.625, as applicable.

2. The community development director's Report. Once the planning commission hearing has been scheduled and noticed in accordance with Section 17.50.090(C) and any other applicable laws, the community development director shall prepare and make available a report on the legislative proposal at least seven days prior to the hearing.

3. Planning Commission Recommendation. At the conclusion of the hearing, the planning commission shall adopt a recommendation on the proposal to the city commission. The planning commission shall make a report and recommendation to the city commission on all legislative proposals. If the planning commission recommends adoption of some form of the proposal, the planning commission shall prepare and forward to the city commission a report and recommendation to that effect.

1

LEG 23-00002

C. City Commission Review.

1. City Commission Action. Upon a recommendation from the planning commission on a legislative action, the city commission shall hold at least one public hearing on the proposal. Any interested person may provide written or oral testimony on the proposal at or prior to the hearing. At the conclusion of the hearing, the city commission may adopt, modify or reject the legislative proposal, or it may remand the matter to the planning commission for further consideration. If the decision is to adopt at least some form of the proposal, and thereby amend the city's land-use regulations, comprehensive plan, official zoning maps or some component of any of these documents, the city commission decision shall be enacted as an ordinance.

2. Notice of Final Decision. Not later than five days following the city commission final decision, the community development director shall mail notice of the decision to DLCD in accordance with ORS 197.615(2).

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722-3789.

Executive Summary

The project's central concept is that local governments should plan public services in accordance with the community's needs as a whole rather than be forced to respond to individual developments as they occur. The Oregon City Loop Trail Refinement Plan will provide a design for public facilities as well to obtain future funding.

The Oregon City Loop Trail Refinement Plan analyzes existing conditions and provides direction for future development, funding, and needs for several segments of the previously adopted Loop Trail. The plan provides cross-sections of shared use paths to be used as a guide for future land use actions. The plan also includes construction cost estimates and contingencies for the planning and design of recommended system facilities.

The Oregon City Loop Trail Refinement Plan will be added to the Oregon City Transportation System Plan (TSP) as an additional document. The TSP is a technical document and conceptual guide that needs regular review and is itself a supplementary document to the Oregon City Comprehensive Plan. By approving the refined plan, it will be possible to implement it through proportional exactions at the time of any abutting land use proposal and will provide the necessary details to apply for competitive grants and implement one or more alignments through a future capital improvement project.

I. PROJECT DESCRIPTION/BACKGROUND:

File No. LEG-23-0002 updates the Oregon City Transportation System Plan by adopting the Park Place Urbanization Plan. The Oregon City Transportation System Plan is an ancillary document to the Oregon City Comprehensive Plan.

The Oregon City Loop Trail is a regional pathway that connects people traveling on foot, bicycles, or other small mobility devices to neighboring communities. It will form a loop around Oregon City through shared-use and on-street connections. This plan focuses on refining two segments of the Loop Trail and two other paths connecting local users to the Loop Trail. The plan includes four segments, which are depicted in Figure 1.

- Meyers-Beavercreek Shared Use Path (S-22)
- Meyers Road Shared Use Path (S-23)
- Gaffney Lane Elementary Shared Use Path (S-24)
- Orchard Grove-Hazelnut Shared Use Path (S-30)

The City's Transportation System Plan (TSP) adopted in 2013, aimed to address transportation issues by prioritizing a multimodal approach. This approach focuses on enhancing options for people to walk and bike within the city. The TSP goals, objectives, and project list all incorporate this strategy. Goal 1 of the TSP states that the City should ensure that the transportation system maintains and improves individual health, safety, and security by maximizing the comfort and convenience of walking, biking, and transit options, public safety, and service access. By refining the four segments in this plan, the city can advance the objective of providing a network of family-friendly walking and biking routes. The refinement plan also includes potential funding sources for the City to design and construct these paths. This aligns with the City's goal of identifying transportation investments that can be made with available funding.

Upon completion, the Oregon City Loop Trail will create a loop around Oregon City, providing travelers with off-street paths and on-street connections along local roadways. This refinement plan was developed to further define two segments of the Loop Trail and two ancillary paths that will create local connections to the Loop Trail. This plan includes recommended alignments and cross-sections, planning-level cost estimates, and phasing that could be considered to align the construction of the paths with available funding. Some areas of the trails are urban (such as these segments), and others will be constructed in a more rural setting in cooperation with Clackamas County or Metro and will need further refinement.

The plan outlines various funding sources that the City can consider to facilitate the design and construction of the paths. This plan enables the City to incorporate projects into the Capital Improvement Program (CIP), require new developments to design and construct parts of the path and apply for grant funding. This will help the City achieve its goal of improving options for pedestrians and cyclists within the City.

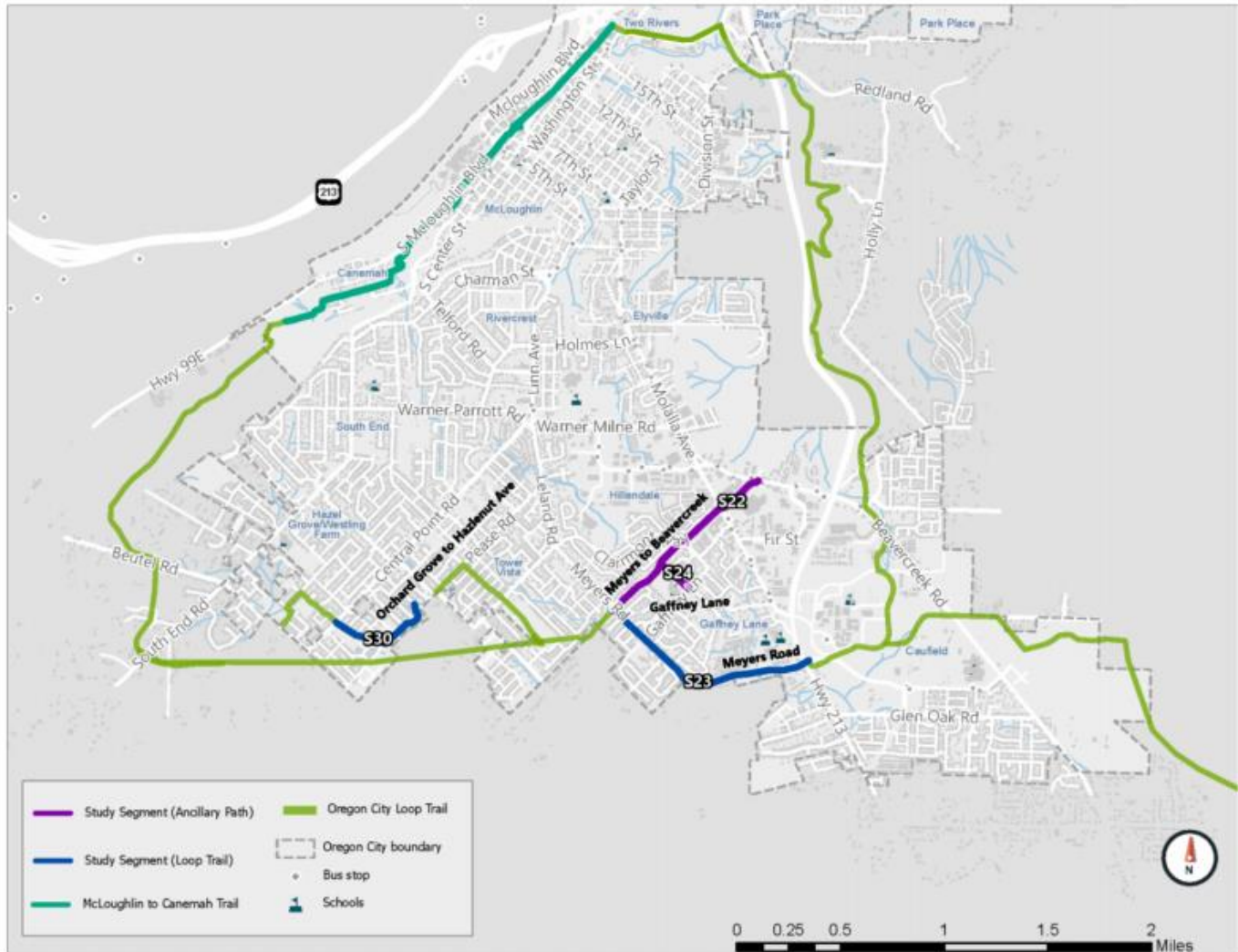


Figure 1: Project Area – the blue and purple refinement segments S22, S23, S24, S30- are subject to this approval. The green segment is the previously approved OC Loop trail.

Outcomes

This plan includes the recommended alignment and cross-section for the four paths, phasing that could be used to implement the identified shared use path segments based on funding availability, and planning-level cost estimates. This work is an important piece in the larger approach of implementing the OC Loop Trail over time.

Meyers-Beavercreek Shared Use Path (Project S-22)

The Meyers-Beavercreek Shared Use Path is an ancillary path to the Oregon City Loop Trail that will provide an off-street connection for people walking, biking, and using other small mobility devices. This path will connect people from planned regional trails to Meyers Road.

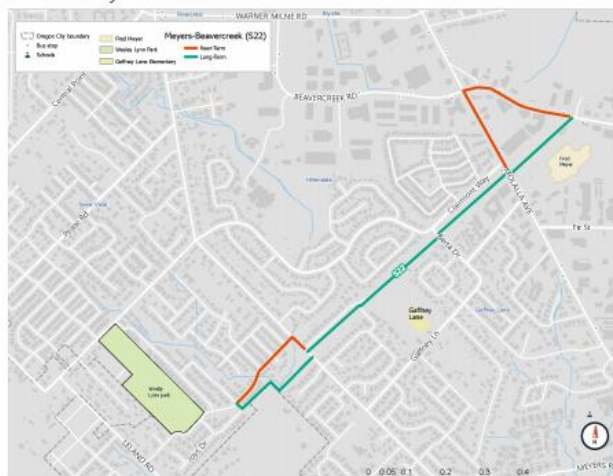


Figure ES-2. Meyers-Beavercreek Alignment

Proposed Cross-Section

The proposed cross-section for this path includes a 12-foot shared use path that is separated from existing roadways by a landscape buffer that will be at least four-feet wide. While the buffer will not be required when the path is not adjacent to roadways, adequate space will be provided to maintain separation from surrounding houses and private property. For additional cross-sections for this path, see **Appendix C: Concepts & Cross-Sections**.

Estimated Cost:

Beavercreek Road to Meyers Road - \$2.9M-\$4.4M

Near-Term: Meyers Road to Wesley Lynn Park - \$325K-\$485K

Long-Term: Meyers Road to Wesley Lynn Park - \$2.5M-\$3.8M

Total Long-Term: \$5.4M-\$8.2M

Proposed Alignment

The alignment for this path includes two segments that will require substantial coordination and funding to implement. To provide an option that could be implemented sooner, two near-term alignments have been identified. These include:

- **Beavercreek Road to Molalla Avenue** where the near-term alignment uses existing sidewalks and bicycle infrastructure while the long-term alignment provides a direct connection through existing parking lots.
- **Meyers Road to Joys Drive** where the near-term alignment uses existing infrastructure while the long-term alignment constructs a new path through existing green space.



Figure ES-3. Meyers-Beavercreek Cross-Section

ES-3

Executive Summary

Meyers Road Shared Use Path (Project S-23)

The Meyers Shared Use Path is a portion of the Oregon City Loop Trail that will connect people walking, biking, and using other small mobility devices from Oregon Route 213 (OR-213) to the Meyers-Beavercreek Shared Use Path. This path will also provide an important connection from residential areas along Meyers Road to Clackamas County Community College and Oregon City High School.



Figure ES-4. Meyers Road Alignment

Proposed Cross-Section

The cross-section for this path includes a 12-foot shared use path on the north side of Meyers Road. To achieve this, the on-street bicycle lanes will be removed and everyone riding bicycles and small mobility devices will use the shared use path. Moving the bicyclists and small mobility users to the shared use path will allow for moving the north curb in to create space to widen the existing sidewalk and provide a landscaped buffer without substantial impacts to residential properties.

Estimated Cost: \$4.8M-\$7.2M

Proposed Alignment

After a detailed evaluation, the north side of Meyers Road was selected as the ultimate location for the shared use path to:

- Keep the entire shared use path within the City's boundary
- Leverage the Right-of-Way allocated to the continuous sidewalks that exist today
- Minimize impacts to utilities
- Minimize the need to cross Meyers Road if you are accessing the path from the Gaffney Lane neighborhood



Figure ES-5. Meyers Road Cross-Section

ES-4

Gaffney Lane Shared Use Path (Project S-24)

The Gaffney Lane Elementary Shared Use Path is an ancillary path that will connect people using the Meyers-Beavercreek Path to Gaffney Lane Elementary Path. This path exists today and is used by people connecting to the school and open space located behind the school. This refinement plan is not making recommendations to change the alignment but has identified the appropriate cross-section to formalize the path.



Figure ES-6. Gaffney Lane Alignment

Proposed Cross-Section & Cost-Estimate

The proposed cross-section for this path includes a 12-foot shared use path that is separated from surrounding properties by existing fences.

Estimated Cost: \$472,000 to \$708,000

Proposed Alignment

This alignment utilizes the existing rudimentary path that exists today. This path will create an off-street connection for families who live in the surrounding neighborhoods who may choose to walk to school if safe and comfortable facilities that are separated from vehicles are provided.

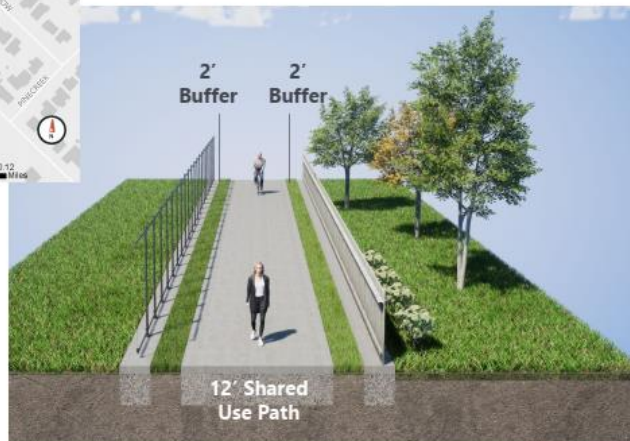


Figure ES-7. Gaffney Lane Cross-Section

ES-5

Executive Summary

Orchard Grove-Hazelnut Shared Use Path (Project S-30)

The Orchard Grove-Hazelnut Shared Use Path is a portion of the Loop Trail that will connect people walking, biking, and using other small mobility devices from Orchard Grove Drive to Hazelnut Court, Hazel Grove Park, and John McLoughlin Elementary School. This portion of the plan will serve as guidance for developers, which will likely be required to fund and build this portion of the Oregon City Loop Trail as development occurs.



Figure ES-8. Orchard Grove-Hazelnut Alignment

Proposed Cross-Section & Cost-Estimate

The proposed cross-section utilizes existing streets and sidewalks. The primary addition to existing infrastructure included in the recommended cross-section is the addition of sharrows to indicate the people riding a bicycle or other small mobility devices should use the vehicle travel lane and alert drivers that they should be prepared to share the lane and help to create "family-friendly" streets.

Estimated Cost: \$56,000 to \$84,000

Proposed Alignment

This portion of the Loop Trail runs from Hazeldell Avenue to S. Central Point Road. Unlike other segments refined as part of this plan, the recommended alignment for this portion of the Trail utilizes on-street facilities for people riding a bicycle and sidewalks for people walking.

When construction occurs in the undeveloped lot, it is recommended that the connection be built consistent with the existing Hazelnut alignment.

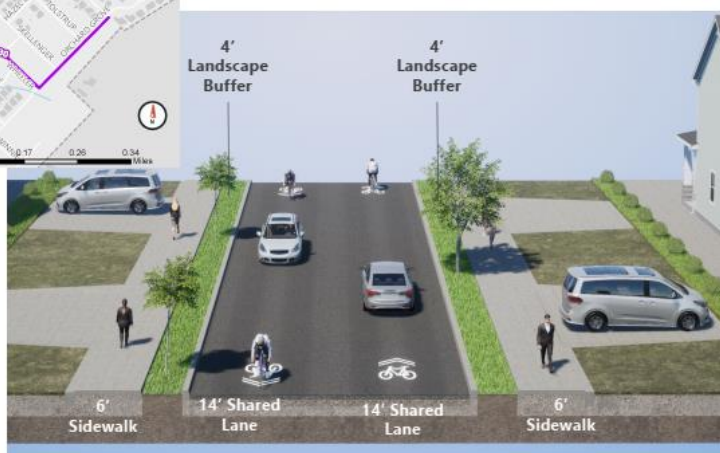


Figure ES-9. Orchard Grove-Hazelnut Cross-Section

ES-6

Adoption Process

Adoption of the plan is a legislative action that requires review and recommendation from the Planning Commission prior to adoption by the City Commission.

Public Notice and Comments

This legislative action requires public notice pursuant to OCMC 17.50.090.C. - *Notice of Public Hearing on a Legislative Proposal*. The Community Development Director provided the required Post Acknowledgement Plan Amendment (PAPA) notice to the Oregon Department of Land Conservation and Development on November 1, 2023. Notice of the December 11, 2023 Planning Commission public hearing was provided to the Citizen Involvement Committee, Neighborhood Associations, and affected service districts, agencies, and parties by email.

No public comments were received before the publication of this staff report.

Public Outreach During Plan Creation

While portions of the alignments identified in this plan can be constructed on property currently owned by the City, in some cases, easements will be required to connect the paths through privately held properties.

To understand concerns from property owners and agencies that could have large portions of the shared use paths traversing or adjacent to their properties, stakeholder interviews were completed early in the planning process. Stakeholder interviews also included representatives from key destinations along the paths and regional planning agencies.

Representatives from the following agencies participated in stakeholder interviews:

- Clackamas County Community College
- Deering Property Management
- Gaffney Lane Neighborhood Association
- Oregon City Parks Department
- Portland General Electric (PGE)
- Metro
- Oregon City School District
- Oregon City Parks Department

A representative from ODOT attended the pre-application meeting and commented to ensure ODOT standards are followed if an ODOT facility is impacted by a future design and construction.

The Oregon City Loop Trail Refinement Plan has been available for review on the Public Works Projects Page of the Oregon City website www.orcity.org (see screenshot below).



Oregon City Loop Trail Plan

Project ID: PS 22-002	Project Status: Active
Project Type: Master Planning	Date Received: Monday, April 18, 2022
Project Contact Information: Josh Wheeler, 971-204-4634	Project Dates: May 1, 2022 - February 29, 2024
	Project Budget: \$100,000

The Oregon City Loop Trail consists of several segments from the City's Transportation System Plan (TSP) and is featured as a regional trail in the City's Trails Master Plan.

The Trails Master Plan describes the trail as "creating a loop around Oregon City, utilizing the east side of the Newell Creek Canyon, and linking to the Beaver Lake Trail." It is listed as Project R3.

The Oregon City Loop Trail consists of TSP projects S23, S22, S24, S26, and S30 within the City Limits. Outside of the City Limits, the trail consists of TSP projects S35, S32, S33 and S13.

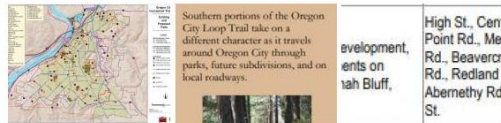
This plan will provide specifics to the TSP projects within City Limits on where to build the trail and what type of trail to build (widened sidewalks, asphalt path, gravel path, etc.) through an engineering and planning analysis and a public involvement process.

Fehr & Peers was the consulting firm selected by the City to prepare the Plan.

A survey was available from September 9, 2022 to October 3, 2022 where you could make your opinion known about these trail segments. The results of this survey can be found below.

A community meeting occurred at 5:00 p.m. at Gaffney Elementary on October 10 to provide an overview of the four trail segments and then a walkabout to review the "power line" trail segment which lies just behind Gaffney Elementary.

The plan adoption requires an Ordinance to adopt the plan ancillary to the Transportation System Plan which includes a public hearing. This is anticipated in late 2023.



STATUS UPDATES

Last Updated : 11-20-23

4/28/22 - Kick Off Meeting with City and Consultant

5/24/22 - Site visit preliminary walkabout

6/3/22 - Project Stakeholder interviews scheduled in June, investigation of opportunities and constraints of possible locations of trail

8/12/22 - Project Stakeholders including school district, community college, parks, CIC, TAC, neighborhood associations, Fred Meyer, adjacent shopping center occurred.

Additional outreach planned for directly impacted property owners and a stakeholder group to advise on path alignments.

Week of 8/15/22 - constraints memo anticipated

9/9/22 - Survey is live through October 3. It has been mailed via a postcard to directly impacted properties, posted on this webpage, posted on social media, emailed to neighborhood associations and City staff, as well as organizations which were determined to be stakeholders.

10/7/22 - Opportunities and Constraints memo posted to website

10/10/22 - In person meeting for directly impacted residents of power line path and affected stakeholders at 5 p.m. at Gaffney Elementary.

11/14/22 - Survey results added to website. Alternative cross sections currently being worked on.

12/21/22 - City staff to meet to review alternative cross sections and citizen feedback.

January to June 2023 - Consultant prepared analysis and report

June 13, 2023 - Presentation at City Commission Work Session

October 27, 2023 - Submittal to Planning for a Legislative Process to adopt the plan ancillary to the Transportation System Plan (TSP)

December 11, 2023 - Hearing before the Planning Commission

January 19, 2023 - Hearing before the City Commission

Files:

[Loop Trail Segments exhibit \(PDF\) \(5 MB\)](#)

[Postcard Survey \(PDF\) \(54 KB\)](#)

[Opportunities and Constraints Memo \(PDF\) \(4 MB\)](#)

[Comment Card \(PDF\) \(746 KB\)](#)

[Loop Trail Survey Results \(PDF\) \(824 KB\)](#)

[City Commission Work Session Presentation of June 13 2023 \(PPTX\) \(3 MB\)](#)

[Final Draft Report for Adoption \(32 MB\)](#)

During the design process, postcards were used to promote opportunities to share feedback, along with promotion on City websites and social media platforms.



Community members had two opportunities to share their concerns and priorities for the development of the Loop Trail and ancillary paths.

The first opportunity was through an online survey, which asked community members to share how they would use the paths, what discourages them from walking or riding a bicycle today, and what design features would make them feel safer and more comfortable when using the paths.

Nearly 70 community members responded to the survey. Key takeaways that informed recommendations in this plan include:

- A concern about the loss of privacy in areas where paths may be located next to residential areas
- A desire for amenities such as trash cans, dog waste stations, and landscaping
- A need for separation from vehicles and enhanced lighting
- A need for paths that meet the needs of a wide variety of users

The second opportunity was an in-person workshop held at Gaffney Lane Elementary School which focused on the Gaffney Lane path and the Meyers-Beavercreek path. Feedback from community members included:

- A desire to maintain existing green space between Meyers Road and Frontier Parkway
- Paths that used to traverse the existing school property were highly-utilized; opportunities to follow that alignment should be prioritized
- Concerns about proximity of the paths to houses and the elementary school

II. DECISION-MAKING CRITERIA

The remainder of this staff report provides additional findings to demonstrate that the proposed Park Place Urbanization Plan is consistent with applicable approval criteria.

Chapter 17.68 - Zoning Changes and Comprehensive Plan Amendments

17.68.010 - Initiation of the amendment.

A text amendment to the comprehensive plan, or an amendment to the zoning code or map or the Comprehensive Plan map, may be initiated by:

- A. A resolution request by the City Commission;*
- B. An official proposal by the Planning Commission;*
- C. An application to the Planning Division; or.*
- D. A Legislative request by the Planning Division.*

All requests for amendment or change in this title shall be referred to the Planning Commission.

Finding: The proposal qualifies as initiated as a legislative request by the initiation of a request by the Public Works Department via the Planning Division.

17.68.015 –Procedures.

Applications shall be reviewed pursuant to the procedures set forth in Chapter 17.50.

17.50.170 - Legislative hearing process.

A. Purpose. Legislative actions involve the adoption or amendment of the city's land use regulations, comprehensive plan, maps, inventories and other policy documents that affect the entire city or large portions of it. Legislative actions which affect land use shall begin with a public hearing before the planning commission.

B. Planning Commission Review.

1. Hearing Required. The planning commission shall hold at least one public hearing before recommending action on a legislative proposal. Any interested person may appear and provide written or oral testimony on the proposal at or prior to the hearing. The community development director shall notify the Oregon Department of Land Conservation and Development (DLCD) as required by the post-acknowledgment procedures of ORS 197.610 to 197.625, as applicable.

C. City Commission Review.

1. City Commission Action. Upon a recommendation from the planning commission on a legislative action, the city commission shall hold at least one public hearing on the proposal. Any interested person may provide written or oral testimony on the proposal at or prior to the hearing. At the conclusion of the hearing, the city commission may adopt, modify or reject the legislative proposal, or it may remand the matter to the planning commission for further consideration. If the decision is to adopt at least some form of the proposal, and thereby amend the city's land use regulations, comprehensive plan, official zoning maps or some component of any of these documents, the city commission decision shall be enacted as an ordinance.

2. Notice of Final Decision. Not later than five days following the city commission final decision, the community development director shall mail notice of the decision to DLCD in accordance with ORS 197.615(2).

Finding: Complies as Proposed. This legislative action is following the procedures found in OCMC 17.50.170.

17.68.020 - Criteria.

The criteria for comprehensive plan amendment or text or map amendment in the zoning code are set forth as follows:

A. The proposal shall be consistent with the applicable goals and policies of the comprehensive plan;

Finding: Complies as Proposed. This legislative action is consistent with the applicable goals and policies of the comprehensive plan, as detailed in the responses below. Therefore, the proposed amendments are consistent with Criterion (A).

OC2040 Oregon City Comprehensive Plan

According to the OC2040 Comprehensive Plan (Appendix 3): “Ancillary plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities, and sewer facilities. Usually prepared by City departments through a public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to city departments in planning for and carrying out city services. These plans are updated more frequently than the comprehensive plan.”

The Oregon City Loop Trail Refinement Plan will be adopted as an ancillary document to the Oregon City Transportation System Plan (TSP). The TSP is an adopted ancillary document to the Oregon City Comprehensive Plan. The TSP is both a technical document and a conceptual guide that requires regular review.

HEALTHY AND WELCOMING COMMUNITIES**GOAL 1 POLICIES:**

Implement and maintain a community engagement program that provides broad and inclusive opportunities for all Oregon City community members to learn about and understand city government processes, including land use planning, and participate meaningfully in decisions that impact their communities.

Finding: Complies as Proposed.

CONNECTED INFRASTRUCTURE**GOAL 1**

Provide a safe, comfortable, and accessible transportation network that serves all modes of travel, including non-motorized modes.

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City by adding sidewalks and bike lanes.

POLICY 1.1 Plan for and develop multi-modal connectivity throughout Oregon City, with an emphasis on access to community services, amenities, and key points of interest.

Finding: Complies as Proposed. Policy 1.1 requires that public facilities and services be provided in a timely, orderly, and efficiently. The goal’s central concept is that local governments should plan public services in accordance with the community’s needs as a whole rather than be forced to respond to individual developments as they occur. The Oregon City Loop Trail Refinement Plan will provide a design for public facilities as well as a means to obtain future funding.

STRATEGY 1.1.A Make investments to accommodate multi-modal traffic as much as possible to include bike lanes, bus turnouts and shelters, sidewalks, etc., especially on major and minor arterial roads, and in regional and employment centers.

Finding: Complies as Proposed. Meyers Road is identified as a minor arterial. The S23 segment will provide additional opportunities for pedestrian and bike investments.

STRATEGY 1.1.B Provide an interconnected and accessible street system that minimizes vehicle miles traveled and inappropriate neighborhood cut-through traffic.

Finding: Complies as Proposed. The Loop Trail is designed to offer both greater recreational opportunities and encourage residents to feel comfortable taking shorter trips by walking or biking, which helps reduce vehicle miles traveled and cut-through traffic in neighborhoods.

STRATEGY 1.1.C Ensure the adequacy of travel mode options and travel routes (parallel systems) in areas of congestion.

Finding: Complies as Proposed. Creating parallel mode options in the city encourages residents to feel comfortable taking shorter trips by walking or biking, which helps reduce congestion and cut-through traffic in neighborhoods.

STRATEGY 1.1.D Identify and prioritize improved connectivity throughout the city street system.

POLICY 1.2 Reduce Oregon City's carbon footprint by supporting and emphasizing non-motorized modes.

Finding: Complies as Proposed. Providing safe connections between neighborhoods, commercial centers, and community amenities helps encourage residents to walk or bike for shorter trips.

STRATEGY 1.2.A Provide an interconnected and accessible pedestrian system that links residential areas with major pedestrian generators such as employment centers, public facilities, and recreational areas.

Finding: Complies as Proposed. Providing safe connections between neighborhoods, commercial centers, and community amenities helps encourage residents to walk or bike for shorter trips.

STRATEGY 1.2.B Provide a well-defined and accessible bicycle network that links residential areas, major bicycle generators, employment centers, recreational areas, and the arterial and collector roadway network.

Finding: Complies as Proposed. Providing safe connections between neighborhoods, commercial centers, and community amenities helps encourage residents to walk or bike for shorter trips.

STRATEGY 1.2.C Construct bikeways and sidewalks and require connectivity of these facilities to reduce the use of petroleum-fueled transportation.

Finding: Complies as Proposed. Providing safe connections between neighborhoods, commercial centers, and community amenities helps encourage residents to walk or bike for shorter trips.

POLICY 1.3 Promote safety by implementing street design that equally considers and serves non-motorized and motorized users.

Finding: Complies as Proposed. Providing safe connections between neighborhoods, commercial centers, and community amenities helps encourage residents to walk or bike for shorter trips.

STRATEGY 1.3.A Identify and implement ways to minimize conflict points between different modes of travel.

Finding: Complies as Proposed. The loop trail segments aim to increase the separation of bikes and pedestrians from the vehicle travel lanes.

STRATEGY 1.3.B Improve the safety of vehicular, rail, bicycle, and pedestrian crossings.

Finding: Complies as Proposed. The loop trail segments aim to increase the separation of bikes and pedestrians from the vehicle travel lanes and ensure that any crossing is designed to meet adopted city standards for safe crossing.

POLICY 1.4 Ensure transportation investments are equitably applied across Oregon City neighborhoods.

Finding: Complies as Proposed. The loop trail segments are located in the southern section of the city within existing residential areas developed from the 1970s to the 2000s. These areas have traditionally receive less attention for pedestrian and bike improvements.

GOAL 2

Ensure public utilities and infrastructure are maintained and improved to adequately serve all existing areas of Oregon City and can be extended to serve newly developing areas in a logical and fiscally responsible manner.

Finding: Complies as Proposed. The loop trail segments are located in the southern section of the city within existing residential areas developed from the 1970s to the 2000s. These areas have traditionally receive less attention for pedestrian and bike improvements.

POLICY 2.1 Regularly update all City infrastructure and utility master plans.

Finding: Complies as Proposed. The Oregon City Loop Trail Refinement Plan is a special purpose plan that is part of the City's Transportation System Plan, an adopted Ancillary Document to the Oregon City Comprehensive Plan. The TSP is both a technical document and a conceptual guide that requires regular review in order to maintain and update it.

POLICY 2.3 Ensure public infrastructure investments are equitably applied across Oregon City neighborhoods.

Finding: Complies as Proposed. The loop trail segments are located in the southern section of the city within existing residential areas developed from the 1970s to the 2000s. These areas have traditionally received less attention for pedestrian and bike improvements.

STRATEGY 2.3.D Identify neighborhoods that are underserved by transportation and other infrastructure investments to ensure equitable future investments.

Finding: Complies as Proposed. The loop trail segments are located in the southern section of the city (Gaffney Lane, Hillendale, Hazel Farm/Westling Grove, Caulfield Neighborhoods) within existing residential areas developed from the 1970s to the 2000s. These areas have traditionally received less attention for pedestrian and bike improvements.

POLICY 2.4 Increase resiliency to climate change, natural hazard events, and cyber intrusions in public utility infrastructure.

Finding: Complies as Proposed. The Loop Trail has been designed to provide more recreational opportunities for the residents. It also aims to encourage people to take shorter trips by walking or biking instead of relying solely on vehicles for transportation. This will help reduce the number of vehicle miles traveled and decrease the overall dependence on vehicles as the only feasible mode of transportation.

POLICY 3.5 Pursue adequate funding to pay for public facilities and services.

Finding: Complies as Proposed. The Oregon City Loop Trail Refinement Plan will be added to the Oregon City Transportation System Plan (TSP) as an additional document. The TSP is a technical document and conceptual guide that needs regular review and is itself a supplementary document to the Oregon City Comprehensive Plan. By approving the refined plan, it will be possible to implement it through proportional exactions at the time of any abutting land use proposal and will provide the necessary details to apply for grants and implement one or more alignments through a future capital improvement project.

POLICY 2.7 Support programs and methods that will improve air quality in Oregon City.

Finding: Complies as Proposed. The Loop Trail has been designed to provide more recreational opportunities for the residents. It also aims to encourage people to take shorter trips by walking or biking instead of relying solely on vehicles for transportation. This will help reduce the number of vehicle miles traveled and particulates in the air.

STRATEGY 2.7. Promote land-use patterns that reduce the need for distance travel by single-occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping, and education.

Finding: Complies as Proposed. The Loop Trail has been designed to provide more recreational opportunities for the residents. It also aims to encourage people to take shorter trips by walking or biking instead of relying solely on vehicles for transportation. This will help reduce the number of vehicle miles traveled and decrease the overall dependence on vehicles as the only feasible mode of transportation.

PROTECTED ENVIRONMENT

POLICY 1.2 Provide equitable distribution of parks and trails across the city.

STRATEGY 1.2.A Ensure the adequacy of pedestrian and bicycle connections to local, county, and regional trails.

STRATEGY 1.2.B Ensure adequate park and trail development in high-density areas and neighborhoods lacking access to these amenities.

Finding: Complies as Proposed. The loop trail segments are located in the southern section of the city (Gaffney Lane, Hillendale, Hazel Farm/Westling Grove, Caulfield Neighborhoods) within existing residential areas developed from the 1970s to the 2000s. These areas have traditionally received less attention for pedestrian and bike improvements.

POLICY 2.7 Support programs and methods that will improve air quality in Oregon City.

STRATEGY 2.7.A Promote land-use patterns that reduce the need for distance travel by single-occupancy vehicles and increase opportunities for walking, biking, and/or transit to destinations such as places of employment, shopping, and education

Finding: Complies as Proposed. Providing safe connections between neighborhoods, commercial centers, and community amenities helps encourage residents to walk or bike for shorter trips.

Statewide Planning Goals

Finding: This proposal makes no changes to the Comprehensive Plan, zoning, or land use designations for lands within the Urban Growth Boundary. Since the City's Comprehensive Plan and its ancillary documents are already acknowledged by the Oregon Department of Land Use and Conservation (DLCD),

no further analysis for consistency with Statewide Planning Goals is required to adopt this trail refinement plan.

Chapter 17.50 Administration and Procedures

17.50.050 – Pre-application conference.

- A. *Pre-application Conference. Prior to a Type II – IV or Legislative application, excluding Historic Review, being deemed complete, the applicant shall schedule and attend a pre-application conference with City staff to discuss the proposal, unless waived by the Community Development Director. The purpose of the pre-application conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal.*
- 1. To schedule a pre-application conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee.*
 - 2. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans.*
 - 3. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the pre-application conference.*
- B. *A pre-application conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant shall schedule and attend another conference before the City will accept a permit application. The Community Development Director may waive the pre-application requirement if, in the Director's opinion, the development has not changed significantly and the applicable municipal code or standards have not been significantly amended. In no case shall a pre-application conference be valid for more than one year.*
- C. *Notwithstanding any representations by City staff at a pre-application conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.*

Finding: Staff held the required pre-application conference meeting (File PA-23-00032), on October 24, 2023.

17.50.055 - Neighborhood association meeting.

Neighborhood Association Meeting. The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.

- A. *Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, Planning Commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the City-recognized neighborhood association in whose territory the application is proposed no earlier than one year prior to the date of application. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.*
- B. *The applicant shall request via email or regular mail a request to meet with the neighborhood association chair where the proposed development is located. The notice shall describe the*

proposed project. A copy of this notice shall also be provided to the chair of the Citizen Involvement Committee.

- C. A meeting shall be scheduled within thirty days of the date that the notice is sent. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall host a meeting inviting the neighborhood association, Citizen Involvement Committee, and all property owners within three hundred feet to attend. This meeting shall not begin before six p.m. on a weekday or may be held on a weekend and shall occur within the neighborhood association boundaries or at a City facility.*
- D. If the neighborhood association is not currently recognized by the City, is inactive, or does not exist, the applicant shall request a meeting with the Citizen Involvement Committee.*
- E. To show compliance with this section, the applicant shall submit a copy of the email or mail notice to the neighborhood association and CIC chair, a sign-in sheet of meeting attendees, and a summary of issues discussed at the meeting. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, postcard or other correspondence used, and a summary of issues discussed at the meeting and submittal of these materials shall be required for a complete application.*

Finding: Complies as proposed. Staff presented the amendments to the Citizen Involvement Committee on November 6, 2023

17.50.070 - Completeness review and one hundred twenty-day rule.

- C. Once the Community Development Director determines the application is complete enough to process, or the applicant refuses to submit any more information, the City shall declare the application complete. Pursuant to ORS 227.178, the City will reach a final decision on an application within one hundred twenty calendar days from the date that the application is determined to be or deemed complete unless the applicant agrees to suspend the one hundred twenty calendar day time line or unless State law provides otherwise. The one hundred twenty-day period, however, does not apply in the following situations:*
 - 1. Any hearing continuance or other process delay requested by the applicant shall be deemed an extension or waiver, as appropriate, of the one hundred twenty-day period.*
 - 2. Any delay in the decision-making process necessitated because the applicant provided an incomplete set of mailing labels for the record property owners within three hundred feet of the subject property shall extend the one hundred twenty-day period for the amount of time required to correct the notice defect.*
 - 3. The one hundred twenty-day period does not apply to any application for a permit that is not wholly within the City's authority and control.*
 - 4. The one hundred twenty-day period does not apply to any application for an amendment to the City's comprehensive plan or land use regulations nor to any application for a permit, the approval of which depends upon a plan amendment.*
- D. A one-hundred day period applies in place of the one-hundred-twenty day period for affordable housing projects where:*
 - 1. The project includes five or more residential units, including assisted living facilities or group homes;*
 - 2. At least 50% of the residential units will be sold or rented to households with incomes equal to or less than 60% of the median family income for Clackamas County or for the state, whichever is greater; and*

3. *Development is subject to a covenant restricting the owner and successive owner from selling or renting any of the affordable units as housing that is not affordable for a period of 60 years from the date of the certificate of occupancy.*
- E. *The one hundred twenty-day period specified in OCMC 17.50.070.C or D may be extended for a specified period of time at the written request of the applicant. The total of all extensions may not exceed two hundred forty-five calendar days.*
- F. *The approval standards that control the City's review and decision on a complete application are those which were in effect on the date the application was first submitted.*

Finding: Legislative actions are not subject to the 120-day deadline.

III. RECOMMENDATION

Based on the findings in this report, staff recommends approval of Planning file GLUA 23-000033/LEG-23-00002. If the Planning Commission recommends approval to the City Commission, staff will prepare an Ordinance for consideration by the City Commission to adopt the proposed plan.

IV. EXHIBITS

1. Draft OC Loop Trail Refinement Plan- Draft
 - a. Loop Trail Segments Map
2. Applicant's Narrative
3. Public Outreach Materials
 - a. OC Loop Trail Postcard and Comment Card
 - b. OC Loop Trail Workshop Presentation- October 10, 2022
 - c. OC Loop Trail City Commission Worksession Presentation -June 13, 2023
 - d. CIC Presentation- November 6, 2023
4. PA 23-00032 Notes and Comments
5. [Oregon City Comprehensive Plan](#) (onfile at www.orcity.org)
6. [Transportation System Plan](#) (onfile at www.orcity.org)

ORDINANCE NO. 23-1010

**AN ORDINANCE OF THE CITY OF OREGON CITY AMENDING THE OREGON CITY
TRANSPORTATION SYSTEM PLAN BY ADOPTING THE OREGON CITY LOOP TRAIL
REFINEMENT PLAN**

WHEREAS, the Oregon City Loop Trail Refinement Plan will be added to the Oregon City Transportation System Plan (TSP), a technical document and conceptual guide that needs regular review and is an ancillary document to the Oregon City Comprehensive Plan, and

WHEREAS, the Oregon City Loop Trail Refinement Plan analyzes existing conditions and provides direction for future development, funding, and needs for several segments of the previously adopted Loop Trail; and

WHEREAS, the plan provides cross-sections of shared use paths to guide future land use actions and includes construction cost estimates and contingencies for the planning and design of recommended system facilities; and

WHEREAS, during the design process, postcards were sent to adjacent properties and neighborhood associations to provide opportunities to share feedback through electronic surveys and two in-person open houses, along with promotion on city websites and social media platforms; and

WHEREAS, the Planning Commission held a public hearing on December 11, 2023 and recommended approval of the proposed plan to the City Commission; and

WHEREAS, the City Commission held a public hearing on January 17, 2024 and found that the proposed plan complies with the applicable criteria for Legislative approval as discussed in the Staff Report and Recommended Findings for File LEG-23-02.

NOW, THEREFORE, OREGON CITY ORDAINS AS FOLLOWS:

Section 1. The City of Oregon City Transportation System Plan is amended to adopt the Loop Trail Refinement Plan as provided in attached Exhibit A.

Section 2. The Legislative action taken by the Ordinance is explained and justified by the Analysis and Findings for GLUA 23-000033/LEG-23-00002.

Read for the first time at a regular meeting of the City Commission held on the 17th day of January 2024, and the City Commission finally enacted the foregoing ordinance this 7th day of February 2024.

Denyse C. McGriff, Mayor

Attested to this 7th day of February 2024,

Approved as to legal sufficiency:

City Recorder

City Attorney

Oregon City Loop Trail Refinement Plan

September 2023



Oregon City Loop Trail Refinement Plan

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Appendix A: Opportunities & Constraints
Appendix B: Community Survey Summary
Appendix C: Conceptual Plans & Cross-Sections
Appendix D: Cost-Estimates

Executive Summary

Overview

The **Oregon City Loop Trail** will create a loop around Oregon City providing travelers with off-street paths and on-street connections along local roadways.

This refinement plan was developed to further define **two segments of the Loop Trail** and **two ancillary paths** that will create local connections to the Loop Trail. This plan includes recommend alignments and cross-sections, planning-level cost-estimates, and phasing that could be considered to align construction of the paths with available funding.

The plan also identifies potential **funding sources** that the City could explore to advance design and construction of the paths.

This plan positions the City **to add projects to the Capital Improvement Program (CIP), condition new development** to design and construct portions of the path, and **apply for grant funding**, bringing the City's goal of improving options for people walking and riding a bicycle within the City to fruition.

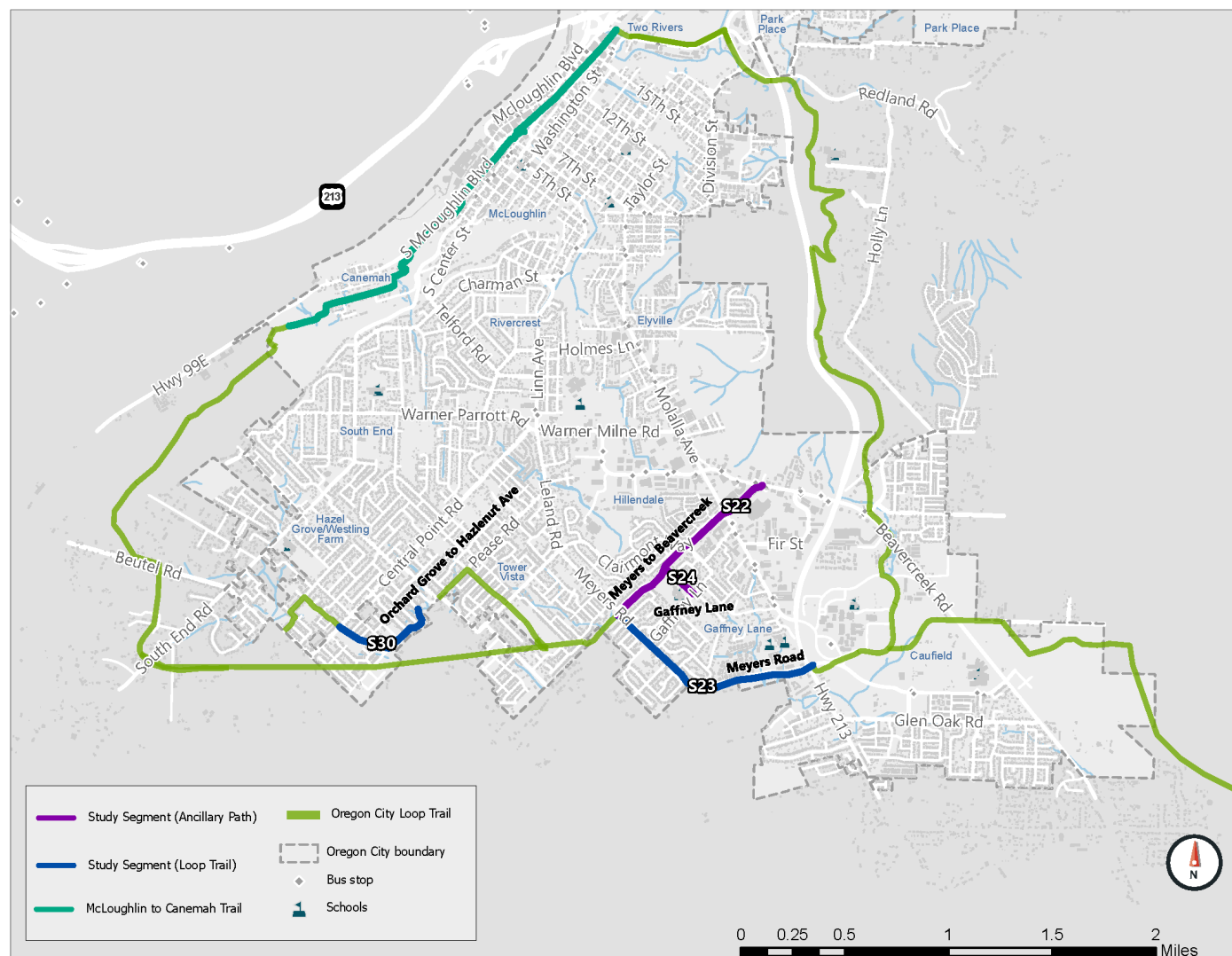


Figure ES-1. Oregon City Loop Trail

Meyers-Beavercreek Shared Use Path (Project S-22)

The Meyers-Beavercreek Shared Use Path is an ancillary path to the Oregon City Loop Trail that will provide an off-street connection for people walking, biking, and using other small mobility devices. This path will connect people from planned regional trails to Meyers Road.

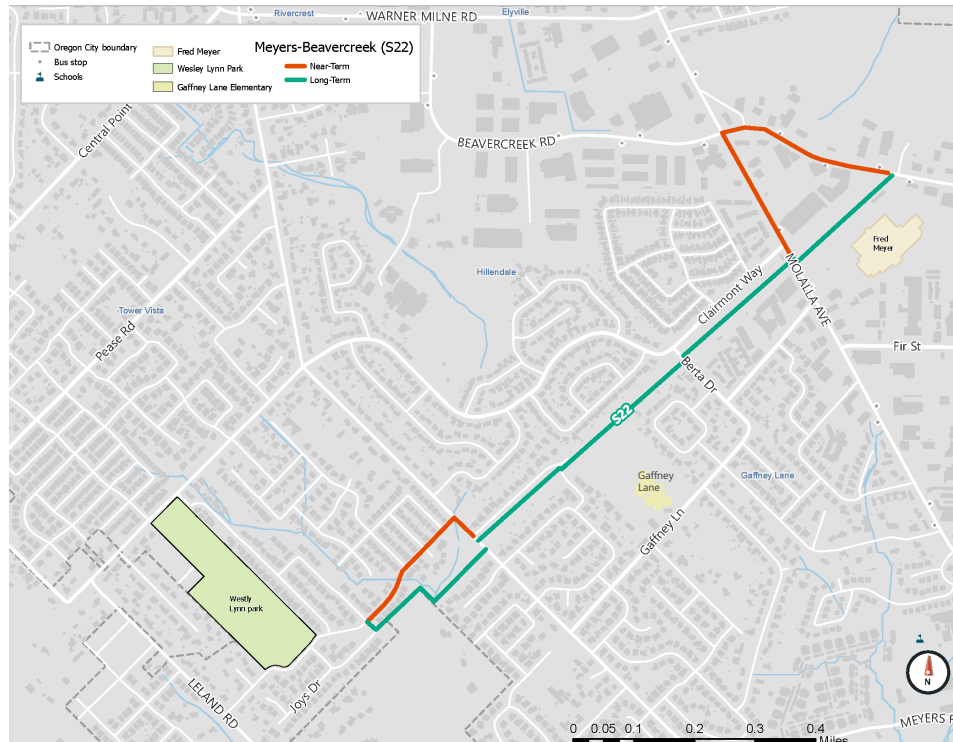


Figure ES-2. Meyers-Beavercreek Alignment

Proposed Cross-Section

The proposed cross-section for this path includes a 12-foot shared use path that is separated from existing roadways by a landscape buffer that will be at least four-feet wide. While the buffer will not be required when the path is not adjacent to roadways, adequate space will be provided to maintain separation from surrounding houses and private property. For additional cross-sections for this path, see **Appendix C: Concepts & Cross-Sections**.

Estimated Cost:

Beavercreek Road to Meyers Road - \$2.9M-\$4.4M

Near-Term: Meyers Road to Wesley Lynn Park - \$325K-\$485K

Long-Term: Meyers Road to Wesley Lynn Park - \$2.5M-\$3.8M

Total Long-Term: \$5.4M-\$8.2M

Proposed Alignment

The alignment for this path includes two segments that will require substantial coordination and funding to implement. To provide an option that could be implemented sooner, two near-term alignments have been identified. These include:

- **Beavercreek Road to Molalla Avenue** where the near-term alignment uses existing sidewalks and bicycle infrastructure while the long-term alignment provides a direct connection through existing parking lots.
- **Meyers Road to Joys Drive** where the near-term alignment uses existing infrastructure while the long-term alignment constructs a new path through existing green space.



Figure ES-3. Meyers-Beavercreek Cross-Section

Meyers Road Shared Use Path (Project S-23)

The Meyers Shared Use Path is a portion of the Oregon City Loop Trail that will connect people walking, biking, and using other small mobility devices from Oregon Route 213 (OR-213) to the Meyers-Beavercreek Shared Use Path. This path will also provide an important connection from residential areas along Meyers Road to Clackamas County Community College and Oregon City High School.

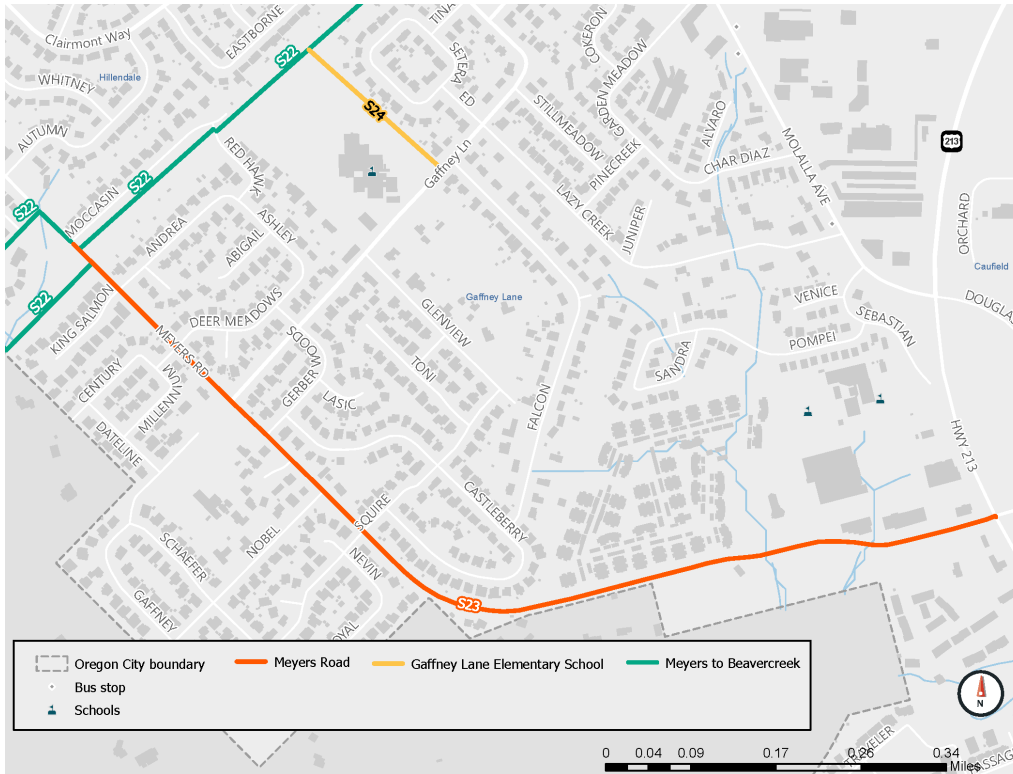


Figure ES-4. Meyers Road Alignment

Proposed Cross-Section

The cross-section for this path includes a 12-foot shared use path on the north side of Meyers Road. To achieve this, the on-street bicycle lanes will be removed and everyone riding bicycles and small mobility devices will use the shared use path. Moving the bicyclists and small mobility users to the shared use path will allow for moving the north curb in to create space to widen the existing sidewalk and provide a landscaped buffer without substantial impacts to residential properties.

Estimated Cost: \$4.8M-\$7.2M

Proposed Alignment

After a detailed evaluation, the north side of Meyers Road was selected as the ultimate location for the shared use path to:

- Keep the entire shared use path within the City's boundary
- Leverage the Right-of-Way allocated to the continuous sidewalks that exist today
- Minimize impacts to utilities
- Minimize the need to cross Meyers Road if you are accessing the path from the Gaffney Lane neighborhood

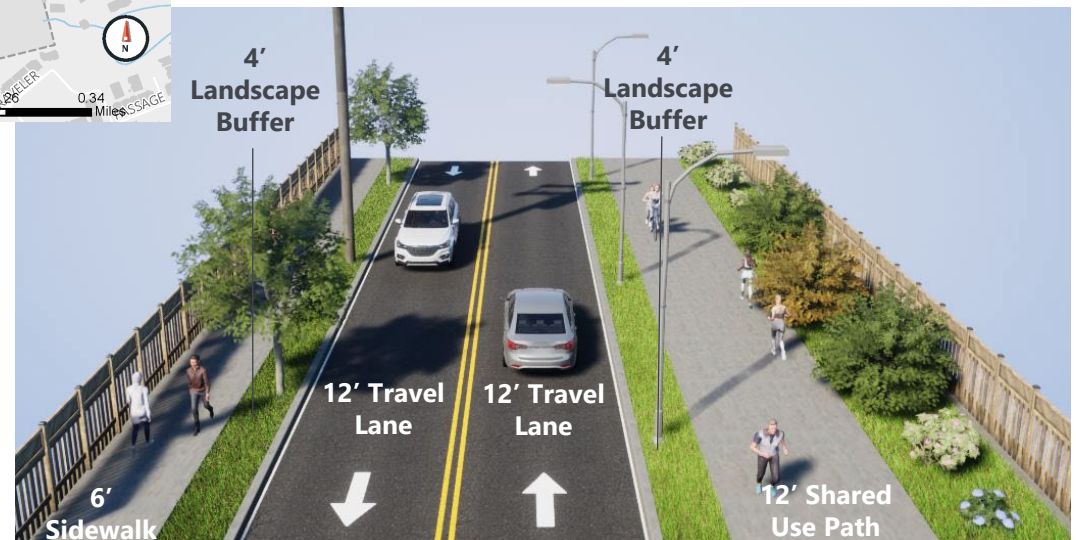


Figure ES-5. Meyers Road Cross-Section

Gaffney Lane Shared Use Path (Project S-24)

The Gaffney Lane Elementary Shared Use Path is an ancillary path that will connect people using the Meyers-Beavercreek Path to Gaffney Lane Elementary Path. This path exists today and is used by people connecting to the school and open space located behind the school. This refinement plan is not making recommendations to change the alignment but has identified the appropriate cross-section to formalize the path.



Figure ES-6. Gaffney Lane Alignment

Proposed Cross-Section & Cost-Estimate

The proposed cross-section for this path includes a 12-foot shared use path that is separated from surrounding properties by existing fences.

Estimated Cost: \$472,000 to \$708,000

Proposed Alignment

This alignment utilizes the existing rudimentary path that exists today. This path will create an off-street connection for families who live in the surrounding neighborhoods who may choose to walk to school if safe and comfortable facilities that are separated from vehicles are provided.

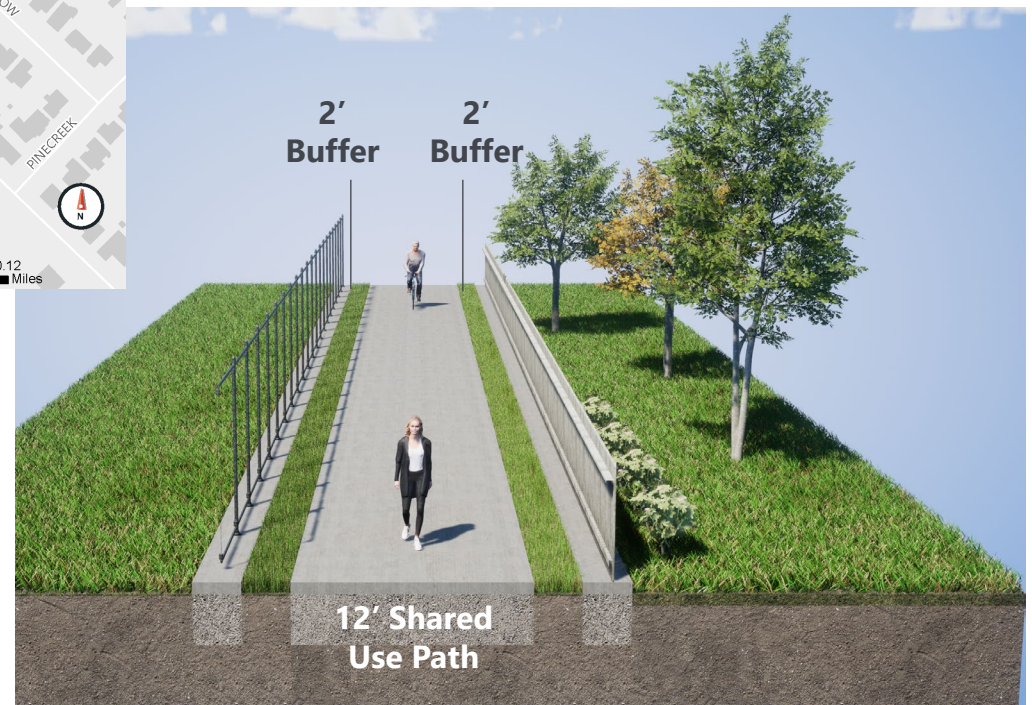


Figure ES-7. Gaffney Lane Cross-Section

Orchard Grove-Hazelnut Shared Use Path (Project S-30)

The Orchard Grove-Hazelnut Shared Use Path is a portion of the Loop Trail that will connect people walking, biking, and using other small mobility devices from Orchard Grove Drive to Hazelnut Court, Hazel Grove Park, and John McLoughlin Elementary School. This portion of the plan will serve as guidance for developers, which will likely be required to fund and build this portion of the Oregon City Loop Trail as development occurs.

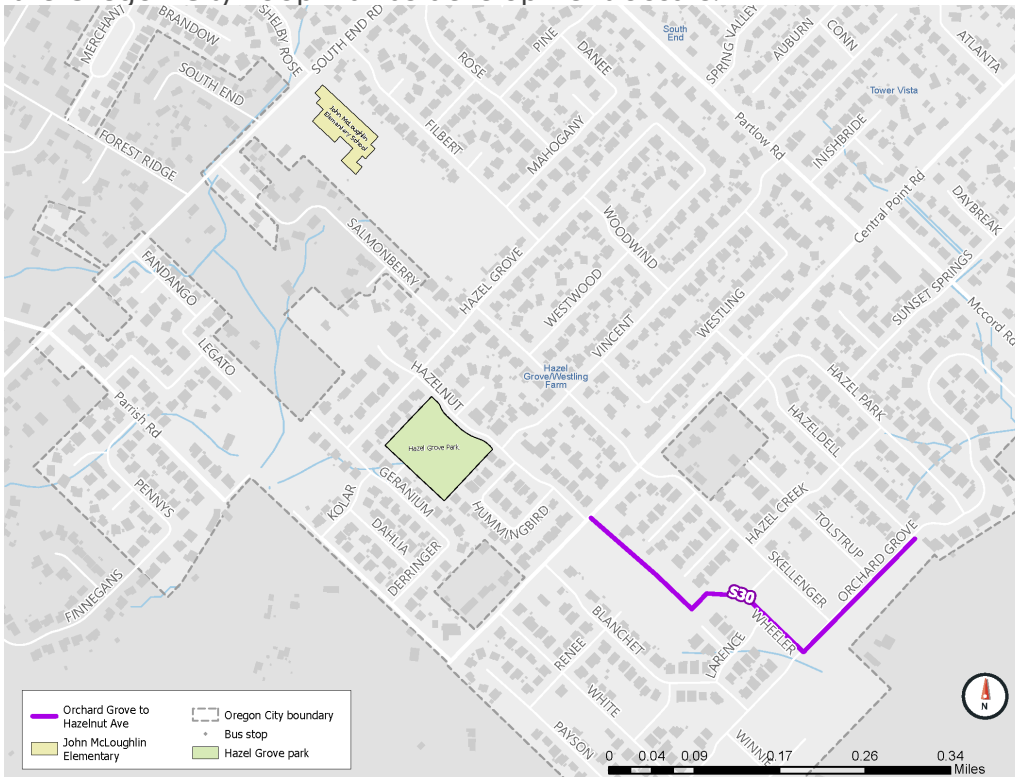


Figure ES-8. Orchard Grove-Hazelnut Alignment

Proposed Cross-Section & Cost-Estimate

The proposed cross-section utilizes existing streets and sidewalks. The primary addition to existing infrastructure included in the recommended cross-section is the addition of sharrows to indicate the people riding a bicycle or other small mobility devices should use the vehicle travel lane and alert drivers that they should be prepared to share the lane and help to create "family-friendly" streets.

Estimated Cost: \$56,000 to \$84,000

Proposed Alignment

This portion of the Loop Trail runs from Hazeldell Avenue to S. Central Point Road. Unlike other segments refined as part of this plan, the recommended alignment for this portion of the Trail utilizes on-street facilities for people riding a bicycle and sidewalks for people walking.

When construction occurs in the undeveloped lot, it is recommended that the connection be built consistent with the existing Hazelnut alignment.

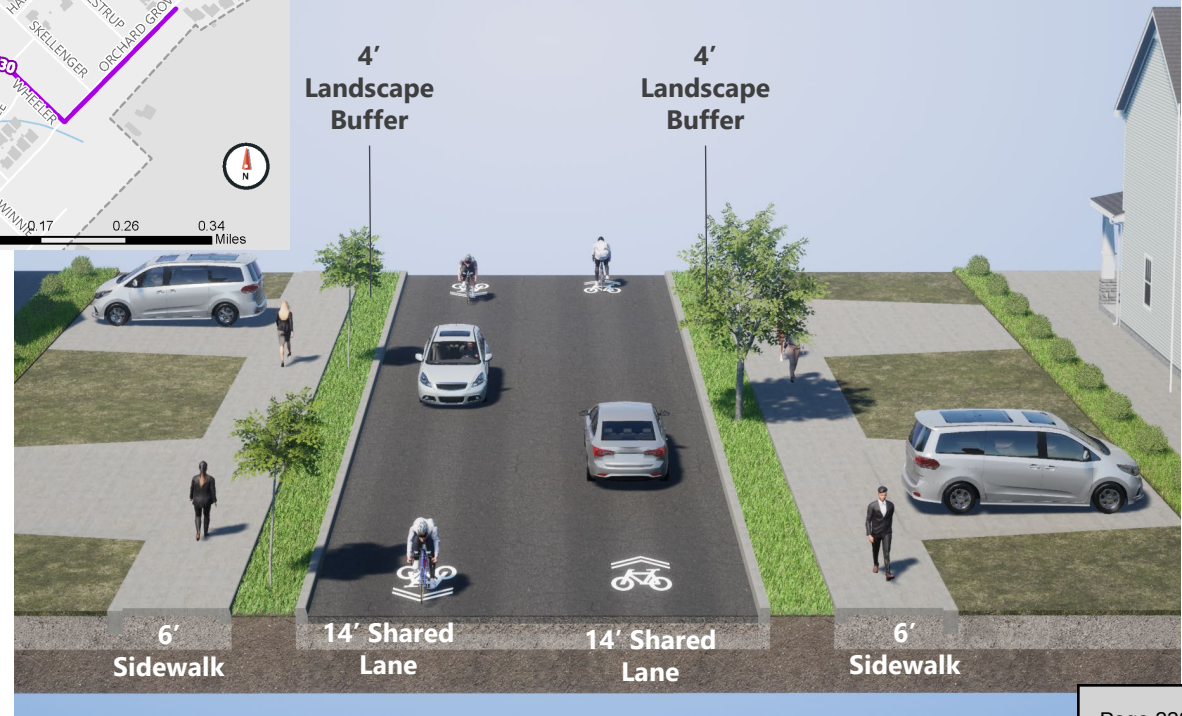


Figure ES-9. Orchard Grove-Hazelnut Cross-Section

Funding

There are three paths to funding design and construction of the four paths included in this plan. The first is by conditioning development to construct portions of the paths as development occurs. The second option is adding the path to the City's CIP, which allows the City to program funding based on the anticipated timeline for construction. Lastly, the City can apply for competitive grants. Four grants that the City could consider applying for to design and construct the paths are summarized below.

Safe Routes to School (SRTS)

The Oregon Department of Transportation provides funding for SRTS projects, under two umbrellas – construction and education. Funds from this program are allocated through a competitive grant process that consists of two applications typically due in March and July.

The paths eligible for funding under this grant program would be the Orchard Grove-Hazelnut, Gaffney Lane Elementary, and portions of the Meyers-Beavercreek Shared Use Paths. It is important to note that based on the demographic makeup of the schools at application, the schools may not be competitive.

Active Transportation Infrastructure Investment Program

This federally funded program is designed to fund communities looking to expand infrastructure for walking and biking. This is aimed at active transportation projects or group of projects with a total cost of over \$15 million, or total cost of \$100,000 for planning and design grants are eligible for funding under this program.

The Meyers Road and Meyers-Beavercreek Paths are estimated to cost roughly \$15 million when combined. As these paths would benefit from being constructed together, the City could consider apply for funding as one large project.

Recreational Trails Programs (RTP)

This federally funded program, which is administered by the Oregon Parks and Recreation Department, provides funds for local agencies to develop, improve, or expand motorized and non-motorized trails and their facilities.

The minimum grant request for this grant and the recommended maximum request is \$150,000. As part of the Loop Trail, the Orchard Grove-Hazelnut Shared Use Path, estimated to cost less than \$100,000, may be eligible for funding under this grant. The City also could use this grant to cover a portion of the cost for the Gaffney Lane Path.

Oregon Community Paths

The Oregon Community Paths program is geared towards helping communities create and maintain connections through shared use paths. This grant is geared towards projects that create continuous paths that are physically separated from the roadway.

Applications for this grant are on a two-year cycle with pre-applications due in the fall and applications accepted November through January. The two paths most likely to be competitive for this grant are the Meyers Road and Meyers-Beavercreek Shared Use Paths.

Introduction & Purpose

Introduction

The Oregon City Loop Trail, a regional trail planned to connect people walking, riding a bicycle, or other small mobility devices to adjacent communities, will create a loop around Oregon City through a series of shared use paths and on-street connections. This plan refines two segments of the Loop Trail and two ancillary paths, which will connect local users to the Loop Trail. The four segments, shown on **Figure 1**, included in this plan are:

- Meyers-Beavercreek Shared Use Path (S-22)
- Meyers Road Shared Use Path (S-23)
- Gaffney Lane Elementary Shared Use Path (S-24)
- Orchard Grove-Hazelnut Shared Use Path (S-30)

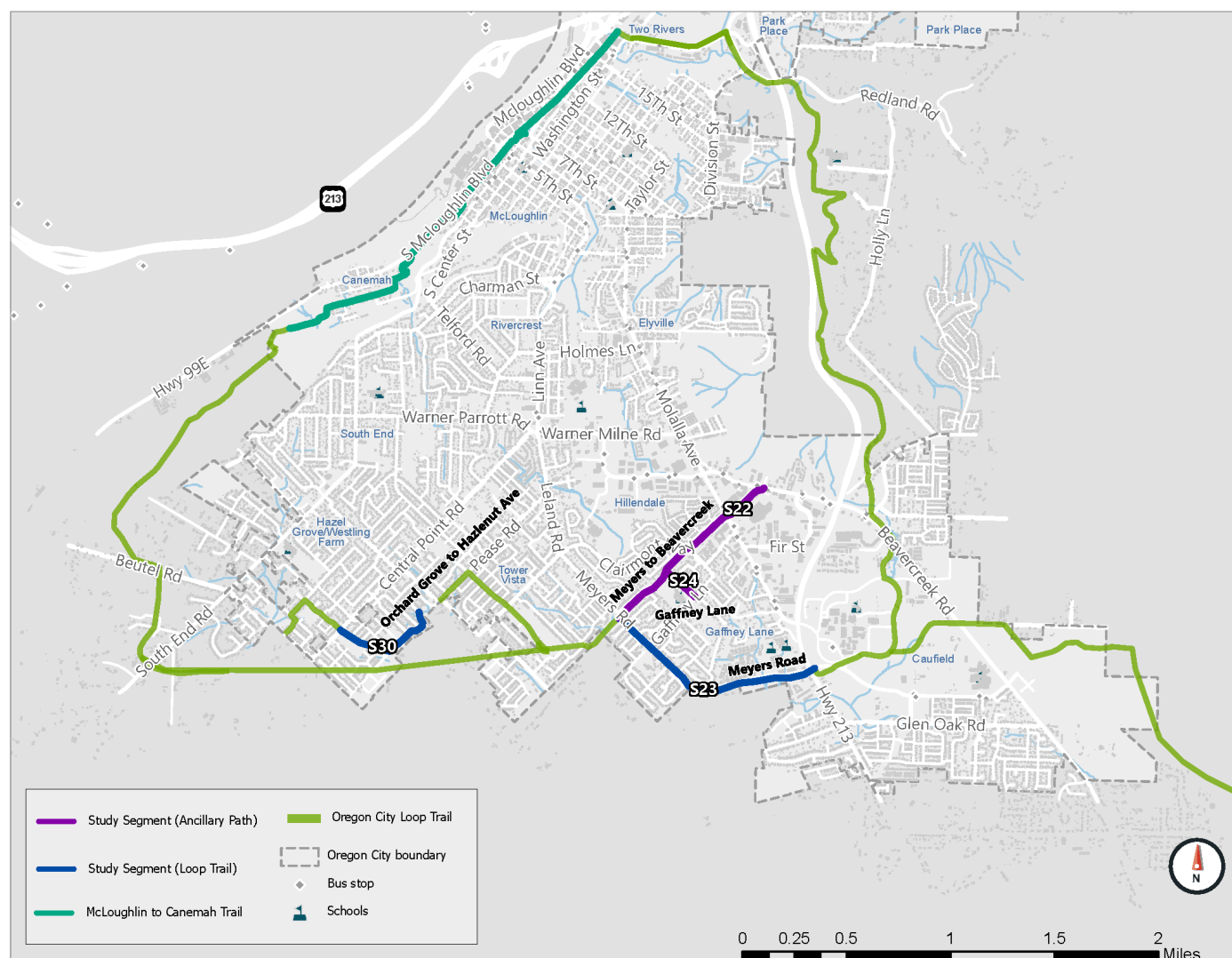


Figure 1. Study Segments

Purpose

One focus of the City's Transportation System Plan (TSP), adopted in 2013, was to emphasize a multimodal approach to solving transportation issues, including improving options for people walking and biking within the city. This approach is woven throughout the TSP goals, objectives, and the project list.

Goal 1 of the TSP states that the City should "Ensure that the transportation system maintains and improves individual health, safety and security by maximizing the comfort and convenience of walking, biking and transit options, public safety and service access." By refining the four segments included in this plan, this effort positions the City to advance the objective of providing a network of family-friendly walking and biking routes. This refinement plan also includes potential funding sources that the City can use to design and construct these paths, aligning with the City's goal of identifying transportation investments that can be made with available funding.

Outcomes

This plan includes the recommended alignment and cross-section for the four paths, phasing that could be used to implement the shared use paths based on funding availability, and planning-level cost-estimates.

Additionally, this plan serves as guidance for Development Review Staff to condition new development to design and construct portions of the path, positions the City to add projects to the Capital Improvement Program (CIP) that would design and construct portions of the path, and most importantly, positions the City to secure grant funding to support design and construction.

Report Organization

This report is organized in the following sections:

- **Stakeholder & Community Input:** Overview of engagement with stakeholders and community members
- **Meyers-Beavercreek Shared Use Path (S-22):** Opportunities, constraints, and recommendations for the Meyers-Beavercreek Shared Use Path
- **Meyers Road Shared Use Path (S-23):** Opportunities, constraints, and recommendations for the Meyers Road Shared Use Path
- **Gaffney Lane Elementary Shared Use Path (S-24):** Opportunities, constraints, and recommendations for the Gaffney Lane Shared Use Path
- **Orchard Grove-Hazelnut Shared Use Path (S-30):** Opportunities, constraints, and recommendations for the Orchard Grove Shared Use Path
- **Funding Opportunities:** Overview of grants that could be used to design and implement the shared use paths

Stakeholder & Community Input

Stakeholder Input

While portions of the alignments identified in this plan can be constructed on property currently owned by the City, in some cases easements will be required to connect the paths through privately held properties.

To understand concerns from property owners and agencies that could have large portions of the shared use paths traversing or adjacent to their properties, stakeholder interviews were completed early in the planning process. Stakeholder interviews also included representatives from key destinations along the paths and regional planning agencies.

Representatives from the following agencies participated in stakeholder interviews, a summary of which can be found in **Appendix A: Opportunities & Constraints**:

- Clackamas County Community College
- Deering Property Management
- Gaffney Lane Neighborhood Association
- Oregon City Parks Department
- Portland General Electric (PGE)
- Metro
- Oregon City School District



OREGON CITY

LOOP TRAIL Plan

WE WANT TO HEAR FROM YOU!

Oregon City Public Works is developing a plan for four segments of the Oregon City Loop Trail that are included in the City's Transportation System Plan. This plan will identify where to build the trails and what type of trail to build.

To share your thoughts on the proposed trails, please take our survey which can be found here:

<https://bit.ly/3A0kpzu>

For updates on the project, visit the project website here:

<https://www.oregoncity.org/publicworks/project/ps-22-002>



THE SURVEY IS AVAILABLE FROM SEPTEMBER 9 TO OCTOBER 3, 2022.

Community Input

Community members had two opportunities to share their concerns and priorities for development of the Loop Trail and ancillary paths.

The first opportunity was through an online survey, which asked community members to share how they would use the paths, what discourages them from walking or riding a bicycle today, and what design features would make them feel safer and more comfortable when using the paths.

Nearly 70 community members responded to the survey. Key takeaways that informed recommendations in this plan include:

- A concern about the loss of privacy in areas where paths may be located next to residential areas
- A desire for amenities such as trash cans, dog waste stations, and landscaping
- A need for separation from vehicles and enhanced lighting
- A need for paths that meet the needs of a wide variety of users

The second opportunity was an in-person workshop held at Gaffney Lane Elementary School which focused on the Gaffney Lane path and the Meyers-Beavercreek path. Feedback from community members included:

- A desire to maintain existing green space between Meyers Road and Frontier Parkway
- Paths that used to traverse the existing school property were highly-utilized; opportunities to follow that alignment should be prioritized
- Concerns about proximity of the paths to houses and the elementary school

Postcards were used to promote opportunities to share feedback, along with promotion on City websites and social media platforms.

Meyers-Beavercreek Shared Use Path (Project S-22)

The Meyers-Beavercreek Shared Use Path is an ancillary path to the Oregon City Loop Trail that will provide an off-street connection for people walking, biking, and using other small mobility devices. This path will connect people from the planned regional trails to the Oregon City Loop Trail on Meyers Road.

Table 1 summarizes the key opportunities and constraints that were identified and used to inform development of the proposed cross-section and alignment for this path.

Table 1. Meyers-Beavercreek Opportunities & Constraints

	- This path is part of the Not Likely to be Funded Transportation System and identified as a Long-term Phase 2 project in the TSP - This path is identified as a Local Trail in the City's Trails Master Plan
	- Between Beavercreek Road and Molalla Avenue, the most direct path requires traversing an existing retail center - The predominate land use along the planned alignment is single-family residential - Gaffney Lane Elementary School and Wesley Lynn Park are the primary generators for bicycle and pedestrian trips along the planned path
	- Much of the planned alignment is along property owned by the City of Oregon City and Oregon City School District - Several homes have fences that extend into the Right-of-Way between Berta Drive and the elementary school - There is an existing easement, granted to Portland General Electric (PGE) from Beavercreek Road to Frontier Parkway that follows the powerlines and is approximately 225-feet wide
	- Existing roadways offer low-speed alternatives as a near-term option until funding can be secured for off-street connections - If the alignment uses on-street connections as a near-term connection, enhancements are needed to improve safety and comfort - This path will connect to the planned Gaffney Lane Elementary Shared Use Path, creating an off-street connection to the elementary school between Beavercreek Road and Meyers Road
	- From Beavercreek Road to Frontier Parkway, the alignment follows high-voltage transmission lines that will require 50-feet of horizontal clearance from the path - There are two stormwater management areas, located on either side of Meyers Road that need to be maintained
	- Water and natural resources in the area between Meyers Road and Frontier Parkway will need to be incorporated in the design for the path - The only geologic hazard present along this path alignment are slopes, which are greater than 25% near the stormwater management areas

Proposed Alignment

This shared use path alignment runs from the signalized intersection on Beavercreek Road that provides access to Fred Meyer to Joys Drive, where it connects users to Frontier Parkway, which can be used to access Wesley Lynn Park.

Along this alignment, this path will intersect with the Meyers Road segment of the Oregon City Loop Trail where it crosses the Meyers Road Path (S-23) and the Gaffney Lane Path (S-24).

While the long-term alignment of the path will provide separated facilities, dedicated space outside the existing roadway, two segments may use existing facilities until funds can be allocated to construct these segments.

Between Beavercreek and Molalla Avenue, the long-term alignment would connect along existing property lines. Constructing a path between the two existing parking lots will require coordination with property owners and significant investment. In the interim, recently improved facilities for people walking and bicycling on Beavercreek Road can be used to connect users to the portion of the path located to the west of Molalla Avenue.

A near-term alignment has also been identified between Meyers Road and Frontier Parkway. While the near-term alignment will connect users to Wesley Lynn Park using the existing sidewalks and sharrows indicating the people riding a bicycle should use the vehicle travel lane, the long-term alignment will provide an off-street connection through existing green space. As this space is privately owned and will require substantial investment to address environmental constraints, this alignment has been identified as long-term.

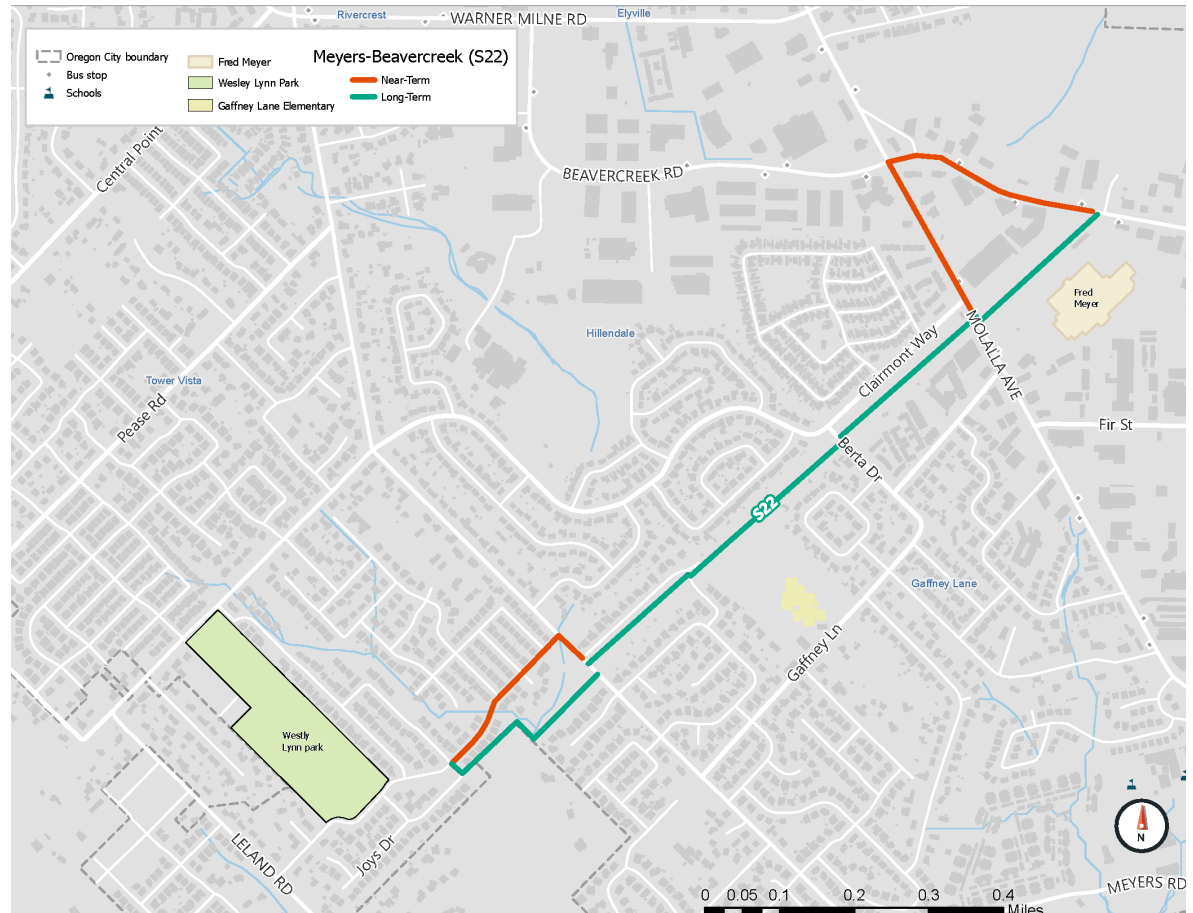


Figure 2. Meyers-Beavercreek Proposed Alignment

Proposed Cross-Section

As shown on **Figure 3**, the proposed cross-section for this path includes a 12-foot shared use path that is separated from existing roadways by a landscape buffer that should be at least four-feet wide.

The cross-section for this path will vary as it traverses the alignment based on the surrounding context. **Figure 4**, shows the proposed cross-section as the path crosses the existing open-space behind Gaffney Lane Elementary. See **Appendix C: Concepts and Cross-Sections**, for more detail on how the cross-section will change along the path.

Additional considerations that will need to be addressed as this path is constructed include:

- Ability to integrate amenities such as dog waste stations and benches
- Adjustment to the alignment may be needed to maintain appropriate distance from existing powerlines and maximize remaining space as plans for empty lots are refined
- An elevated structure may be required to minimize environmental impacts between Meyers Road and Frontier parkway for the long-term alignment
- Opportunities to enhance existing on-street facilities should be explored if the near-term alignment is utilized

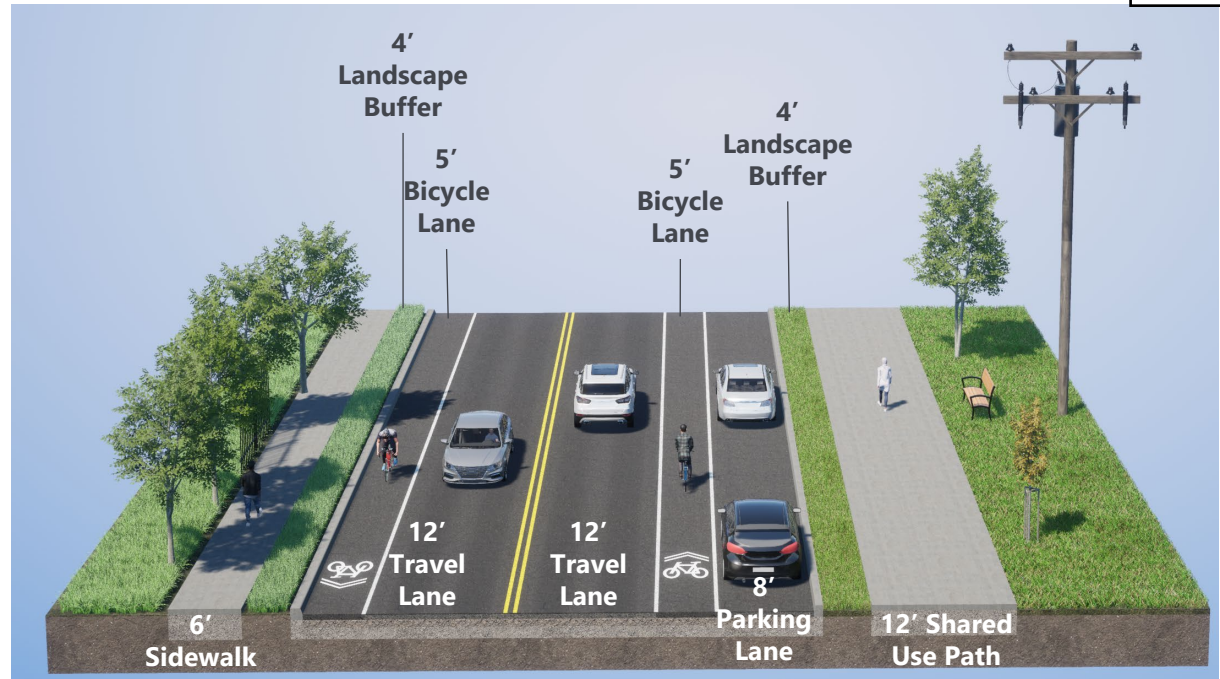


Figure 3. Meyers-Beavercreek Cross-Section Along Clairmont Way



Figure 4. Meyers-Beavercreek Cross-Section Through Open Space

Estimated Cost

The planning-level cost-estimate for this segment was split into two segments: Beavercreek Road to Meyers Road and Meyers Road to Wesley Lynn Park. For the second segment, separate estimates were prepared for the near-term and long-term alignments, as shown in **Table 2**.

Detailed cost-estimates can be found in **Appendix D: Cost-Estimates**.

Table 2. Meyers Beavercreek Cost-Estimate		
Segment	Low Estimate (2023 \$)	High Estimate (2023 \$)
Segment 1: Meyers Road to Beavercreek Road	\$2,950,000	\$4,420,000
Segment 2 (Near-Term): Meyers Road to Wesley Lynn Park	\$325,000	\$485,000
Segment 2 (Long-Term): Meyers Road to Wesley Lynn Park	\$2,530,000	\$3,790,000
Total (with Near-Term):	\$3,275,000	\$4,905,000
Total (with Long-Term):	\$5,480,000	\$8,210,000

Meyers Road Shared Use Path (Project S-23)

The Meyers Shared Use Path (S-23) is a portion of the Oregon City Loop Trail that will connect people walking, biking, and using other small mobility devices from Oregon Route 213 (OR-213) to the Meyers-Beavercreek Shared Use Path (S-22). This path will also provide an important connection from residential areas along Meyers Road to Clackamas County Community College and Oregon City High School.

Table 3 summarizes the key opportunities and constraints that were identified and used to inform development of the proposed cross-section and alignment for this path.

Table 3. Meyers-Road Opportunities & Constraints

	- This path is part of the Not Likely to be Funded Transportation System and identified as a Long-term Phase 3 project in the TSP - As part of the Loop Trail, this path is identified as a Regional Trail
	- Land use along the corridor is predominantly single-family homes with areas of high-density residential and commercial at the Meyers Road and OR-213 intersection - This path will provide an important multimodal connection from the residential areas to the west of OR-213 to Clackamas County Community College and Oregon City High School
	Coordination with private landowners will be required to widen easements for existing sidewalks
	While there are on-street bicycle lanes on Meyers Road and continuous sidewalks along most of the corridor, enhancements are needed to improve comfort for people walking and riding a bicycle
	There are no significant on-street utilities along Meyers Road other than utility access holes, catch basins, fire hydrants, electricity poles, and electricity cabinets
	There are no significant environmental limitations to align the shared use path along Meyers Road

Proposed Alignment

This shared use path alignment runs along Meyers Road from OR-213 to Moccasin Way where it connects to the Meyers-Beavercreek Path (S-22).

After a detailed evaluation, the north side of Meyers Road was selected as the ultimate location for the shared use path.

The north side of Meyers Road was selected for the following reasons:

- This alignment would keep the entire shared use path within the City's boundary.
- There are already continuous sidewalks on the north side of Meyers Road.
- There will be fewer impacts to utilities with widening sidewalks and moving the curb on the north side of the road.
- Placing the shared use path on the north side allows community members that live to the north and east of Meyers Road to access the path without having to cross Meyers Road.

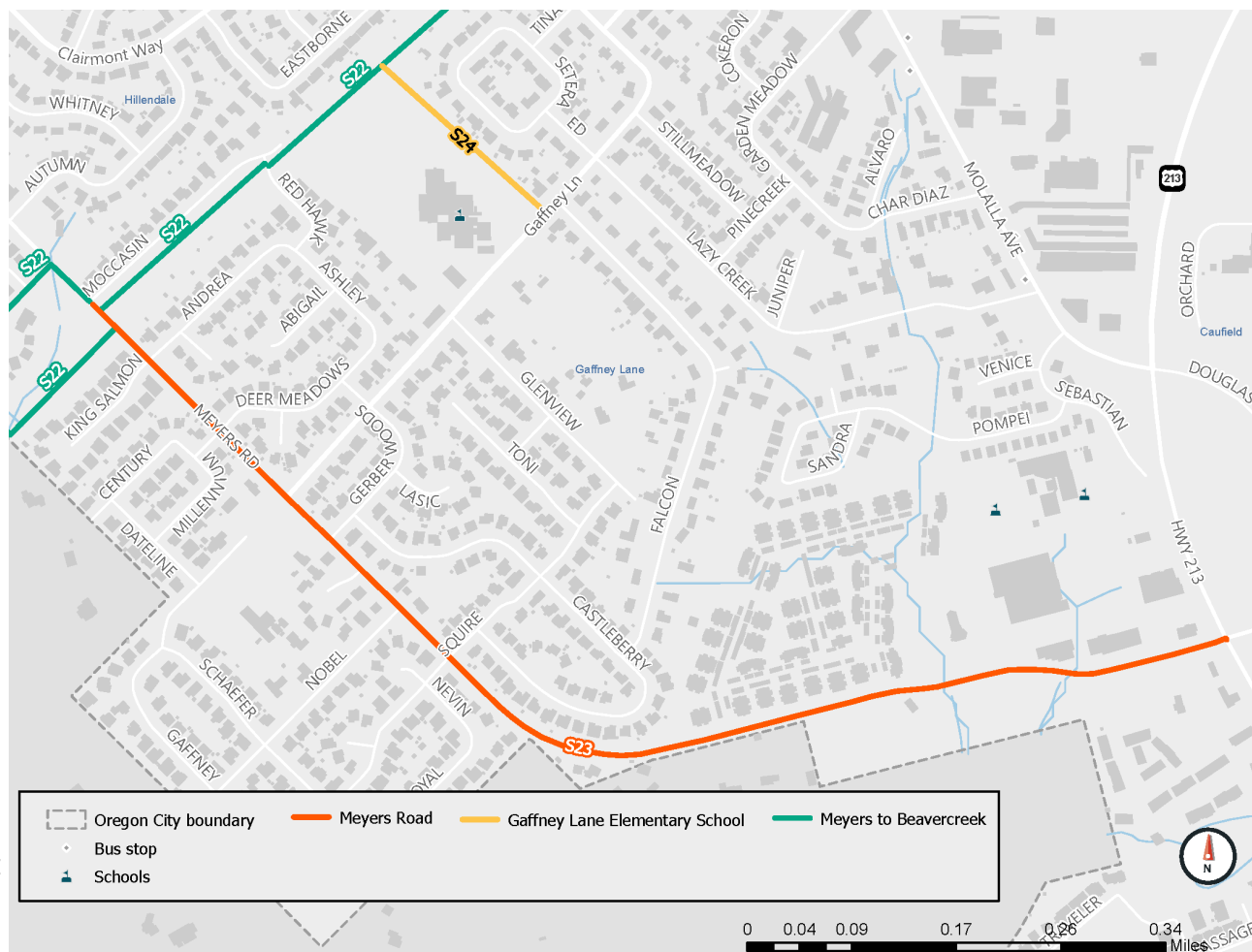


Figure 5. Meyers Road Proposed Alignment

Proposed Cross-Section

As shown on **Figure 7**, the proposed cross-section for this path includes a 12-foot shared use path on the north side of Meyers Road.

To achieve this, the on-street bicycle lanes will be removed and everyone riding bicycles and other small mobility devices will use the shared use path. This will allow for moving the north curb in to create space to widen the existing sidewalk and provide a landscaped buffer without substantial impacts to residential properties.

Additional considerations that will need to be addressed as this path is constructed include:

- Additional treatments to improve safety at driveways and intersections along Meyers Road, including raised crosswalks and additional signage
- There are some locations where existing easements will need to be widened to accommodate the shared use path

Estimated Cost

Based on the planning-level cost-estimate for this segment, the cost for design and construction of this shared use path is between \$4.5 million on the low end and \$7.16 million on the high end, as shown in **Table 4**.

Concepts used to develop cost-estimates are provided in **Appendix C: Concepts & Cross-Sections** while detailed cost-estimates can be found in **Appendix D: Cost-Estimates**.

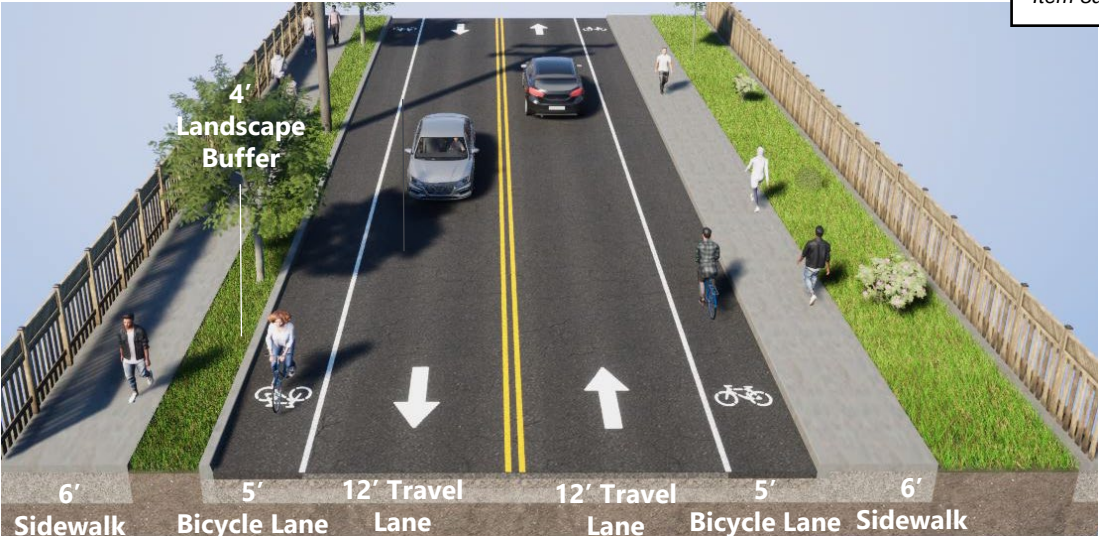


Figure 6. Existing Meyers Road Cross-Section

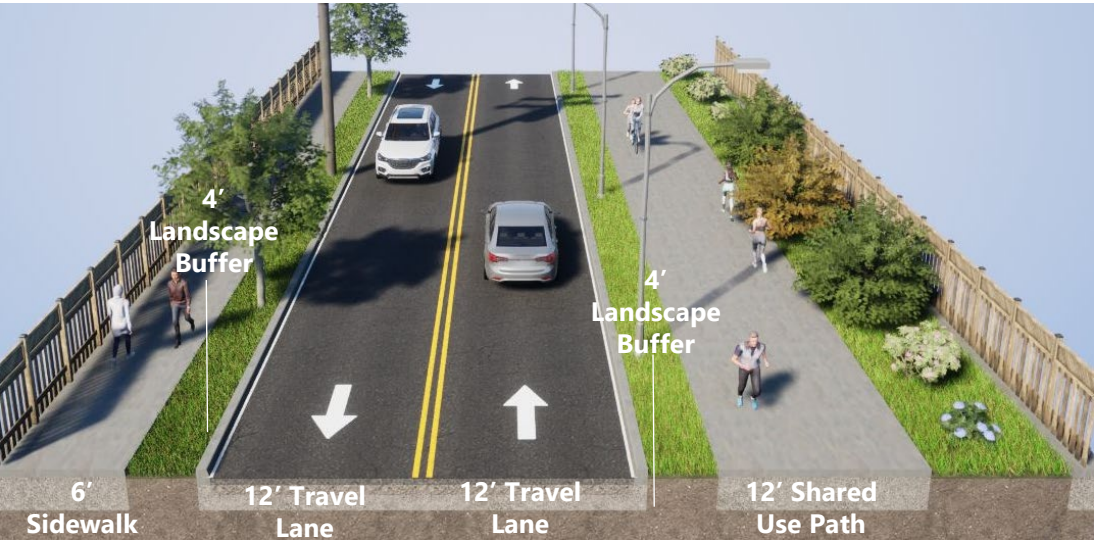


Figure 7. Proposed Meyers Road Cross-Section

Table 4. Meyers Road Cost-Estimate		
Segment	Low Estimate (2023 \$)	High Estimate (2023 \$)
Meyers Road Shared Use Path	\$4,776,000	\$7,164,000

Gaffney Lane Elementary Shared Use Path (Project S-24)

The Gaffney Lane Elementary Shared Use Path (S-24) is an ancillary path that will create a connection from Gaffney Lane to the Meyers-Beavercreek Path (S-22). This path exists today and is used by people connecting to the school and open space located behind the school. This refinement plan is not making recommendations to change the alignment but has identified the appropriate cross-section to formalize the path.

Table 5 summarizes the key opportunities and constraints that were identified and used to inform development of the proposed cross-section and alignment for this path.

Table 5. Gaffney Lane Opportunities & Constraints

	- This path is part of the TSP's Likely to be Funded Transportation System and prioritized for implementation before 2035 - This path is identified as a part of the Hillendale South Trail in the City's Master Plan, which will ultimately connect Gaffney Lane to Hillendale Park
	Land use surrounding the shared use path alignment is entirely built out with single-family homes located east of the path and Gaffney Lane Elementary School located to the west of the path
	The shared use path alignment is located on two lots, both owned by Oregon City School District who is open to formalizing use of the space by the City for the purpose of the shared use path
	The alignment for the shared use path is already in place along the first lot owned by the School District with approximately 150-feet of asphalt path before a gravel section, which is approximately 250-feet long
	There are no utilities that need to be considered until the connection with the planned Meyers-Beavercreek Shared Use Path
	The proposed alignment does not have any environmental constraints

Proposed Alignment

This shared use path alignment runs from Gaffney Lane to the Proposed Meyers-Beavercreek Shared Use Path (S-22), as shown on **Figure 8**.

This alignment utilizes the existing rudimentary path that exists today and connects people from Gaffney Lane to the open space located behind Gaffney Lane Elementary School.

This path will provide an off-street connection for families who may choose to walk to school, specifically those located behind the school. Once the Meyers-Beavercreek Path is constructed, there would be an off-street connection from Meyers Road to Berta Drive and a connection to Gaffney Lane.

As this alignment exists today, there are no environmental considerations or ROW impacts; however, coordination with surrounding residential areas and the school will be needed to ensure that security and privacy are maintained.



Figure 8. Gaffney Lane Proposed Alignment

Proposed Cross-Section

As shown on **Figure 9**, the proposed cross-section for this path includes a 12-foot shared use path that is separated from surrounding properties by existing fences.

Additional considerations that will need to be addressed as this path is constructed include:

- Coordination with surrounding property owners to determine additional amenities that could be incorporated to maintain both access and privacy
- Coordination with the school to ensure that the path provides direct access to the school while maintaining security for school children
- There are missing sidewalks on Gaffney Lane where this path would end; opportunities to fill sidewalk gaps on Gaffney Lane should be explored to maximize connections to the Gaffney Lane neighborhood

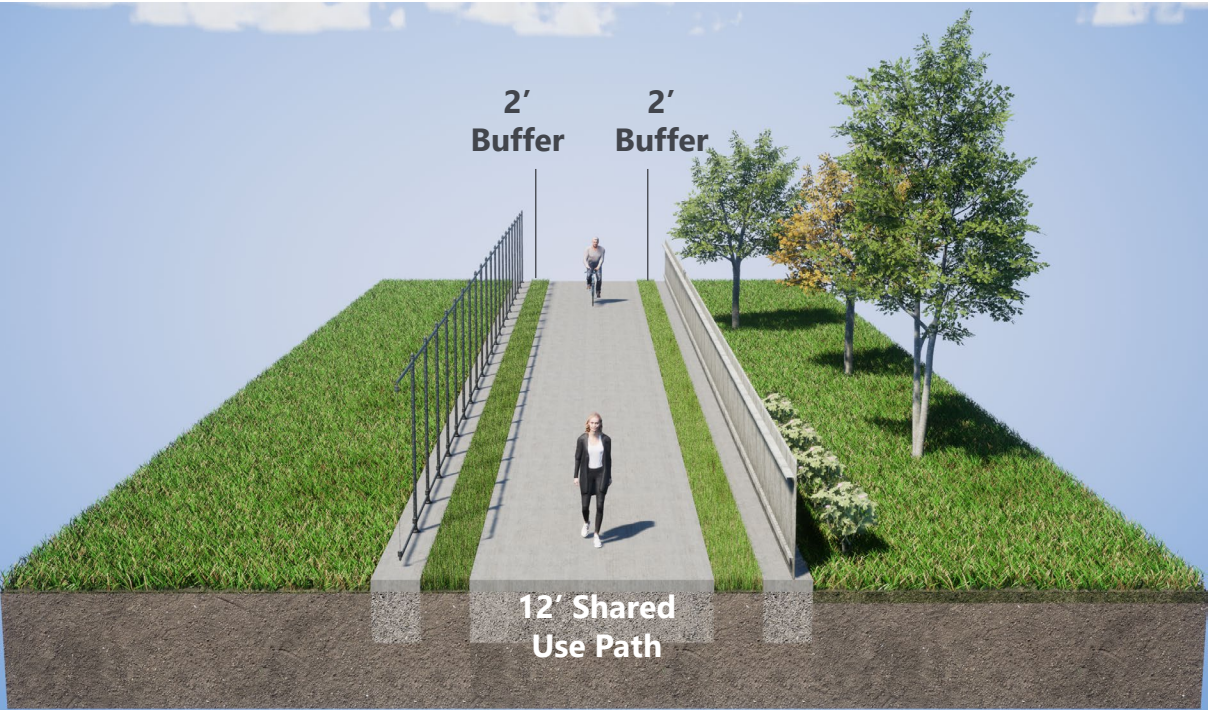


Figure 9. Gaffney Lane Cross-Section

Estimated Cost

Based on the planning-level cost-estimate for this segment, the cost for this path is expected to range from approximately \$500,000 to \$700,000 as shown in **Table 6**.

Concepts used to develop cost-estimates are provided in **Appendix C: Concepts & Cross-Sections** while detailed cost-estimates can be found in **Appendix D: Cost-Estimates**.

Table 6. Gaffney Lane Cost-Estimate		
Segment	Low Estimate (2023 \$)	High Estimate (2023 \$)
Gaffney Lane Shared Use Path	\$472,000	\$708,000

Orchard Grove- Hazelnut Shared Use Path (Project S-30)

The Orchard Grove-Hazelnut Shared Use Path is a portion of the Loop Trail that will connect people walking, biking, and using other small mobility devices from Orchard Grove Drive to Hazelnut Court, Hazel Grove Park, and John McLoughlin Elementary School. This portion of the plan will serve as guidance for developers which will likely be required to fund and build this portion of the Loop Trail as development occurs.

Table 7 summarizes the key opportunities and constraints that were identified and used to inform development of the proposed cross-section and alignment for this path.

Table 7. Orchard Grove-Hazelnut Opportunities & Constraints

	- The Transportation System Plan described this section of the regional trail as part of the Not Likely to be Funded Transportation System and is part of the lowest priority projects after the Likely to be Funded Transportation System is implemented - This segment is identified as part of the Oregon City Loop Trail
	- The surrounding land use and zoning is low-density residential - Major generators for the planned trail include Hazel Grove Park and John McLoughlin Elementary School
	- The off-street portion of the proposed alignment crosses land that is privately owned and undeveloped. - Portions of this segment of the Loop Trail will need to be constructed by private development as it occurs
	- Orchard Grove Drive and Wheeler Way are local streets with a 25-mph speed limit - There are no existing on-street bike lanes in the study area; except for a small gap on Orchard Drive, sidewalks are provided on all existing streets - When implemented, this portion of the Loop Trail will connect people walking, biking, and using small mobility devices to parks and schools using sidewalks and on-street facilities appropriate for the residential context and slow neighborhood streets
	There are no significant utilities along the proposed alignment
	There are no significant environmental constraints along the proposed alignment

Proposed Alignment

This portion of the Loop Trail runs from Hazeldell Avenue to S. Central Point Road.

Unlike other segments refined as part of this plan, the recommended alignment for this portion of the Trail utilizes on-street facilities for people riding a bicycle and other small mobility devices and sidewalks for people walking.

This recommendation was based on several factors including:

- The existing streets are low-volume with low-speeds
- Existing sidewalks include a landscape buffer and are compliant with Americans with Disabilities Act (ADA) standards
- As development occurs, this plan can be used to require developers to construct the extension of Hazelnut Avenue consistent with the recommended cross-section for this portion of the trail

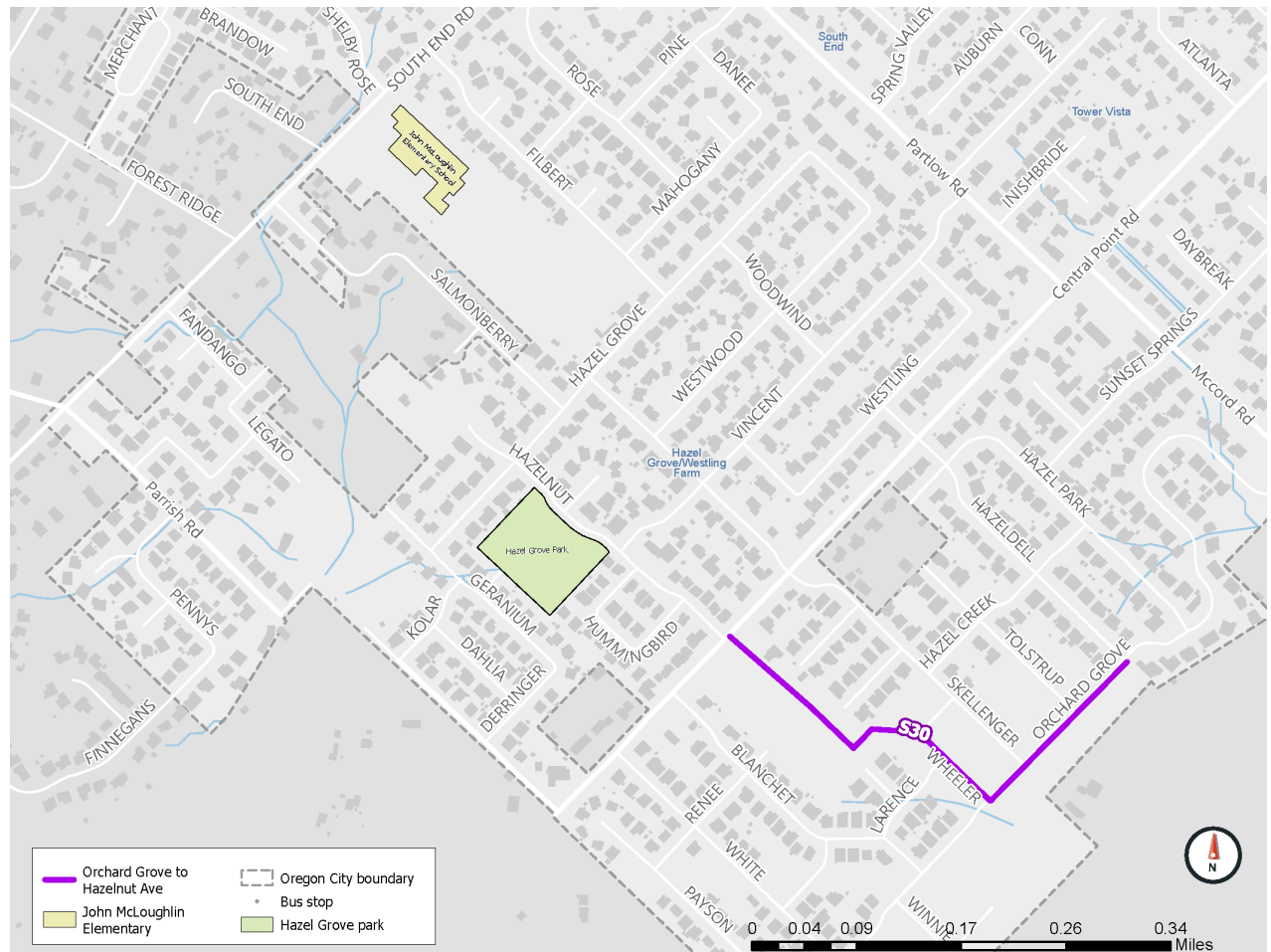


Figure 10. Orchard Grove-Hazelnut Proposed Alignment

Proposed Cross-Section

As shown on **Figure 10**, the proposed cross-section utilizes existing streets and sidewalks.

The primary addition to existing infrastructure included in the recommended cross-section is the addition of sharrows to indicate the people riding a bicycle should use the vehicle travel lane and alert drivers that they should be prepared to share the lane.

Additional considerations that will need to be addressed as this path is constructed include:

- The City should require development to construct Hazelnut Avenue with a similar cross-section as development occurs
- Additional safety features may need to be incorporated in the final design to maintain safety and comfort; this could include speed bumps/humps or additional features to limit cut-through traffic
- This route should be developed consistent with the standards for “family friendly routes” identified in the TSP

Estimated Cost

The planning-level cost-estimate for this segment includes elements needed to enhance existing streets. This estimate does not include the connection of Hazelnut Avenue as that is expected to be constructed by development. As shown in **Table 8**, the existing portion of the trail could be implemented for less than \$100,000.

Concepts used to develop cost-estimates are provided in **Appendix C** while detailed cost-estimates can be found in **Appendix D**.

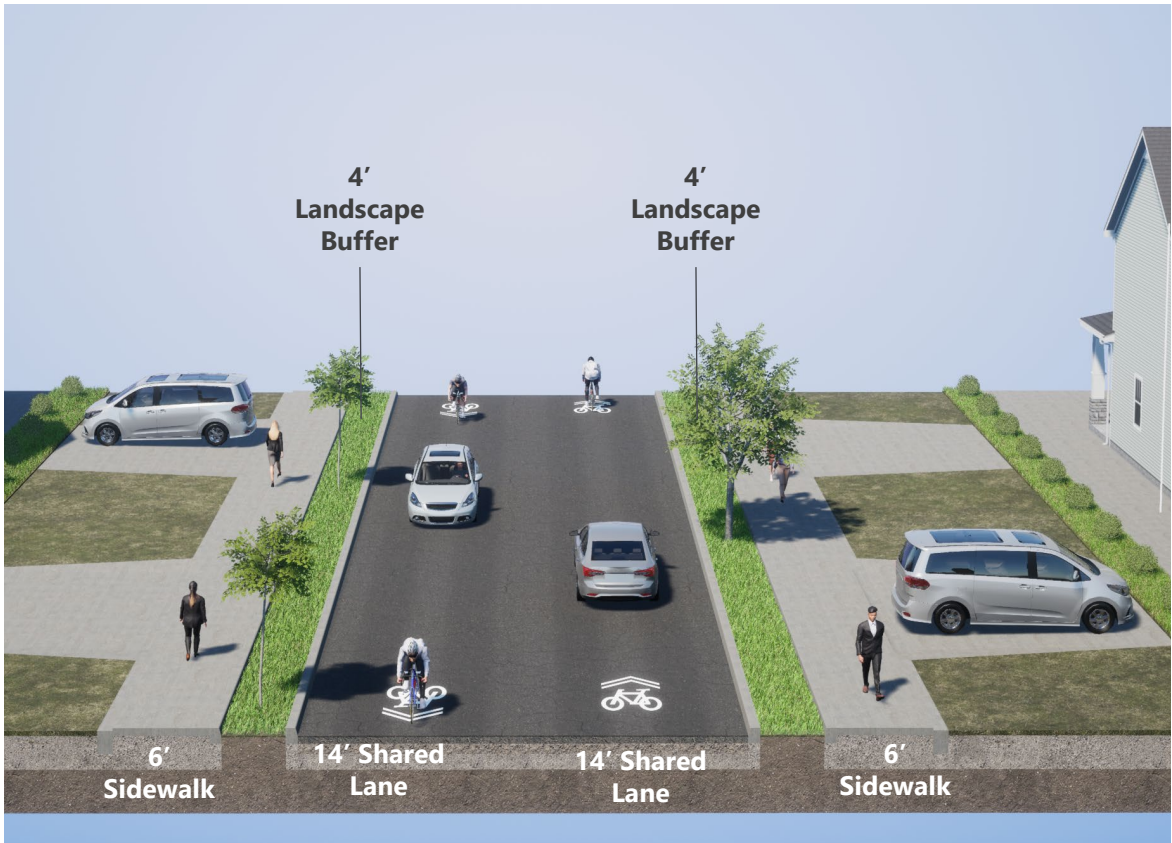


Figure 11. Orchard Grove-Hazelnut Cross-Section

Table 8. Orchard Grove-Hazelnut Cost-Estimate		
Segment	Low Estimate (2023 \$)	High Estimate (2023 \$)
Orchard Grove-Hazelnut	\$56,000	\$84,000

Funding Opportunities

One path to funding design and construction of the proposed path is to secure grant funding. Typically, grant funding is secured through competitive grant programs that the City must apply for. These grants often include a local match, requiring the City to provide anywhere from 10 percent to 40 percent of the project funds. The following grants have been identified as potential funding opportunities that the City could explore to implement the shared use paths.

Recreational Trails Programs (RTP)

This federally funded program, which is administered by the Oregon Parks and Recreation Department, provides funds for local agencies to develop, improve, or expand motorized and non-motorized trails and their facilities.

Eligible projects for these funds include:

- Construction of new trails
- Major rehabilitation of existing trails
- Development or improvement of trailhead or other support facilities
- Acquisition of land or easements for the purpose of trail development
- Safety and education projects

Oregon's annual RTP allocation is approximately \$1.6 million, which is awarded through an annual grant cycle, which opens in September.

The minimum grant request for this grant and the recommended maximum request is \$150,000. As part of the Loop Trail, the Orchard Grove-Hazelnut Shared Use Path, estimated to cost less than \$100,000, may be eligible for funding under this grant. Alternatively, the City could use this grant to cover a portion of the cost for the Gaffney Lane Elementary Path.

Oregon Community Paths

The Oregon Community Paths program is geared towards helping communities create and maintain connections through shared use paths. Eligible projects to receiving funding under this grant include:

- Continuous paths made up of one or more connected segments that are primarily physically separated from the roadway
- Paths that connect two or more communities, with each community no more than 15 miles apart, or traverses a single large community with a path that is 10 miles or longer
- Paths that will serve as a connection point for people commuting between communities, or is a part of an officially designated walking and bicycling route
- Paths that are endorsed by elected bodies along path alignment

Applications for this grant are on a two-year cycle with pre-applications due in the fall and applications accepted November through January. The two paths most likely to be competitive for this grant are the Meyers Road and Meyers-Beavercreek Shared Use Paths.

Safe Routes to School (SRTS)

The Oregon Department of Transportation provides funding for SRTS projects, under two umbrellas – construction and education. Projects that are eligible for this funding source include projects that are:

- Within the public road right-of-way
- Within one-mile of a school
- At or within the funding request minimum and maximum
- Have adequate local match
- Have support of the school or school district
- Provide a safety benefit
- Included in or aligned with an existing plan
- Committed to outreach

Funds from this program are allocated through a competitive grant process that consists of two applications typically due in March and July. The two paths eligible for funding under this grant program would be the Orchard Grove-Hazelnut and Gaffney Lane Elementary Shared Use Paths. It is important to note that funding under this program is allocated to schools serving low-income and/or historically disadvantaged communities so based on the demographic makeup of the schools at application, the schools may not be competitive.

Active Transportation Infrastructure Investment Program

This federally funded program is designed to fund communities looking to expand existing infrastructure for walking and biking to safely connect people to destinations and create opportunities for sustainable transportation and recreation.

This program received \$45 million in funding in fiscal year 2023 and is aimed at active transportation projects or group of projects with a total cost of over \$15 million, or total cost of \$100,000 for planning and design grants are eligible for funding under this program.

While none of the proposed paths exceed \$15 million individually, the Meyers Road and Meyers-Beavercreek Paths are estimated to cost roughly \$15 million when combined. As these paths would benefit from being constructed together, the City could consider apply for funding as one large project to improve multimodal connectivity in this part of the City.

Appendix A: Opportunities & Constraints

Technical Memorandum

Oregon City Loop Trail Refinement Plan

October 6, 2022

Prepared by Fehr & Peers

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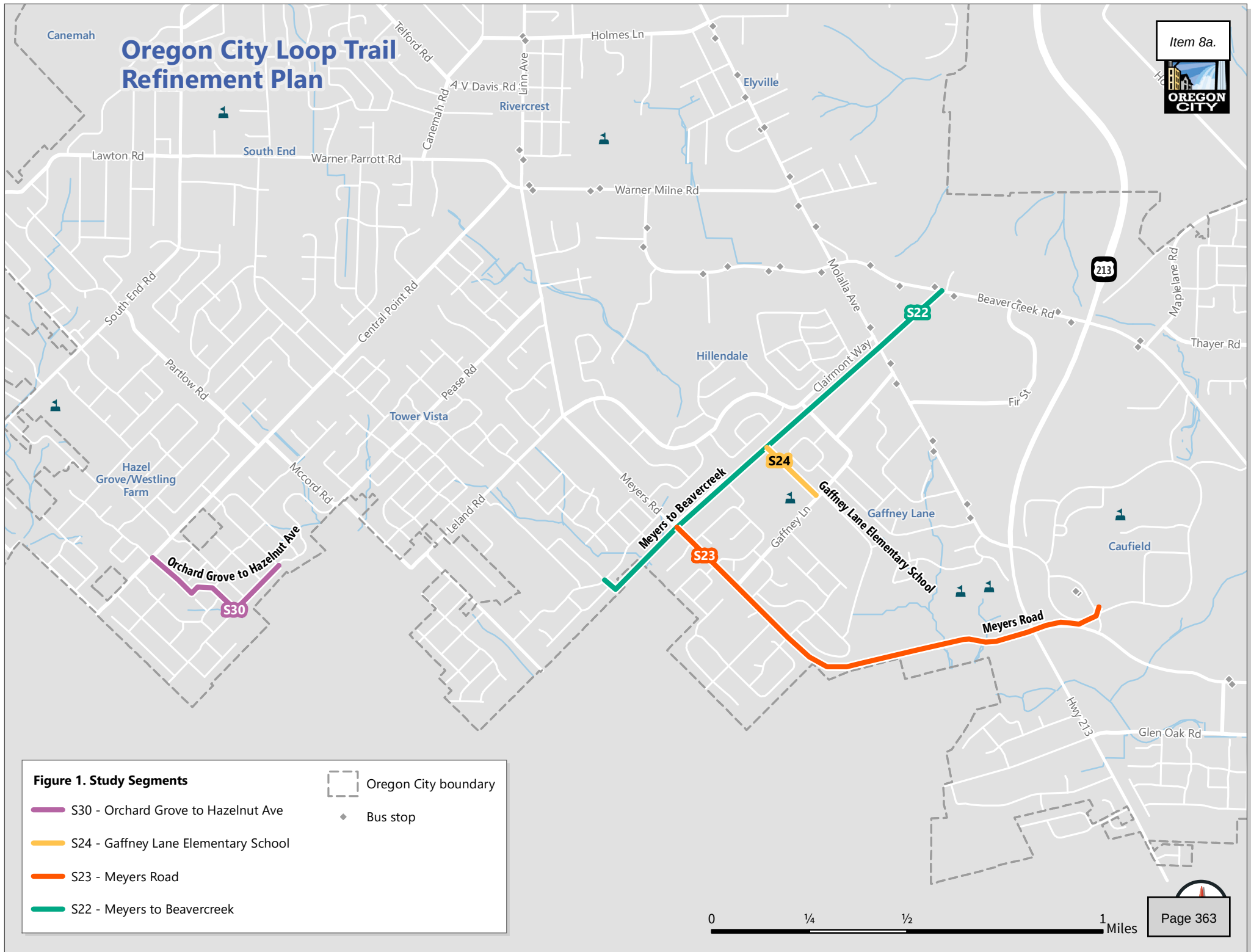
Introduction

The Oregon City Loop Trail, identified in the City's Trails Master Plan, will create a loop around Oregon City providing travelers with both off-street connections and connections along local roadways. The City's Transportation System Plan (TSP) also identifies ancillary shared use paths that will connect people walking, biking, and using other small mobility devices to the Loop Trail. The Oregon City Loop Trail Refinement Project presents an opportunity to further define two path segments of the Loop Trail and two ancillary paths. While the general route for these connections is known, this project will refine the shared use path alignment along existing roadways, through planned subdivisions and along property lines, and will identify the appropriate cross-section for each of the segments to meet the needs of anticipated users. This project will result in a planning document that will provide guidance for Development Review Staff to condition new development to design and construct portions of the path, position the City to add projects to the Capital Improvement Program (CIP) that would design and construct portions of the path, and most importantly, position the City to secure grant funding to support design and construction.

The four segments, shown on **Figure 1**, that will be refined as part of this project are:

- S22 – Meyers-Beavercreek Shared Use Path
- S23 – Meyers Road Shared Use Path
- S24 – Gaffney Lane Elementary Shared Use Path
- S30 – Orchard Grove-Hazelnut Shared Use Path

Oregon City Loop Trail Refinement Plan





Purpose

One focus of the City's TSP, adopted in 2013, was to emphasize a multimodal approach to solving transportation issues, including improving options for people walking and biking within the city. This approach is woven throughout the TSP goals, objectives, and the project list.

Goal 1 of the TSP states that the City should "Ensure that the transportation system maintains and improves individual health, safety and security by maximizing the comfort and convenience of walking, biking and transit options, public safety and service access." By beginning the process of refining the four segments identified for this study, this effort is positioning the City to advance the objective of providing a network of family-friendly walking and biking routes. This refinement plan will also identify potential funding sources that the City can use to design and construct these trail segments, aligning with the City's goal of identifying transportation investments that can be made with available funding.

The Loop Trail

The Oregon City Loop Trail will create a loop around Oregon City for people walking, biking, and using other small mobility devices and provide a connection to other planned local and regional trails. In addition to the four segments being evaluated in more detail, early information gathering for this effort also focused on answering questions about two segments of the trail that will be key pieces to connecting the loop, the portion of the trail that will cross Canemah Bluff and the portion that will use the alignment for the old Willamette Valley Southern Railway line through Newell Creek Canyon.

To understand priority for those segments at the regional level and next steps that would be needed to move development of the segments forward, the project team reached out to Metro staff as part of the stakeholder interviews. A summary of all stakeholder interviews is included as **Appendix A** of this document.

In 2018, the City completed the McLoughlin to Canemah Trail Plan, which evaluated options for connecting Canemah Bluff to the McLoughlin Promenade as part of the Loop Trail. The plan identified interim and permanent recommendations for the trail. For the segment of the trail that would connect to the McLoughlin to Canemah Trail and traverse Canemah Bluff Metro shared that developing the trail in this area is a long-term priority due to the resources required and the understanding that this will be a challenging segment to construct due to the need to protect existing wildlife habitats and the challenge of navigating private property in the area.

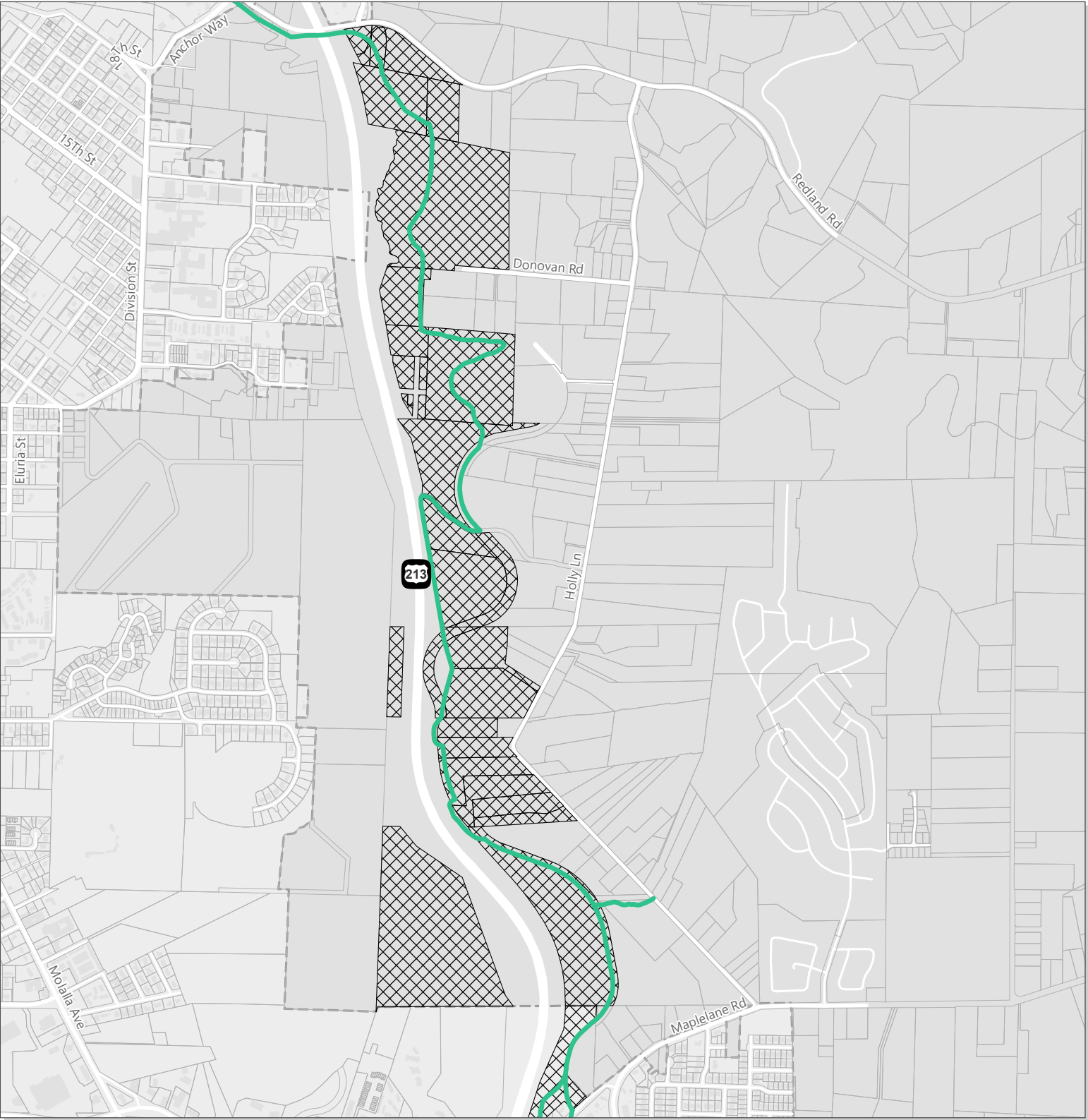
For the segment through Newell Creek Canyon, Metro shared that much of the property needed to complete that connection is currently held by Metro and efforts to purchase remaining properties needed to complete the connection continue. The existing property owned by Metro along the railroad alignment is shown on **Figure 2**, below. To move development of this segment



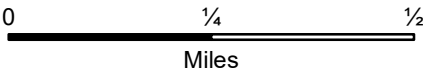
of the trail forward, the City would need to initiate and fund development of the trail as a local partner.



Figure 2. Clackamas County Community College to Downtown



-  Oregon City Loop Trail System
-  Metro Owned Property
-  Oregon City Boundary





Opportunities & Constraints

This technical memorandum will serve as the baseline for the refinement study, documenting opportunities, constraints, and issues for each of the segments that will need to be considered as the alignments and cross-sections are developed. Each topic area reviewed is described below.

Topic Areas

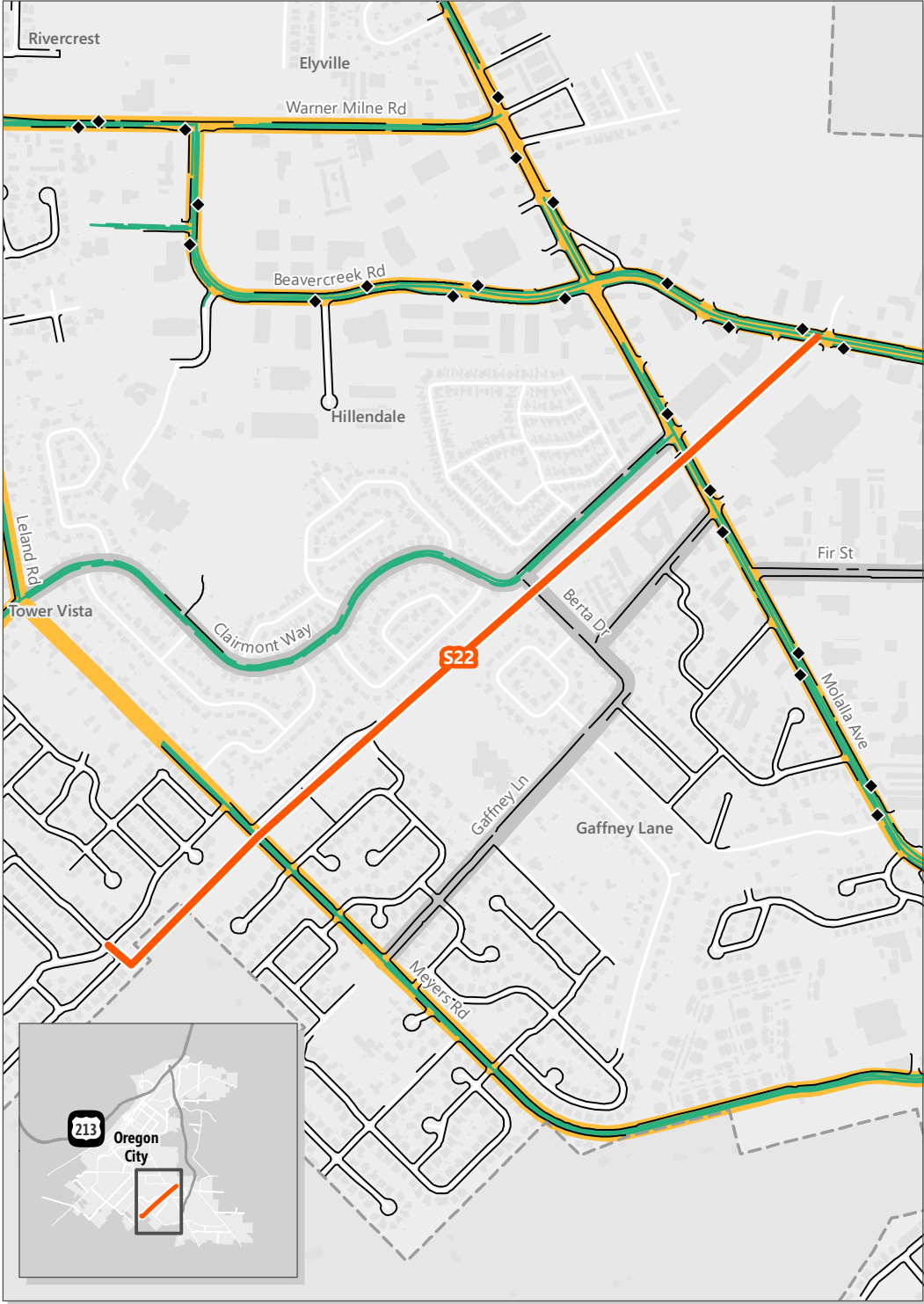
	Previous Planning Efforts: A review of planning documents that identify or provide direction for each of the segments that serve as a starting point for this effort.
	Surrounding Land Use & Context: The existing and planned land uses surrounding each segment, including identification of uses likely to generate bicycle and pedestrian trips such as schools and parks.
	Land Ownership & Right-of-Way (ROW): A review of ownership for the properties that may be needed to construct each of the segments and available ROW.
	Existing Infrastructure: An inventory of the roadway, bicycle, and pedestrian network in the area surrounding each segment.
	Utilities: An inventory of existing utilities within the anticipated alignment of each segment that will need to be considered in the refinement process.
	Environmental Constraints: A description of constraints including geologic hazards, water, and natural resources that will influence alignment and cross-section options.

Stakeholder interviews were also completed with key stakeholders, identified by the City, for each segment. Takeaways for each segment are documented in the following sections and a full summary is included in **Appendix A**.



Figure 3. S22 - Meyers to Beavercreek

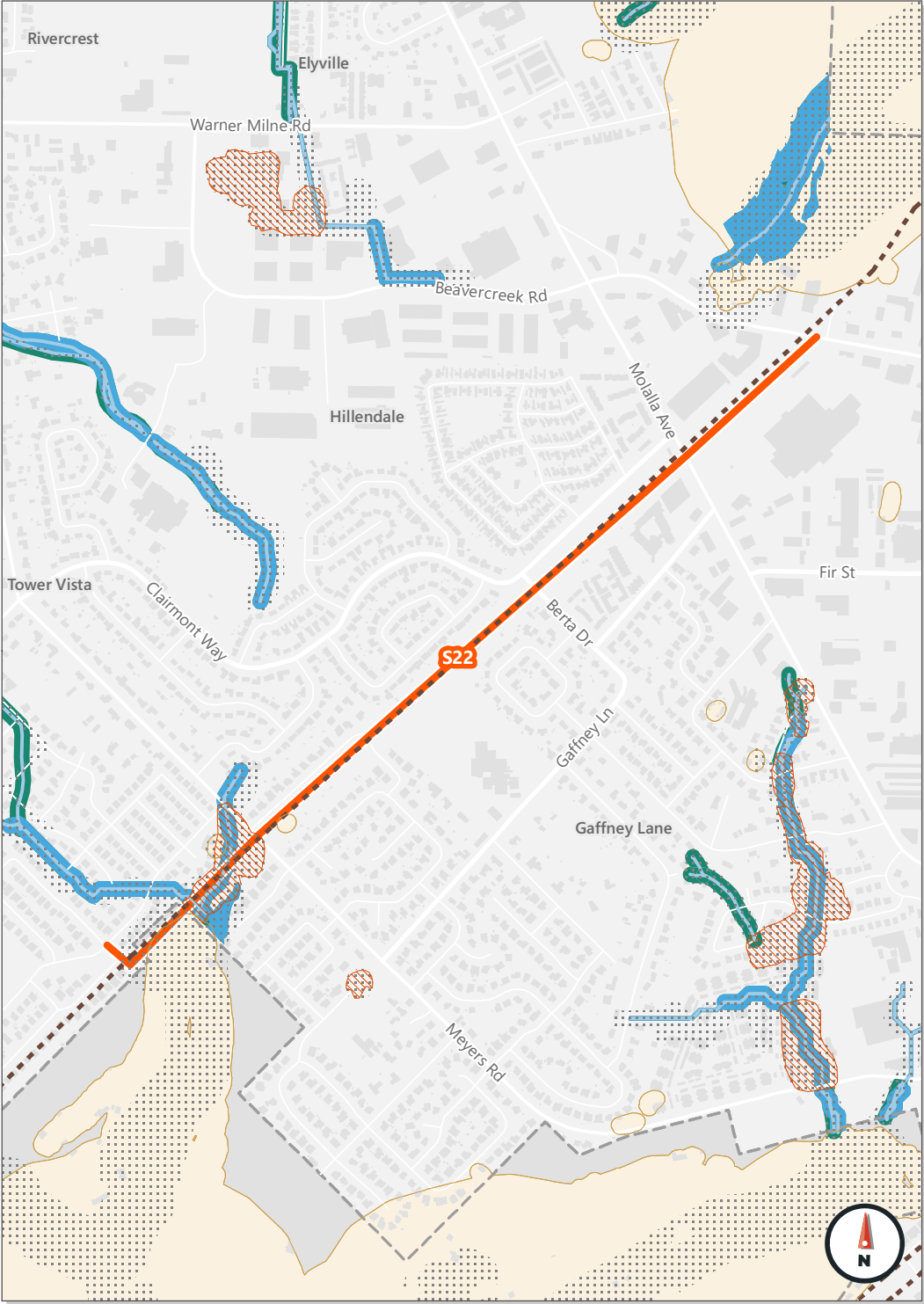
Transportation



Land Use



Utilities & Environmental



- | | |
|-------------------------|------------------------|
| Functional Class | ◆ Bus stop |
| — Freeway | — Sidewalk |
| — Collector | — Bike lane |
| — Arterial | — Oregon City Boundary |
| — Local | |

- | | |
|-------------------------|---------------------------|
| — Easement | ◆ Privately Owned Tax Lot |
| — Storm detention basin | ◆ School |
| — Unimproved ROW | — Oregon City Boundary |

- | | |
|-----------------|---------------|
| Zoning | |
| — Commercial | — Mixed use |
| — Industrial | — Residential |
| — Institutional | |

- | | | |
|--|--------------------------------|-------------|
| — Natural Resource Overlay District (NROD) | — Potential vegetated corridor | — Powerline |
| — Wetland | — Geologic hazard area | — Stream |
| — Riparian area | — Oregon City Boundary | |



Meyers-Beavercreek Shared Use Path - S22

The Meyers-Beavercreek Shared Use Path is an ancillary path that is intended to provide an off-street connection for people walking, biking, and using other small mobility devices from Beavercreek Road to Meyers Road. **Figure 3** shows the proposed connection, existing infrastructure, surrounding land use, utilities, and environmental constraints. A summary of issues and opportunities is provided below, followed by a detailed description of each of the topic areas.



Meyers-Beavercreek Shared Use Path Opportunities & Constraints

	- Identified as project S22 in the City's TSP, this project is part of the Not Likely to be Funded Transportation System. As a Long-term Phase 2 project, it is a high priority after the Likely to be Funded Transportation System is implemented. - As a Local Trail, the City's Trails Master Plan states that this shared use path should be designed to provide access for most, if not all, trail users with a width of between 6 to 12 feet and a paved or other smooth surface.
	- Between Beavercreek Road and Molalla Avenue, options for accommodating the path within the developed retail centers or alternate routes will need to be considered. - The predominate land use along the planned alignment is single-family residential. - Gaffney Lane Elementary School and Wesley Lynn Park are the primary generators for bicycle and pedestrian trips along the planned path.
	- Much of the planned alignment is along property owned by the City of Oregon City and Oregon City School District. - There is 12 feet of unimproved ROW between single-family homes from S Berta Drive to Gaffney Lane Elementary; however, several homes have fences that extend into the ROW. - There is an existing easement, granted to Portland General Electric (PGE), from Beavercreek Road to Frontier Parkway that follows the powerlines and is approximately 225 feet wide.
	- The primary consideration for roadways in the area will be how to create a safe crossing for the shared use path. Clairmont Way, Moccasin Way, and Frontier Parkway offer low-speed alternatives if an off-street connection is deemed infeasible or too expensive. - On-street bicycle lanes and sidewalks are provided in the area surrounding the planned path; however, if on-street alternatives are identified, enhancements to the existing on-street bicycle lanes will likely be needed to create a route that is comfortable for users of all ages and abilities. - This path will connect to the planned Gaffney Lane Elementary Shared Use Path, creating an off-street connection to the elementary school between Beavercreek Road and Meyers Road.
	- From Beavercreek Road to Frontier Parkway, the alignment follows high-voltage transmission lines that will require 50 feet of horizontal clearance from the shared use path and any street furniture. - There are two stormwater management areas, located on either side of Meyers Road, in areas where the shared use path is identified as providing an off-street connection.



Meyers-Beavercreek Shared Use Path Opportunities & Constraints



- Water and natural resources in the area between Meyers Road and Frontier Parkway will need to be considered as off-street options in that area are considered.
- The only geologic hazard present along this path alignment are slopes. Areas with slopes greater than 25% are located near the two stormwater management areas.



Previous Planning Efforts

Two planning documents, the City's TSP and Trails Master Plan, include details and guidance related to refinement of this shared use path. As the long-term guide for the City's transportation investments, the TSP provides a starting point for project refinement, while the Trails Master Plan provides design guidance based on the path's purpose and intended users.

TSP

The Meyers-Beavercreek Shared Use Path is identified as project S22 in the City's 2013 TSP. The project is identified as part of the Not Likely to Be Funded Transportation System. The Not Likely to Be Funded Transportation System is a list of projects that are not reasonably expected to be implemented by 2035 but will provide important connections for the transportation system.

The TSP project description states that this project will "Add a shared-use path under the power lines between Morrie Drive and Beavercreek Road. Will require a portion of the parking lot between Molalla and Beavercreek." The project limits are Morrie Drive to Beavercreek Road and it is identified as a Long-term Phase 2 project estimated to cost \$1.2 million. Because this project is identified as a Long-term Phase 2 project, it is considered one of the highest priority projects after the Likely to be funded Transportation System is implemented.

Trails Master Plan

The City's Trails Master Plan, completed in 2004, provides guidance on trail designs based on the facility type, the types of anticipated users, available width, and surface options. The Trails Master plan also provides guidance on trail-roadway crossings that will need to be considered for this segment.

The Meyers-Beavercreek Shared Use Path is identified as a proposed local trail in the Trails Master Plan. The Master Plan states that "City trails provide access for most, if not all, trail users within neighborhoods, parks, greenspaces, and other recreational areas. They are similar to regional trails in that they typically have their own right-of-way and serve only non-motorized users. These trails should be at least six feet wide and at least eight feet wide if bicycle use is anticipated. All



efforts should be made so that at least one ADA accessible trail is available and serves the most desirable parts of the area (i.e., picnic areas, viewpoints, playground equipment, etc.).”

Based on the Trail Design Types and Standards in the Master Plan, these trails should be designed with a width of between 6 and 12 feet and should be a paved or other smooth-rolling surface to accommodate all trail users.

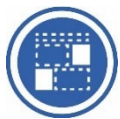
This shared use path may have up to four roadway crossings at:

- Beaver Creek Road
- Molalla Avenue
- S Berta Drive
- Meyers Road

The Trails Master Plan will be referenced to provide guidance on three potential crossing solutions that will be explored as part of this refinement phase:

- Unprotected/Marked
- Route Users to an Existing Intersection
- Signalized/Controlled

Guidance in the Trails Master Plan will be used to determine which crossing types may be appropriate and what enhancements may be needed based on traffic volume, speed, and line of sight.



Surrounding Land Use & Context

Today, there are three land uses adjacent to the identified alignment for the shared use path: commercial, residential, and institutional.

At the northeast end of the path, from Beaver Creek Road to just south of Molalla Avenue, the surrounding land use is retail. The area is zoned as General Commercial and designated as an Enterprise Zone.

The area between the retail use just south of Molalla Avenue and S Berta Drive is zoned as High-Density Residential District; however, along the identified alignment, the land is undeveloped and currently serves as a construction staging area for the city.

Between S Berta Drive and McVey Lane, land use zoning allows for low density residential uses. Today, there are single-family homes on both sides of the proposed shared use path and an elementary school. From McVey Lane to Morrie Drive, the land use is zoned as R-8, another low-density residential use. There is no development between Red Hawk Drive and Meyers Road due



to a stormwater management area. There is also a stormwater management area located directly across Meyers Road. Except for the stormwater ponds, the land use surrounding the shared use path is fully built out.

Today, the primary land use that would generate bicycle and pedestrian trips along the shared use path is the elementary school. When constructed, this path would provide a connection from the Gaffney Lane neighborhood to Wesley Linn Park, another key destination for people walking, biking, and using other small mobility devices in this part of the city.



Land Ownership & Right-of-Way (ROW)

Properties along the proposed alignment are owned by a mix of private and public owners as shown on **Figure 3**. Undeveloped properties along this path alignment are owned by:

- Settlers Point Homeowners Association
- The City of Oregon City
- Oregon City School District

Other property owners along the proposed alignment include:

- Fred Meyer Stores
- Wesberg Family Properties LLC
- Private residence owners

There is an existing easement, the length of the proposed path, that is approximately 225 feet wide between Beaver Creek Road and Frontier Parkway. The easement, granted to PGE, allows the land to be used for power lines and includes wooden distribution poles and transmission lines.

Conversations with the School District also indicate that the district is open to collaborating with the City on an easement allowing access and use of their property outside the fenced area that provides access to the school and playground.

In addition to the parcels owned by the City, there are also 12 feet of unimproved ROW between parcels located on Eastborne Drive and Tina Street. This ROW runs from S Berta Drive to about halfway through the parcel owned by the School District. While this ROW appears to be available for public use, several property owners have built privacy fences that extend into this ROW and block access.



Existing Infrastructure

Vehicles

There are seven roadways that will be considered as the design for this shared use path is refined. A brief description of each is provided below.

Beavercreek Road is a four-lane roadway with a posted speed limit of 35 miles per hour (mph) and is identified as a Major Arterial by the City's Functional Roadway Classification System. The primary challenge for this roadway will be determining where and how shared use path users should cross to connect to planned trails northeast of Beavercreek Road.

Molalla Avenue is a two-lane roadway with a center turn lane, a posted speed limit of 35 mph, and is identified as a Major Arterial. Where and how the shared use path crosses Molalla Avenue is the primary challenge for this roadway.

S Fir Street is a two-lane roadway with on-street parking permitted on both sides and a posted speed limit of 25 mph. Identified as a Collector, S Fir Street may be considered as an alternative to a connection through the existing retail area, if needed.

Clairmont Way is a two-lane Collector with a posted speed limit of 25 mph and is adjacent to the shared use path alignment between Molalla Avenue and S Berta Drive. On-street parking is permitted on both sides of the road.

Moccasin Way is a two-lane Local Street with a posted speed limit of 25 mph that serves only as residential access for the homes along it. On-street parking is permitted on both sides of the road. Moccasin Way may be considered as an alternative to constructing the shared use path through the parcel with the stormwater pond.

Meyers Road is a two-lane Minor Arterial with a posted speed limit of 35 mph and no on-street parking permitted near the shared use path. Creating a safe connection across Meyers Road will be the primary challenge for this roadway.

Frontier Parkway is a two-lane Local Street with on-street parking permitted on both sides of the street and a posted speed limit of 25 mph. Frontier Parkway connects to Wesley Lynn Park and may be considered as an alternative to constructing the shared use path through the stormwater retention area southwest of Meyers Road.

Bicycle and Pedestrian

Today, on-street bicycle lanes are provided on the following roadways:

- Beavercreek Road
- S Fir Street (from Beavercreek Road to approximately 0.25 miles south of the intersection)



- Molalla Avenue
- Clairmont Way
- Meyers Road

Except for Molalla Avenue, the on-street bicycle lanes are unprotected and do not have a buffer. On Molalla Avenue, the recent streetscape project included the addition of buffered bicycle lanes.

Sidewalks are also prevalent in the area surrounding this shared use path alignment. Only the south sides of Clairmont Way and Moccasin Way are missing sidewalks.

When constructed, this path will connect to the Gaffney Lane Elementary Shared Use Path, creating an off-street connection to the elementary school between Beavercreek Road and Meyers Road.

Transit

When constructed, this shared use path could provide an off-street connection to transit stops on Beavercreek Road and Molalla Avenue.

Bus stops near the shared use path alignment on Molalla Avenue are served by TriMet Route 33 and 99, which provide connections to Clackamas Town Center and downtown Portland, respectively. On Beavercreek Road, the shared use path would connect travelers to Route 32, which provides service to Milwaukie.



Utilities

Existing powerlines and stormwater facilities are the primary utilities that will need to be considered along the shared use path alignment.

Powerlines: The proposed alignment follows the powerlines from Beavercreek Road to Frontier Parkway. Within the proposed alignment, there are seven lattice towers used for transmission lines and several wooden poles with distribution lines. PG&E owns the transmission and distribution lines. Wooden distribution poles can be relocated, as needed, to provide space for the shared use path. Based on documentation provided by PG&E, 50 feet of clearance will be required between the shared use path and the higher voltage transmission lines. Access for maintenance vehicles, including vehicles as large as a bucket truck, should also be maintained as the shared use path alignment is refined.

Stormwater: There are two stormwater management areas located along the shared use path alignment. One is located on the northeast corner of Moccasin Way and Meyers Road on land owned by the City. The second pond is located directly across Meyers Road on land owned by the Settlers Point Homeowners Association.



Environmental Constraints

For this path, the only area with environmental constraints is the area surrounding the stormwater management areas at the southwest end of the path.

Water and Natural Resources: The area between Meyers Road and Frontier Parkway is home to water and other natural resources that will need to be considered in evaluating off-street options in this area. Those resources include:

- A stream that runs from the northeast side of Meyers Road across Frontier Parkway
- Wetlands
- Riparian Area
- A vegetated corridor

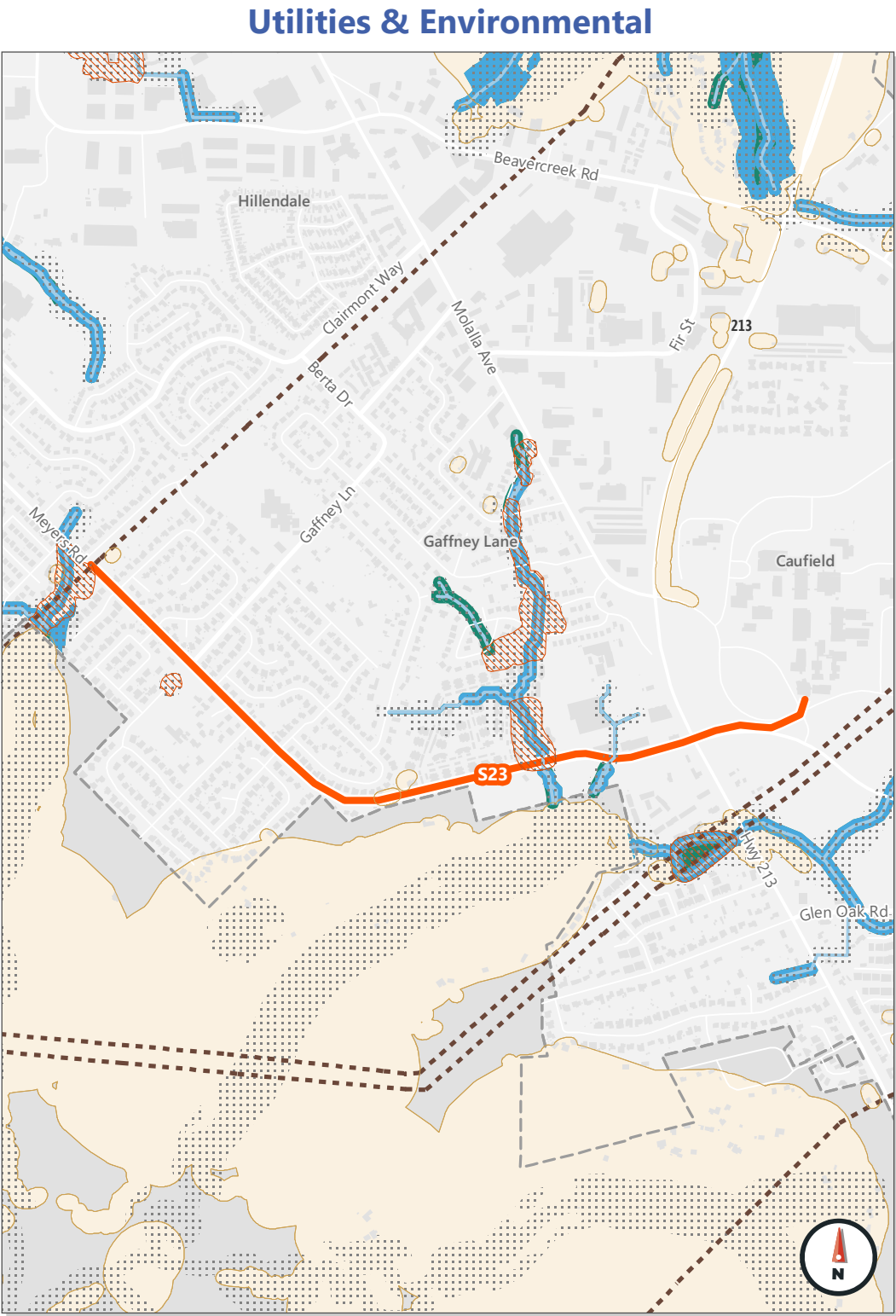
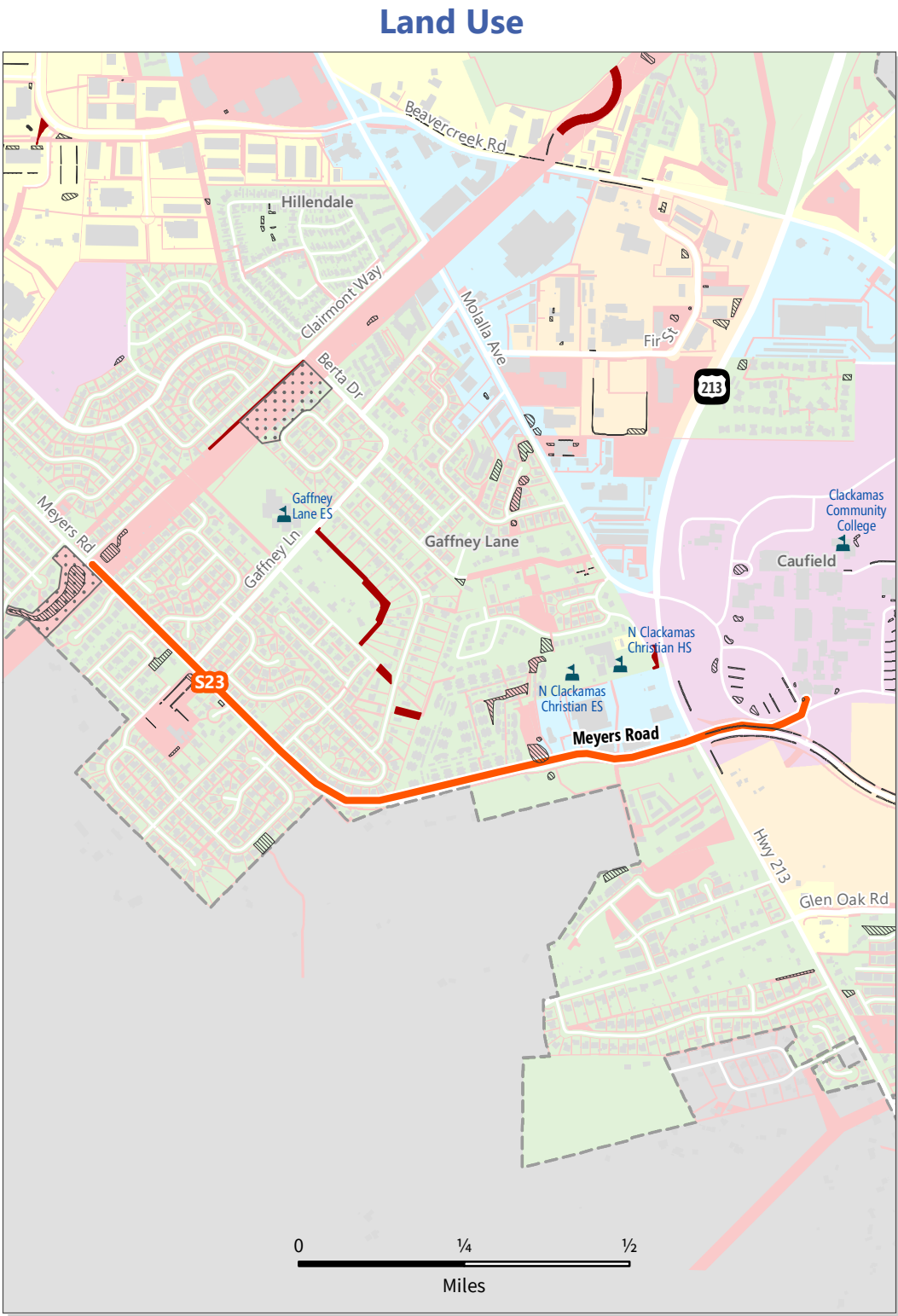
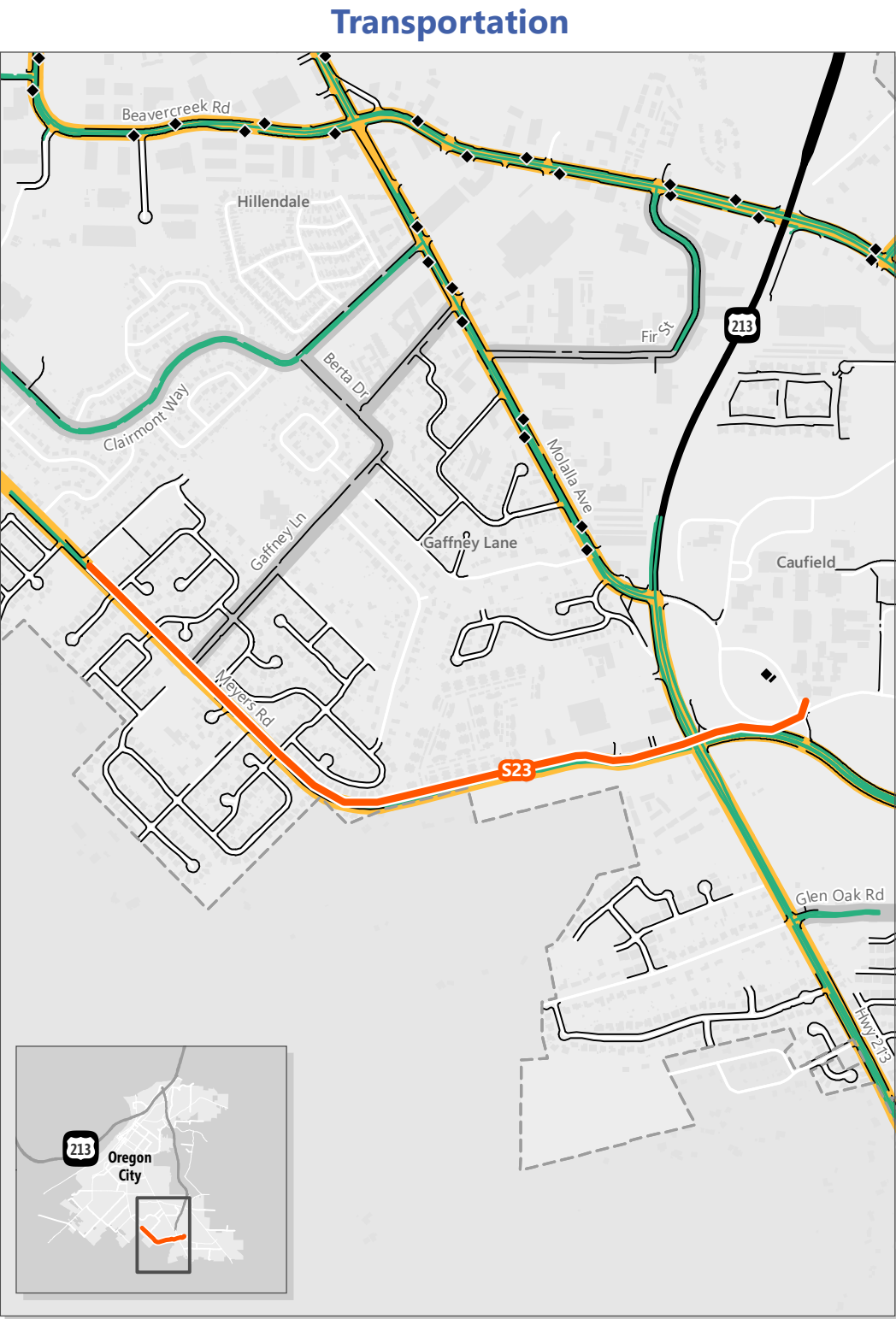
Geologic Hazards: The only geologic hazards that will need to be considered are slopes. In this area, there are small areas with slopes greater than 25% near the stormwater management areas.



Meyers Road Shared Use Path - S23

The Meyers Shared Use Path is a portion of the Oregon City Loop Trail that will connect people walking, biking, and using other small mobility devices from Oregon Route 213 (OR-213) to the Meyers-Beavercreek Shared Use Path. **Figure 4** shows the proposed connection, existing infrastructure, surrounding land use, utilities, and environmental constraints. A summary of issues and opportunities is provided below, followed by a detailed description of each of the topic areas.

Meyers Road Shared Use Path Opportunities & Constraints	
	- Identified as project S23 in the City's TSP, this project is part of the Not Likely to Be Funded Transportation System. As a Long-term Phase 3 project, it is part of the lowest priority projects after the Likely to Be Funded Transportation System is implemented. - As a Regional Trail, this shared use path may be eligible for regional funding. The City's Trails Master Plan indicates that the trail should be designed to provide two-way travel for people walking and biking with a width of between 10 and 12 feet. - The Linn Avenue, Leland Road, and Meyers Road Corridor Plan identified a preferred cross-section for Meyers Road from Moccasin Way to Leland Road that was created to guide development of the corridor and ensure that when completed the corridor reflected the priorities identified in the City's TSP.
	- Land use along the corridor is predominantly single-family homes, with areas of high-density residential and commercial at the Meyers Road and OR-213 intersection. - This shared use path would provide an important multimodal connection from the residential areas to the west of OR-213 to Clackamas County Community College and Oregon City High School, located just east of OR-213.
	Coordination with private land owners will be required if connecting existing sidewalks along Meyers Road is identified as the most feasible solution for people walking.
	Major generators of users are located at the east section of the proposed shared use path. Generators include retail stores, Clackamas Community College, and Oregon City High School.
	There are no significant on-street utilities along Meyers Road other than utility access holes, catch basins, fire hydrants, electricity poles, and electricity cabinets.
	There are no significant environmental limitations to align the shared use path along Meyers Road.



- | | |
|-------------------------|------------------------|
| Functional Class | ◆ Bus stop |
| — Freeway | — Sidewalk |
| — Collector | — Bike lane |
| — Arterial | — Oregon City Boundary |
| — Local | |

- | | |
|-------------------------|---------------------------|
| — Easement | ▤ Privately Owned Tax Lot |
| ▤ Storm detention basin | 🏫 School |
| — Unimproved ROW | ▤ Oregon City Boundary |

- | | |
|-----------------|---------------|
| Zoning | |
| — Commercial | — Mixed use |
| — Industrial | — Residential |
| — Institutional | |

- | | | |
|--|--------------------------------|-------------|
| ▤ Natural Resource Overlay District (NROD) | — Potential vegetated corridor | — Powerline |
| ▤ Wetland | — Geologic hazard area | — Stream |
| — Riparian area | ▤ Oregon City Boundary | |



Previous Planning Efforts

Three planning documents provide guidance related to refinement of this shared use path: the City's TSP; the Trails Master Plan; and the Linn Avenue, Leland Road, and Meyers Road Corridor Plan.

TSP

The Meyers Road Shared Use Path is identified as project S23 in the City's TSP and is included in the list of projects identified as not likely to be funded prior to 2035.

The TSP project description states that this project will "Add a shared-use path on the south side of Meyers Road between the Meyers-Beavercreek Shared Use Path and the Clackamas Community College Shared Use Path." The project is estimated to cost \$1.1 million with project limits defined as between the Meyers-Beavercreek Shared Use Path and OR-213. The project is identified as a Long-term Phase 3 project, meaning it is in the second set of projects identified for implementation after the Likely to be Funded Transportation System is complete.

Trails Master Plan

In 2004 the Trails Master Plan identified Meyers Road as a potential roadway to implement bike lanes to expand the bike network connecting the city in the north-south directions. Meyers Road was also identified as a corridor for the Oregon City Loop Trail. Oregon City Loop Trail is classified as a regional trail, part of the Metro's Regional Transportation Plan (RTP), which makes this section of the shared use path on Meyer Road eligible for regional funding.

According to the City's Trails Master Plan, regional trails should be designed for two-way bicycle and pedestrian traffic with its own ROW and should be able to accommodate maintenance and emergency vehicles. Based on the design guidelines the shared use path should:

- Be between 10 and 12 feet wide with 2 feet of soft shoulders
- Have a paved or other smooth rolling surface to accommodate all trail users, which include bicyclists, pedestrians, wheelchairs, baby strollers, equestrians, and skaters.

This shared use path may have up to nine roadway crossings at the roadways listed below. Except for the OR-213 crossing, these crossings will be unprotected/marked crossings of residential and collector streets. Likely crossings include:

- OR-213
- Squire Drive
- S Nobel Road
- S Gerber Woods Drive
- Gaffney Lane



- Century Drive
- Andrea Street
- S Moccasin Way
- Frontier Parkway

Based on the Trails Master Plan, Type 1 and Type 2 crossings may be appropriate along this segment. Type 1 crossings are unprotected but marked crosswalks, with no additional devices to slow down the traffic. Type 2 crossings are required within 250 feet of existing signalized intersections, and all trail users are diverted to the crosswalk of the existing intersection by using signs and barriers where the trail meets the roadway.

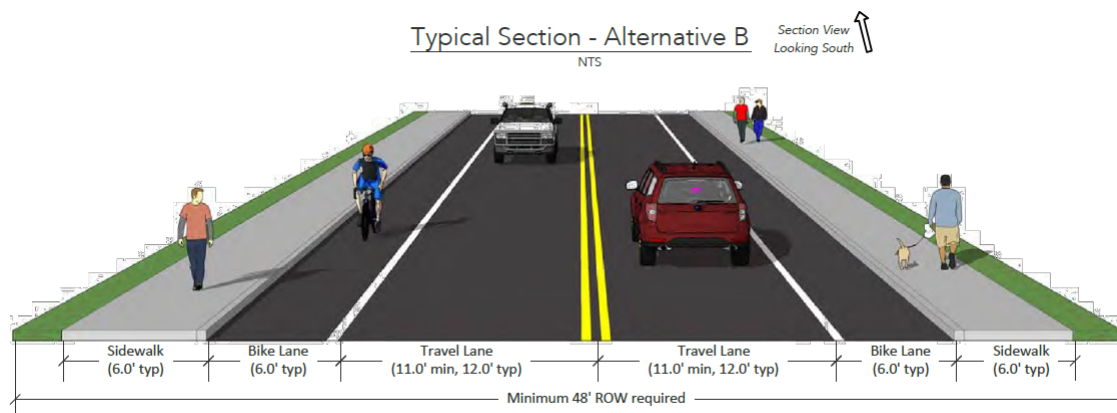
The Trails Master Plan will be referenced to provide guidance as to what enhancements may be needed based on traffic volume, speed, and line of sight for unprotected or marked crossings.

Linn Avenue, Leland Road & Meyers Road Corridor Plan

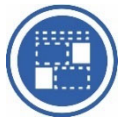
The Linn Avenue, Leland Road & Meyers Road Corridor Plan was completed in 2015 to guide development along the corridor from Jackson Street to Moccasin Way, the beginning of the Meyers Road Shared Use Path.

This planning effort proposed closing the gaps on the sidewalk and bike networks by building the missing sidewalks and bike lanes along the corridor, enhancing options for residents to travel along the corridor using alternative modes of transportation.

The final cross-section design was defined within 48 feet of right-of-way with two 12-foot travel lanes, one 6-foot-wide bike lane in each direction, one 6-foot sidewalk on each side of the street, see the illustration below.



Source: Linn Avenue, Leland Road, and Meyers Road Corridor Plan 2015.



Surrounding Land Use & Context

The primary land use along Meyers Road is low-density residential as shown on **Figure 4**.

At the intersection of Meyers Road and OR-213, zoning allows for high-density residential and commercial uses.

Between Moccasin Way and Pioneer Ridge, land use along the corridor is fully built out with single-family homes. Between Pioneer Ridge and OR-213 on the north side of Meyers Road, there is multi-family housing and general commercial. The south side of Meyers Road is zoned for high-density residential but has not been developed.

Across OR-213, this shared use path will connect to Clackamas County Community College and Oregon City High School. The Meyers Road Shared Use Path will connect people living in the residential areas west of OR-213 to the institutional land uses to the east.

Data analyzed by Clackamas County Community College in 2020, found that the Gaffney Lane neighborhood is home to many students that attend Clackamas County Community College, with most of the neighborhood having a student density of nearly 15 students per quarter mile. Multi-family developments near the college have a student population density of nearly 60 students per quarter mile, indicating that the college could be a substantial generator of bicycle and pedestrian trips along the corridor if safe and comfortable facilities are provided.



Land Ownership & Right-of-Way (ROW)

As shown on **Figure 4**, all properties along Meyers Road between OR-213 and Moccasin Way are privately owned. Most properties on the south side of Meyers Road have a slope easement granted to the City of Oregon City that is 12 feet in width. There are three properties within the city that do not have an existing easement, and one property located outside the city limits that does not have an easement. On the north side, there are no gaps in the easement between OR-213 and Moccasin Way and the easement varies from 10 feet to 23 feet.



Existing Infrastructure

Vehicles

Meyers Road is classified as minor arterial which connects local streets and collectors with major arterials such as OR-213. It is a two-lane corridor with a posted speed limit of 35 mph. Between OR-213 and Moccasin Way, there are no signalized intersections or on-street parking.

Bicycle and Pedestrian

Today, Meyers Road has on-street bicycle lanes that provide dedicated space for people biking in both directions. The bicycle lanes are 5-feet wide with no buffer or separation from vehicle travel



lanes. There are several utility accesses covers and storm drain covers located in the bicycle lanes, which, due to the narrow width of the bicycle lane, can be a hazard for people biking.

For people walking, the north side of Meyers Road has continuous sidewalks that are 7-feet wide in most locations and largely free of obstructions. Curb ramps are also present at all intersections on the north side of Meyers Road. On the south side of Meyers Road, there are several gaps in the sidewalks and locations without curb ramps. The largest gap is an approximately half-mile segment from OR-213 to the west end of the Pioneer Ridge development.

Transit

Clackamas County operates the Clackamas County Connects Shuttle Service which connects underserved portions of Oregon City and the Clackamas Industrial Area. The shuttle operates between 6 AM and 6 PM with a route that connects people to destinations between the Oregon City Shopping Center and Clackamas County Community College. There is one stop located just north of Moccasin Way and three stops along the shared use path alignment, one at Gaffney Lane and two stops near the Pioneer Ridge apartment complex.



Utilities

There are two storm ponds located on the north and south side of Meyers Road in the Meyers Road Natural Resource Area. On the north side, the pond is located just eight feet from the road. On the south side, the pond is located 35 feet from the road. The Millennium Park Basin storm pond is also located on Meyers Road just south of the Century Drive intersection. Street lighting is provided by overhead light poles between OR-213 and Moccasin Way. On the south side of Meyers Road, wooden distribution poles are in the ROW between Moccasin Way and Nobel Road.



Environmental Constraints

The Meyers Road Natural Resource Area surrounds the stream that passes under Meyers Road just east of Pioneer Ridge, as shown on **Figure 4**. This area includes a Title 3 riparian area and wetlands and is part of a natural resource overlay district.



Gaffney Lane Elementary Shared Use Path - S24

The Gaffney Lane Elementary Shared Use Path is an ancillary path that would connect the Gaffney Lane neighborhood to the Meyers-Beavercreek Shared Use Path (S22), which will provide a connection to the Loop Trail. **Figure 5** shows the proposed connection, existing infrastructure, surrounding land use, utilities, and environmental constraints. Unlike the other segments being evaluated as part of this effort, the alignment for this path already exists. This effort will need to focus on identifying the appropriate width, surface, and potential funding sources for this connection. A summary of issues and opportunities is provided below, followed by a detailed description of each of the topic areas.

Gaffney Lane Elementary Shared Use Path Opportunities & Constraints	
	- Identified as project S24 in the City's TSP, this project was included in the Likely to be Funded Transportation System and prioritized for implementation between 2023 and 2035. - The City's Trails Master Plan identifies this shared use path as part of the Hillendale South Trail which will connect the Gaffney Lane neighborhood to Hillendale Park.
	Land use surrounding the shared use path alignment is entirely built out with single-family homes located east of the path and Gaffney Lane Elementary School located to the west of the path.
	The shared use path alignment is located on two lots, both owned by Oregon City School District who is open to formalizing use of the space by the City for the purpose of the shared use path.
	The alignment for the shared use path is already in place along the first lot owned by the School District. Today, there is approximately 150 feet of asphalt path before a gravel section, which is approximately 250 feet long. The alignment will be refined and specifically designed to enhance the existing conditions.
	There are no utilities that need to be considered until the connection with the planned Meyers-Beavercreek Shared Use Path.
	The proposed alignment does not have any environmental constraints.

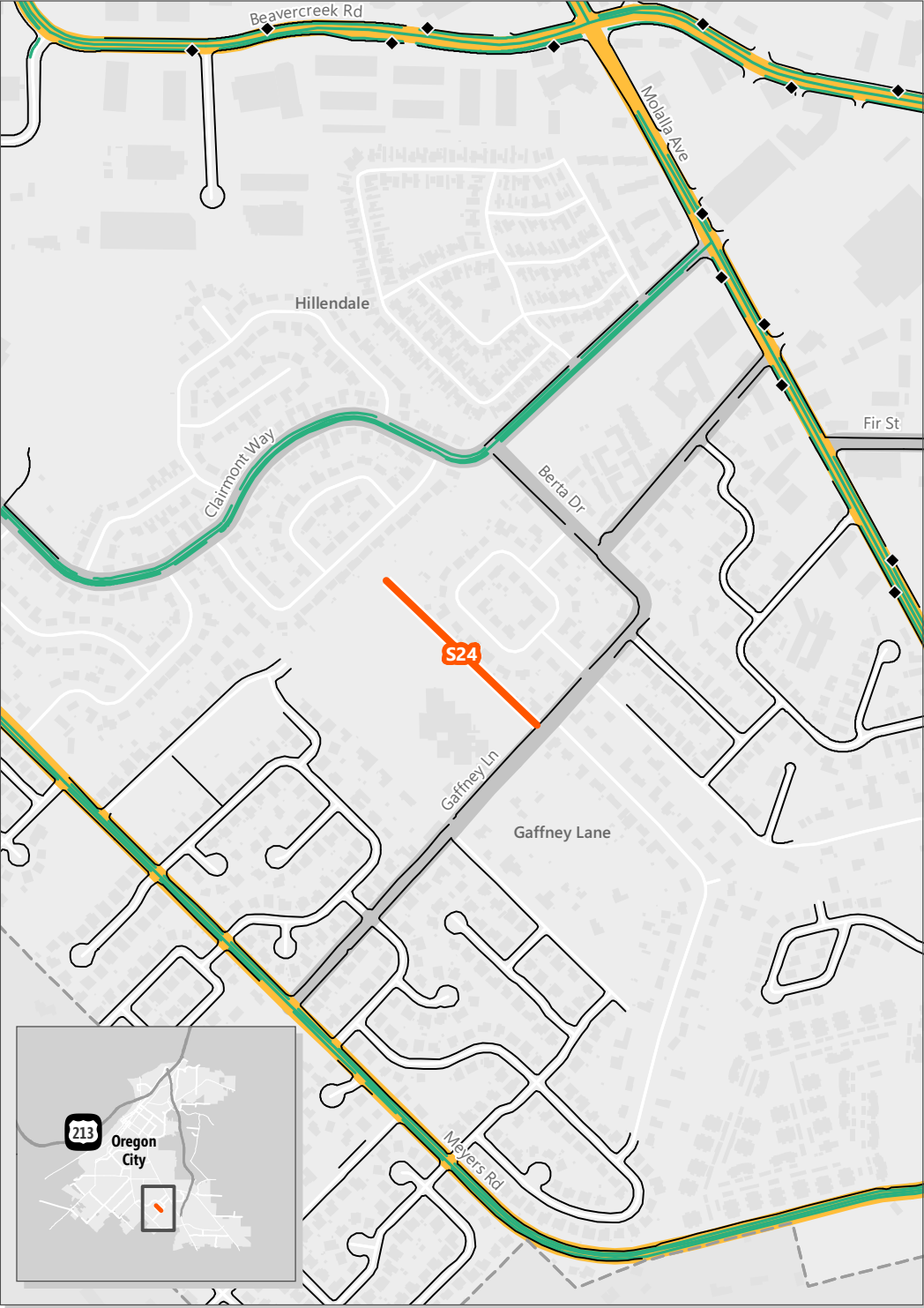


Oregon City Loop Trail Refinement Plan

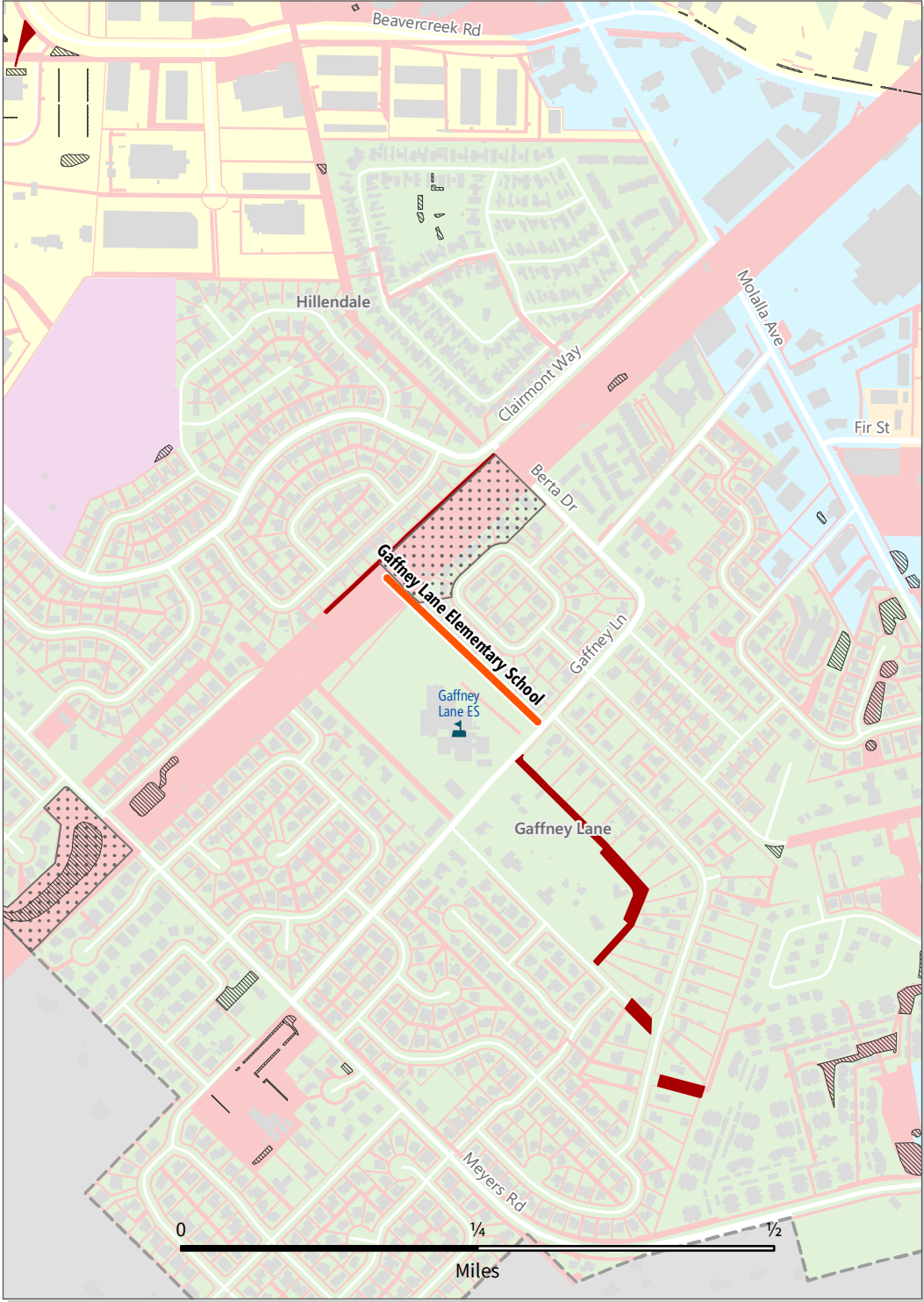
Figure 5. S24 - Gaffney Lane Elementary School

Item 8a.

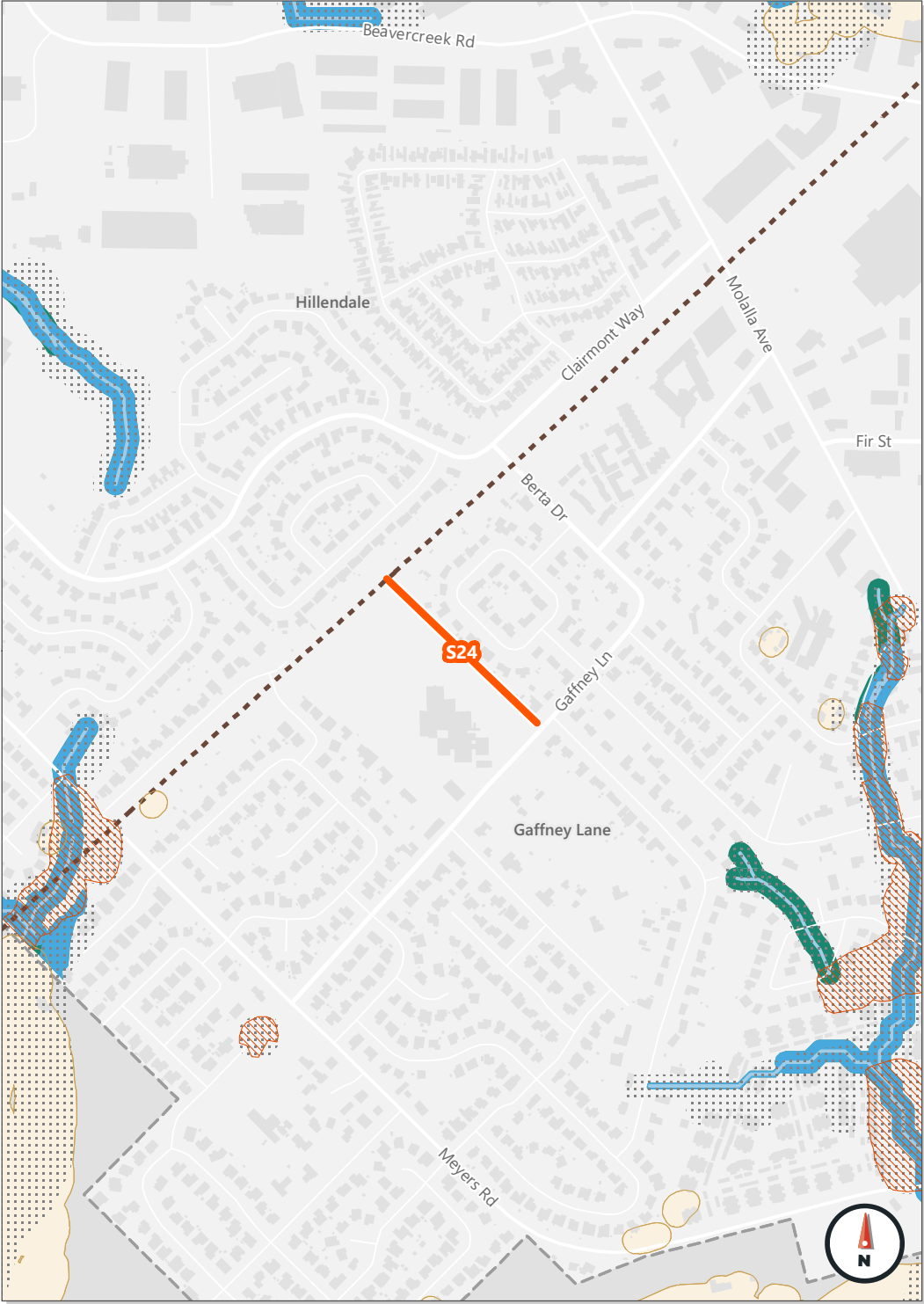
Transportation



Land Use



Utilities & Environmental



- Functional Class**
- Freeway
 - Collector
 - Arterial
 - Local
- ◆ Bus stop
- Sidewalk
- Bike lane
- Oregon City Boundary

- Easement
- Storm detention basin
- Unimproved ROW
- Privately Owned Tax Lot
- School
- Oregon City Boundary

- Zoning**
- Commercial
 - Industrial
 - Institutional
 - Mixed use
 - Residential

- Natural Resource Overlay District (NROD)
- Wetland
- Riparian area
- Potential vegetated corridor
- Geologic hazard area
- Oregon City Boundary
- Powerline
- Stream



Previous Planning Efforts

Two planning documents were reviewed for guidance related to refinement of this shared use path, the City's TSP and Trails Master Plan.

TSP

The Gaffney Lane Elementary Shared Use Path is identified as project S24 in the City's TSP and is included in the Likely to be Funded Transportation System. Identified as a long-term project, this project is slated for implementation between 2023 (10 years after adoption of the TSP) and 2035.

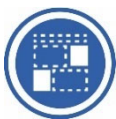
The TSP project description states that this project will "Add a shared use path along the northern boundary of the Gaffney Lane Elementary School between the Eastborne Drive path and Falcon Drive." The project is estimated to cost \$216,000 with the project limits defined as Eastborne Drive to Falcon Drive.

Trails Master Plan

The City's Trails Master Plan identifies this shared use path as part of the Hillendale South Trail, which creates a connection from Gaffney Lane to Hillendale Park. This trail is identified as a local trail and planned to utilize sidewalks to connect from the planned Meyers-Beavercreek Shared Use Path to Hillendale Park and continue onto a paved trail along the school's property.

As a local trail, the shared use path should be designed to provide access for most, if not all, users. The trail should have its own right-of-way, serve only non-motorized users, and be at least six feet wide and at least eight feet wide if bicycle use is anticipated. All efforts should be made so that at least one ADA accessible trail is available and serves the most desirable parts of the area (i.e., picnic areas, viewpoints, playground equipment, etc.)."

Based on the Trail Design Types and Standards in the Master Plan, these trails should be designed with a width of between 6 and 12 feet and should be a paved or other smooth-rolling surface to accommodate all trail users.



Surrounding Land Use & Context

The area surrounding the shared use path alignment is zoned for low-density residential. Today, there are single-family homes to the east of the path from Gaffney Lane to the power lines. The shared use path is located on the Gaffney Lane Elementary School property.

The primary generator for bicycle and pedestrian trips for this shared use path is Gaffney Lane Elementary School. When completed, this path would provide an off-street connection to the Meyers-Beavercreek Shared Use Path and residential areas located along it, expanding the number of families able to reach the elementary school using off-street facilities.



Land Ownership & Right-of-Way (ROW)

The proposed alignment of the Gaffney Lane Elementary Shared Use Path spans two lots, both owned by the Oregon City School District. Stakeholder interviews completed with representatives from Oregon City School District indicate the school district is open to formalizing use of the alignment for the shared use path.



Existing Infrastructure

Vehicles

The shared-use path will be off-street and will not interact with any roadways or vehicle traffic.

Bicycle and Pedestrian

Today, an asphalt path that is approximately five feet wide exists for 150 feet beginning at Gaffney Lane. The alignment for the shared use path continues after the asphalt path to the end of the school's first lot but is not paved.

Transit

There are no transit stops located on or near the shared use path alignment.



Utilities

There are no constraints related to existing utilities for this shared use path.



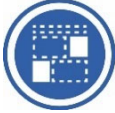
Environmental Constraints

This shared use path does not have any water, natural resources, or geologic hazards that will need to be considered.



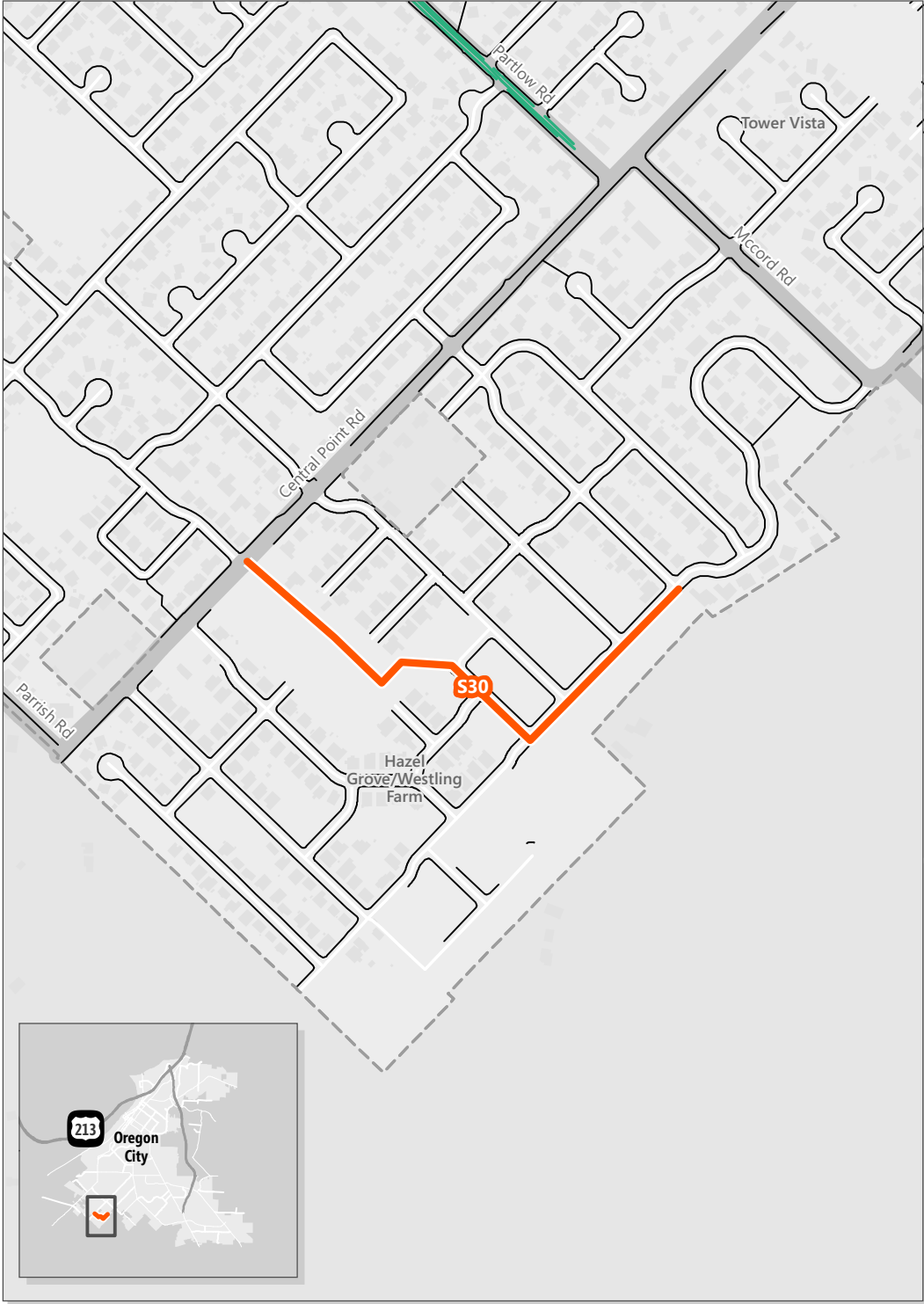
Orchard Grove-Hazelnut Shared Use Path - S30

The Orchard Grove-Hazelnut Shared Use Path is a portion of the Loop Trail that will connect people walking, biking, and using other small mobility devices from Orchard Grove Drive to Hazelnut Court, Hazelwood Park, and John McLoughlin Elementary School. This portion of the effort will serve as guidance for private developers which will be in charge to fund and build this portion of the Loop Trail. **Figure 6** shows the proposed connection, existing infrastructure, surrounding land use, utilities, and environmental constraints. A summary of issues and opportunities is provided below, followed by a detailed description of each of the topic areas.

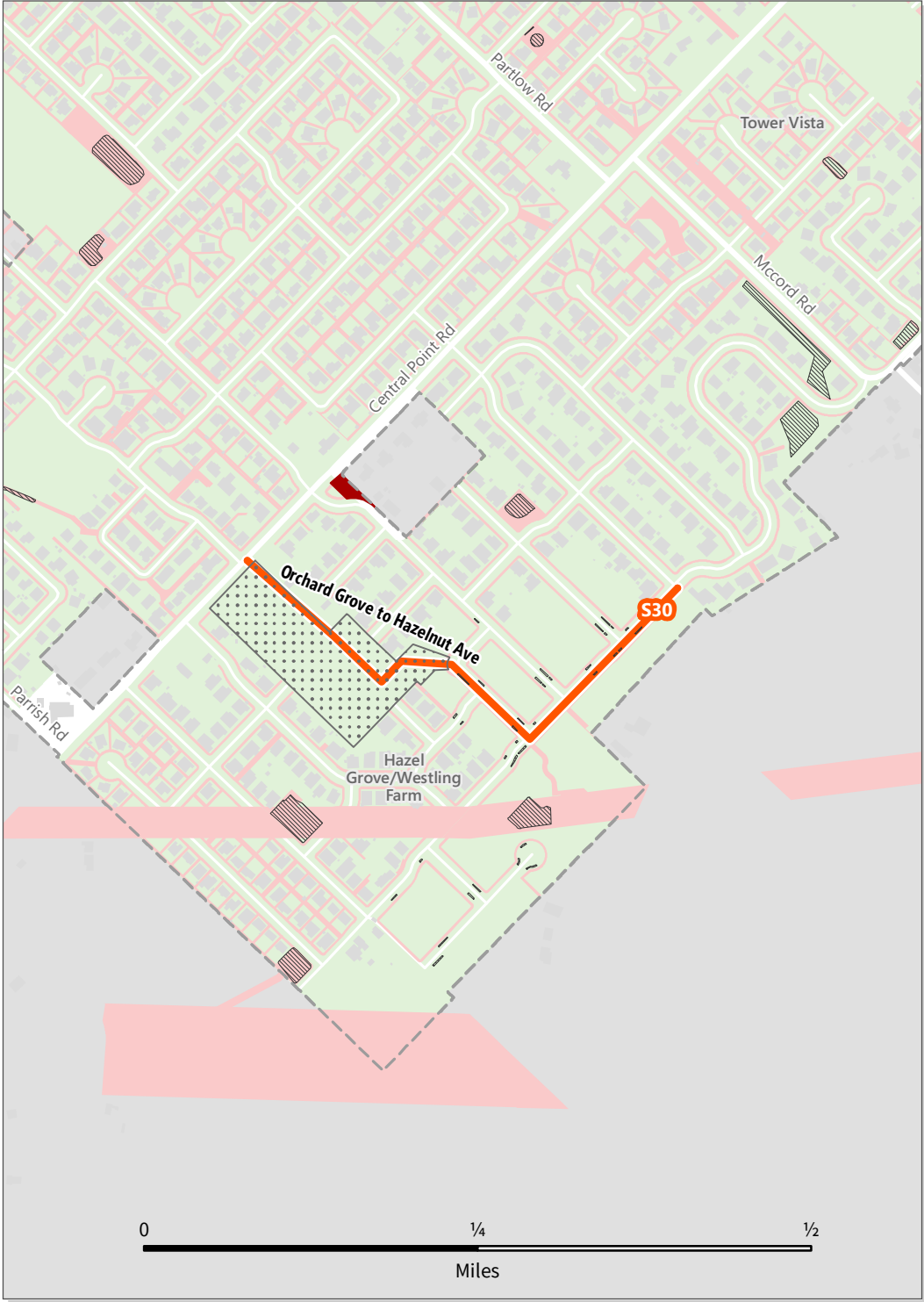
Orchard Grove-Hazelnut Shared Use Path Opportunities & Constraints	
	- The Transportation System Plan described this section of the regional trail as part of the Not Likely to be Funded Transportation System. As a Long-term Phase 3 project, it is part of the lowest priority projects after the Likely to be Funded Transportation System is implemented. - This segment is identified as part of the Oregon City Loop Trail.
	- The surrounding land use and zoning is low-density residential. - Major generators for the planned trail include Hazel Grove Park and John McLoughlin Elementary School.
	- The off-street portion of the proposed alignment crosses land that is privately owned and undeveloped. - This segment of the Loop Trail will be constructed by private development as it occurs.
	- Orchard Grove Drive and Wheeler Way are local streets with a 25-mph speed limit. - There are no existing on-street bike lanes in the study area; except for a small gap on Orchard Drive, sidewalks are provided on all existing streets. - When implemented, this portion of the Loop Trail will connect people walking, biking, and using small mobility devices to parks and schools using sidewalks and on-street facilities appropriate for the residential context and slow neighborhood streets.
	There are no significant utilities along the proposed alignment.
	There are no significant environmental constraints along the proposed alignment.



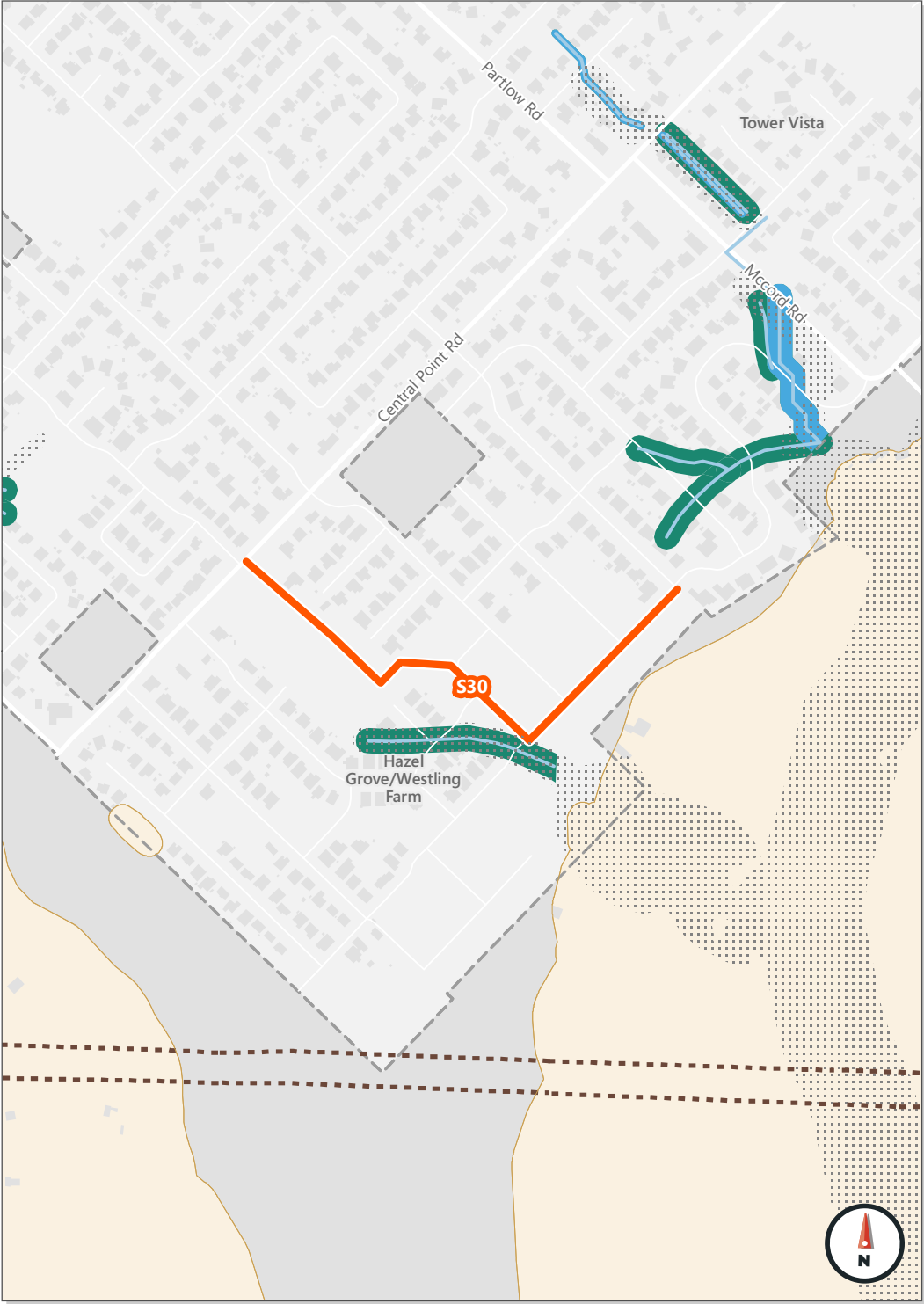
Transportation



Land Use



Utilities & Environmental



- Functional Class**
- Freeway
 - Collector
 - Arterial
 - Local
- Other Features**
- Bus stop
 - Sidewalk
 - Bike lane
 - Oregon City Boundary

- Other Features**
- Easement
 - Storm detention basin
 - Unimproved ROW
 - Privately Owned Tax Lot
 - School
 - Oregon City Boundary

- Zoning**
- Commercial
 - Industrial
 - Institutional
 - Mixed use
 - Residential

- Utilities & Environmental**
- Natural Resource Overlay District (NROD)
 - Wetland
 - Riparian area
 - Potential vegetated corridor
 - Geologic hazard area
 - Oregon City Boundary
 - Powerline
 - Stream



Previous Planning Efforts

Two planning documents were reviewed for guidance related to refinement of this shared use path, the City's TSP and Trails Master Plan.

TSP

The Orchard Grove-Hazelnut Shared Use Path is identified as project S30 in the City's TSP. The project is included in the City's Not Likely to Be Funded Transportation System and identified as a Long-term Phase 3 project.

The TSP project description states that this project will "Add a shared use path between Orchard Grove and Hazelnut Court." Based on the project description in the TSP, the project is estimated to cost \$375,500.

Trails Master Plan

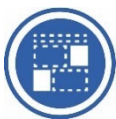
The Orchard Grove – Hazelnut Shared Use Path is part of the Oregon City Loop Trail described in the City's Trails Master Plan.

As part of a regional trail, the path should be designed for two-way bicycle and pedestrian traffic with its own ROW and should be able to accommodate maintenance and emergency vehicles. Based on the design guidelines the shared use path should:

- Be between 10 and 12 feet wide with 2 feet of soft shoulders
- Have a paved or other smooth rolling surface to accommodate all trail users which include bicyclists, pedestrians, wheelchairs, baby strollers, equestrians, and skaters.

For this segment, it is expected that the Type 1 crossings recommended by the City's Trails Master Plan will be used to create safe crossings where necessary.

The Trails Master Plan will be referenced to provide guidance as to what enhancements may be needed based on traffic volume, speed, and line of sight for unprotected or marked crossings.



Surrounding Land Use & Context

The primary land use surrounding this planned shared use path is single family residential. While the area around the proposed path is generally built out, the undeveloped area the trail will cross is zoned as R-10, low-density residential.

The primary generators for bicycle and pedestrian trips in the surrounding area is Hazel Grove Park, just north of the planned shared use path, and John McLoughlin Elementary School.



Land Ownership & Right-of-Way (ROW)

The section along Orchard Grove Drive between Hazelnut Avenue and Wheeler Way is developed with single-family homes that are privately owned. The section between Wheeler Way and S Central Point Road is undeveloped and privately owned.

This study will refine the preferred alignment of the shared use path, such that when development of the vacant lot occurs, construction of the shared use path can be included in the Conditions of Approval for development.



Existing Infrastructure

Vehicle

Orchard Grove Drive and **Wheeler Way** are defined as local residential streets that provide one lane of travel in each direction and have a posted speed limit of 25mph. On-street parking is allowed on both streets.

Central Point Road is defined as a two-lane minor arterial with a posted speed of 35 mph. On-street parking is permitted where there is available space.

Bicycle and Pedestrian

There are no bicycle facilities in the area; however, sidewalks that are generally seven feet wide and include a planted buffer are provided on all roadways. Today, there is only one gap in the sidewalks, a 230 foot segment on the south side of Orchard Grove Drive where there are no existing sidewalks.

Transit

There are no public transportation routes close to the proposed alignment of this shared use path or in the vicinity of the neighborhood. The closest bus stop is located at S Central Point Road and S McCord Road, approximately half a mile from the planned shared use path.



Utilities

There are no major utilities that will need to be considered as part of this alignment.



Environmental Constraints

There are no major environmental constraints that will need to be considered as part of this alignment.



Appendix A: Stakeholder Interviews



Oregon City Loop Trail Stakeholder Interview Summary

Clackamas County Community College

Interviewee: Bob Cochran – Dean of Campus Services
Date: 6/6/2022

- Recent projects have constructed sidewalks connecting from Beavercreek Road and the Meyers Road into the campus, ideally the Loop Trail project will connect to the sidewalks and connections of the Community College entrance at the entrance of S Douglas Loop and Keyser Way and improve sidewalks at the entrance.
- Today, most people commuting to the college drive. People biking to the college are limited despite bike racks on campus.
- There is an opportunity to connect the Oregon City Loop Trail with the existing exercise and trail loop on Campus and connecting with the High School east of the community college. Today, the campus loop is highly used by people who drive and park on campus to access the trail.

Deering Management

Interviewee: Lacey Wright – Property Manager (Oregon/Washington)
Date: 6/14/2022

- Cut-through traffic from Beavercreek Road to access Fred Meyer is a concern today. If there is an opportunity to close the existing access between this property and Fred Meyer to eliminate this, that would be a positive for this project.
- The speed of vehicles in the parking lot is also a concern for safety of people in the parking lot and potential trail users.
- There is concern about providing a direct connection from the area to the east into the site and question about who would use the trail, specifically if there are no changes to the land use and connections to other recreational areas to the east of the property.
- Recent construction on Molalla Avenue was impactful to access to the property and the landscaping.



Gaffney Lane Association

Interviewee: Ray Atkinson – Transportation Systems Analyst Clackamas Community College / Gaffney Lane Resident
Date: 6/9/2022

Note: Ryan is the transportation analyst at Clackamas Community College, a member of the Gaffney Lane Neighborhood Association, and a member of the Oregon City Transportation Advisory Committee.

- Clackamas County Community College is primarily a commuter school; however, there are many students that live within two miles of the Campus and could bike if there were safe and comfortable facilities that would help to make biking more attractive.
- Clackamas Community College will be restarting the bike program, for students and staff, which allows students to rent bicycles for the semester. The program has up to 10 bikes that can be rented out.
- Along Meyers Road and Gaffney Lane existing bike infrastructure is insufficient, making it uncomfortable to bike or walk. Bike lanes are narrow, there are section with sidewalks gaps, and at points the bike lane disappears, forcing bikes to the edge of the road which is typically covered with gravel.
- Bikeshare programs, including ebikes and scooters, could be an option incentivize more users to use alternative modes of transportation on the existing and proposed multi-use paths and trails and address first- and last-mile gaps.
- This project should consider how it connects to the local network, for example connecting Hillendale Park to the Gaffney Lane neighborhood with bike infrastructure and multi-use paths that use local streets and allows people biking to avoid major roads will make biking more attractive to students and families that live in the area.
- Neighborhood members may be concerned about who will use the trail
- If possible, this project should evaluate options to the pair the trail under the power lines with more active uses such as food trucks.

Oregon City Parks Department

Interviewee: Justin Moore – Administrative Assistant, D Conrad, Kendall Reid, Jonathan Waverly – Parks Operations Manager
Date: 6/16/2022

- For the Power Lines Trail alignment, Parks has considered that area for an off-leash dog park either adjacent to or replacing the area where the City currently stores construction materials.
- At this time, Parks is not planning to add more parks and is not interested in the addition of pocket parks along the trail.



- There are likely to be significant environmental challenges to navigate the stormwater runoff pond at the intersection of Meyers, Moccasin, and Frontier. Based on Parks investigation of this area, using Frontier Street for on-street connections in this area is likely to be the most feasible options.
- Off-street paths, trails and bike infrastructure are maintained by Oregon City Street Division (Public Works). In the future, Parks may oversee the full maintenance of the Loop Trail but at this time they do not have staff or budget to take on additional responsibilities.
- Parks is just starting a project to update the City's Parks Master Plan. The update will include community outreach to identify what are the need and the desires are related to parks and connections to existing parks. The project is estimated to take a year and should be complete in Summer 2023.

Portland General Electric - PGE

Interviewee: Jessica North Utility Large Project and Design Engineer Manager, Deanna Kaneshiro – Municipal Program Manager

Date: 6/7/2022

- This group manages distribution lines and the wooden poles in the study area alignment. The transmission towers are managed by a different group, but they will provide additional contacts and documentation related to those towers.
- For the distribution poles, there are no requirements for a multi-path trail and those poles can easily be relocated.
- As the alignment is refined, additional coordination with PGE will be needed if there are illumination needs and to ensure that PGE can continue to access their infrastructure.
- Th path should be wide enough to allow truck access to those poles and the large transmission towers. The Bucket Truck would be the primary vehicle that would need access to the infrastructure.
- Transmission lines and towers require 50 feet of clearance as to maintain safety. This standard should be considered with the design of the cross-section an alignment of the multi-use path.

Metro

**Interviewee: Alex Gilbertson – Landscape Architect
Robert Spurlock – Regional Trails Planner
Rod Wojtanik - Parks and Nature Planning Manager**
Date: 7/7/2022

- Metro has expressed that the section of the city loop trail on Canemah Bluff Nature Area is on the long-term plans. There are concerns related to the topography of the area, wildlife protection and the door or access to the trail.



- The section of the loop on the northeast end of the city (by OR-213) is well advanced, Metro has purchased and now owns most of the land along the proposed route; there are some sections that are still missing but looks promising.
- Metro team expressed the approach to trail development. Metro does acquire and own the land but looks for partnerships that build and manage such trails. Following this approach, Metro intends to get an agreement with Oregon City to build and manage the trail close to OR-213.
- Metro does not have standards for the cross-section, materials, or users of the trails. It is suggested that these two trails should have multiple users, including bikes. Some regional trails do not allow for bikes, these city trails should also consider not only asphalt surfaces for bikes, but it should also include probably gravel or dirt to include possible mountain bikes on the trails.

Oregon City School District

Interviewee: Michael Sweeten – Director of Operations and Capital Projects

Date: 6/10/2022

- The school district shared support for both the Gaffney Lane Elementary Shared Use Path and the Meyers Beavercreek Shared Use Path.
- The school district would be open to a maintenance and access agreement with the City to allow access to both paths similar to the agreement being developed at Gardiner Middle School.
- Primary concerns the school district shared were related to ongoing maintenance of the path.
- The school has fenced off all areas used by students and limits access during the day so there are no concerns regarding security and proximity to the paths.

Appendix B: Community Survey Summary

Oregon City Loop Trail Refinement Plan

Community Survey Summary

November 9, 2022

Prepared by Fehr & Peers

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Overview	4
Meyers Road Shared Use Path – S23	5
Meyers Beavercreek Shared Use Path – S22	10
Gaffney Lane Elementary Shared Use Path – S24.....	13
Orchard Grove Hazelnut Shared Use Path – S30	17

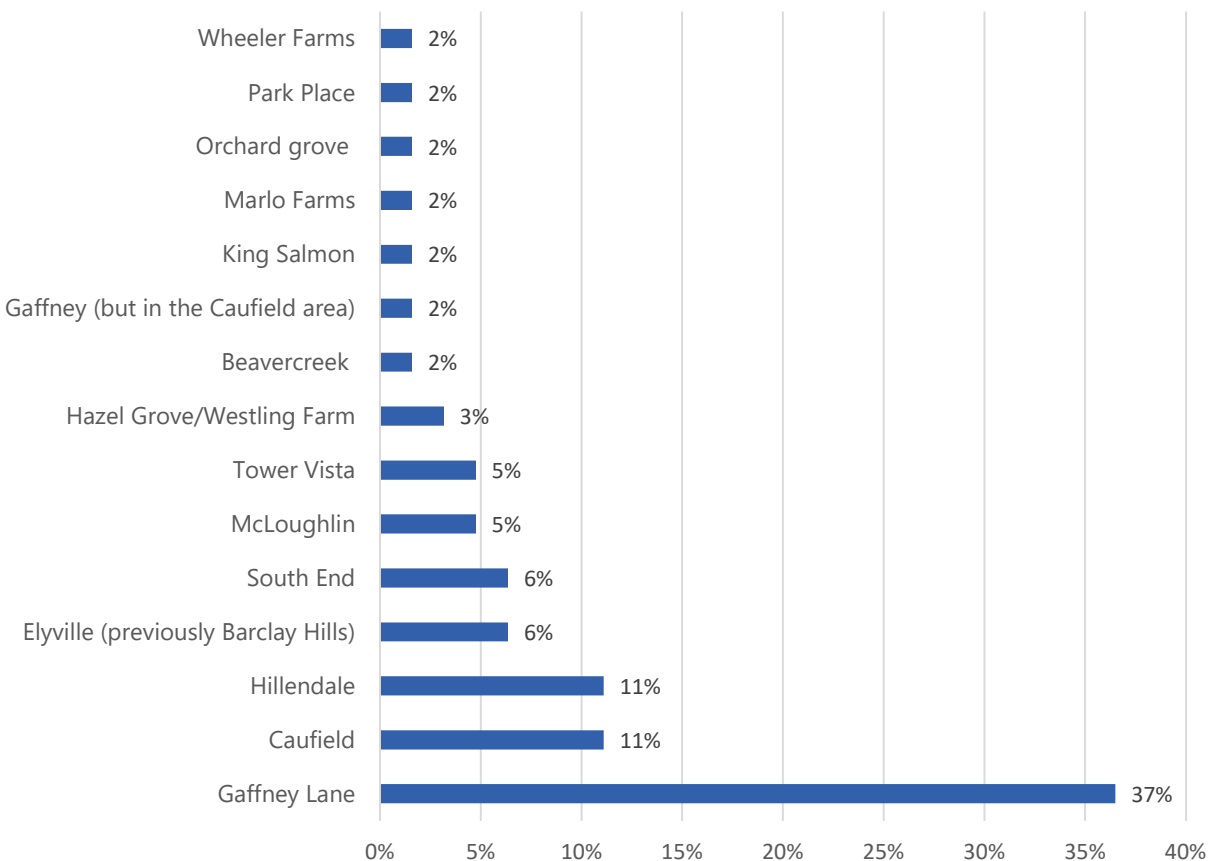
Introduction

To gather input as part of the early technical work for the Oregon City Loop Trail Refinement Plan, an online community survey was launched in early September and was available for community members to complete through mid-October. This survey focused on two segments of the Oregon City Loop Trail (Meyers Road Shared Use Path and Orchard Grove-Hazelnut Shared Use Path) and two paths that will connect people walking and bicycling to the Loop Trail (Gaffney Lane Elementary School Shared Use Path and Meyers Road to Beavercreek Shared Use Path). This survey asked respondents to share how they would use the proposed paths and to identify challenges, concerns, and opportunities for each of the four paths.

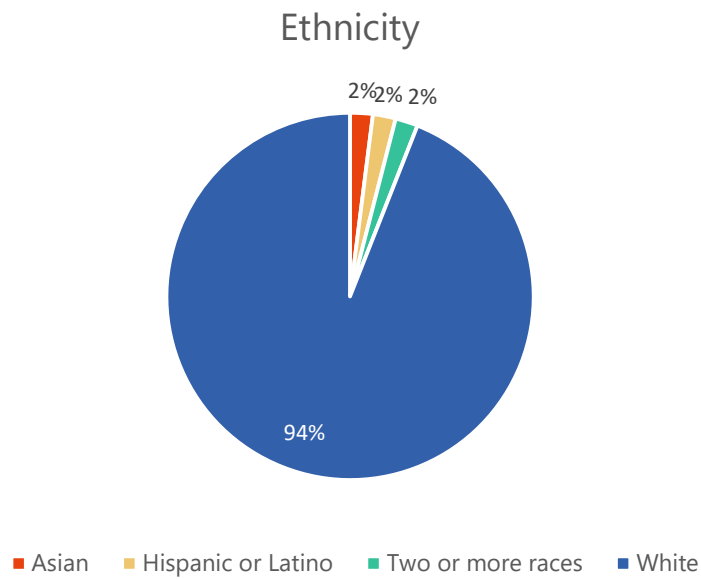
Demographics

Sixty-eight respondents completed the online survey. While nearly 40 percent of respondents live in the Gaffney Lane neighborhood, with the exception of the Canemah, Rivercrest, and Two Rivers neighborhoods, all other neighborhoods within the City were represented in the responses.

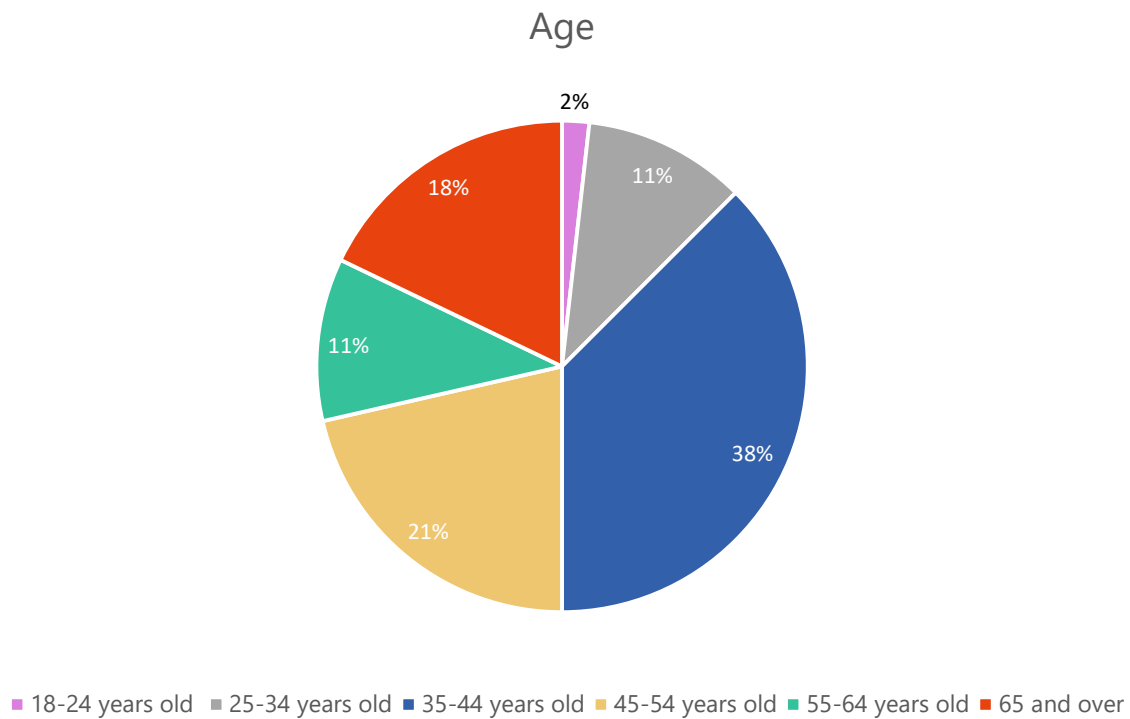
Neighborhoods



Most respondents, who chose to share, identify as White.



Of respondents who chose to share, nearly 40% identify as 35-44 years old, approximately 20% identify as 45-54 years old, and 20% identify as 65 and over.



Overview

Community members were asked whether they typically walk or bike, the reasons behind their mode choice, why they would use the proposed shared use paths, which challenges they face when walking or bicycling in the area near the proposed paths, and which safety features would encourage them to walk or bike.

Most respondents shared that they currently walk or bike for recreation or exercise and identified that as how they would use each of the proposed paths when constructed.

When asked what prevents them from walking or bicycling today, most respondents identified interactions with cars and poor sidewalks/pavement condition as barriers. Safety is also a major concern for most of the respondents across all shared use paths. Some respondents identified additional concerns, including:

- Concerns about proximity of the houseless/transient population to residential areas
- The need for dog waste stations along the paths
- Lack of connections to existing infrastructure when paths end
- Loss of privacy where trails would be located adjacent to residential areas
- Proximity to Gaffney Lane Elementary School
- Lack of ADA infrastructure in areas where paths may be on-street

While most respondents would be encouraged to walk or bike more if the proposed paths were separated, many did not feel that on-street facilities with vertical barriers would address their concerns. When asked what additional safety and design features would make it more likely that they would walk or bike, respondents identified:

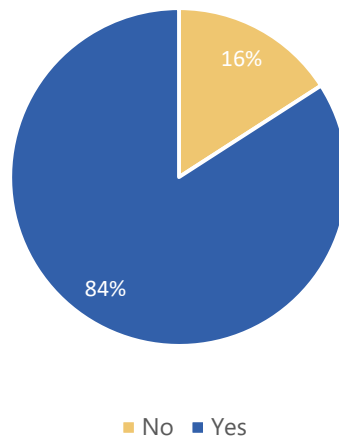
- Better signage
- Traffic calming measures to slow cars
- A more complete sidewalk network
- Connectivity for biking (instead of connecting to no-outlet streets)
- Improved lighting
- Dog waste stations
- Improved driveways and entrances to businesses

One respondent also expressed desire for trails that can be used for mountain biking and hiking.

Meyers Road Shared Use Path – S23

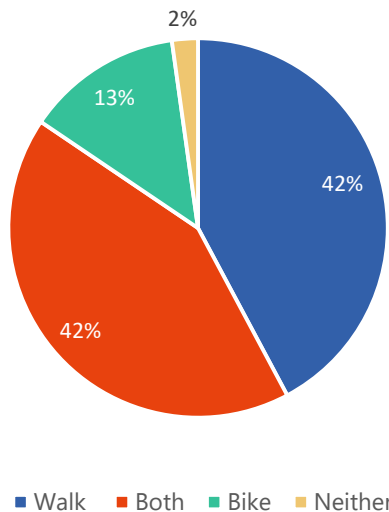
This segment received the most feedback with 45 responses.

Would you use this proposed trail segment to walk or bike if it were built?



Most respondents either walk, or both walk and bike.

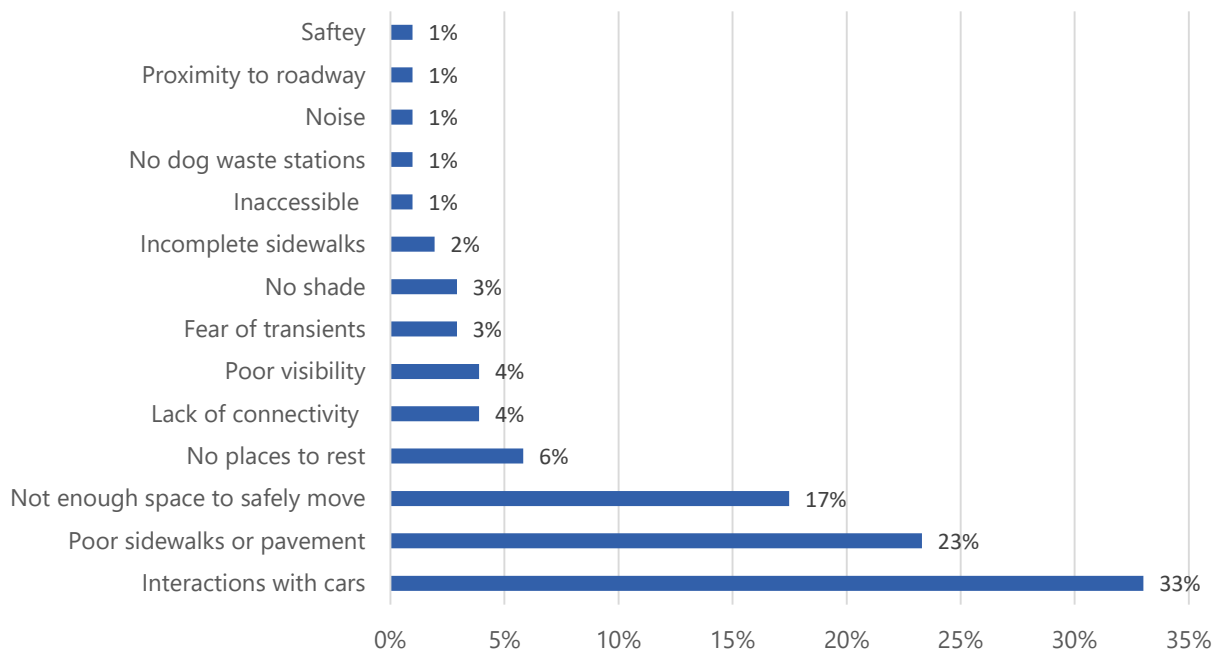
Do you typically walk or bike?



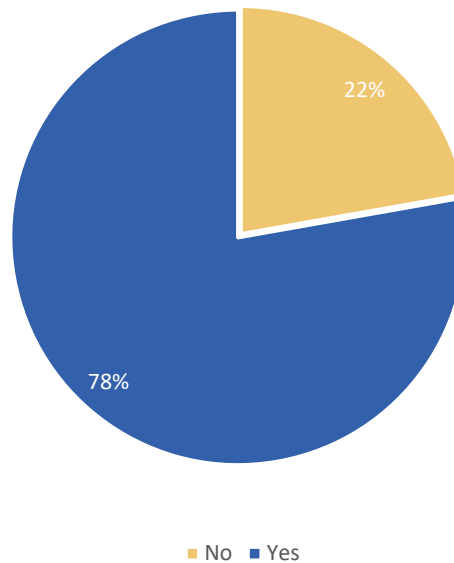
Challenges and Concerns

The main challenges that respondents experience when walking or biking in the area near the proposed Meyers Road Shared Use Path include interactions with cars, poor sidewalks or pavement, and not enough space to travel safely.

What challenges do you face when walking or biking in the area near this proposed trail segment? Please choose all that apply.

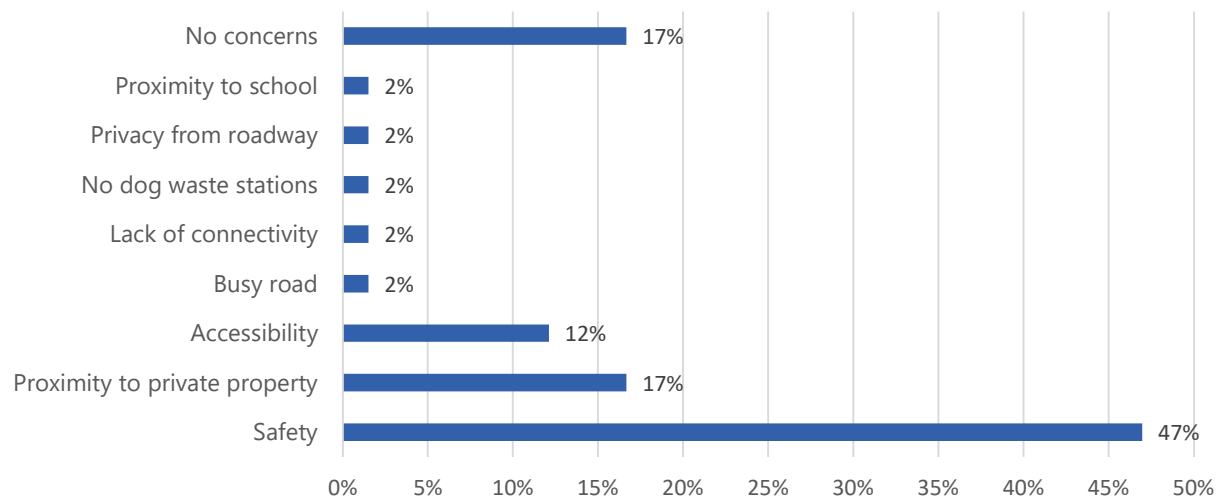


Do these challenges discourage you from walking or biking?



Respondents for this proposed shared use path are primarily concerned with safety.

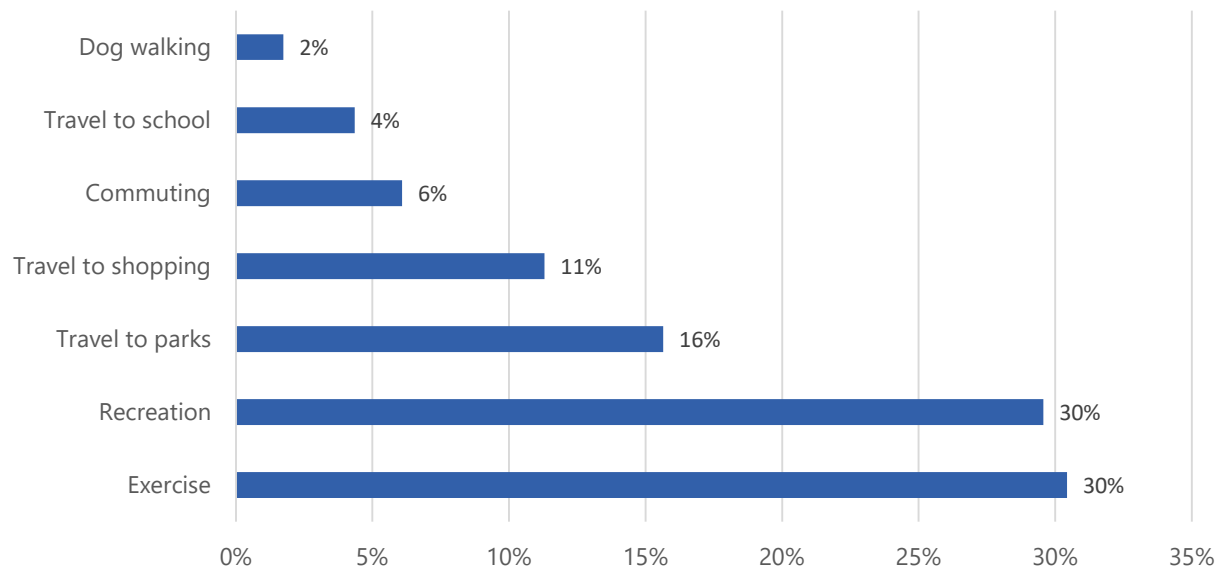
What concerns, if any, do you have about where the trail could be located? Please choose all that apply.



Opportunities

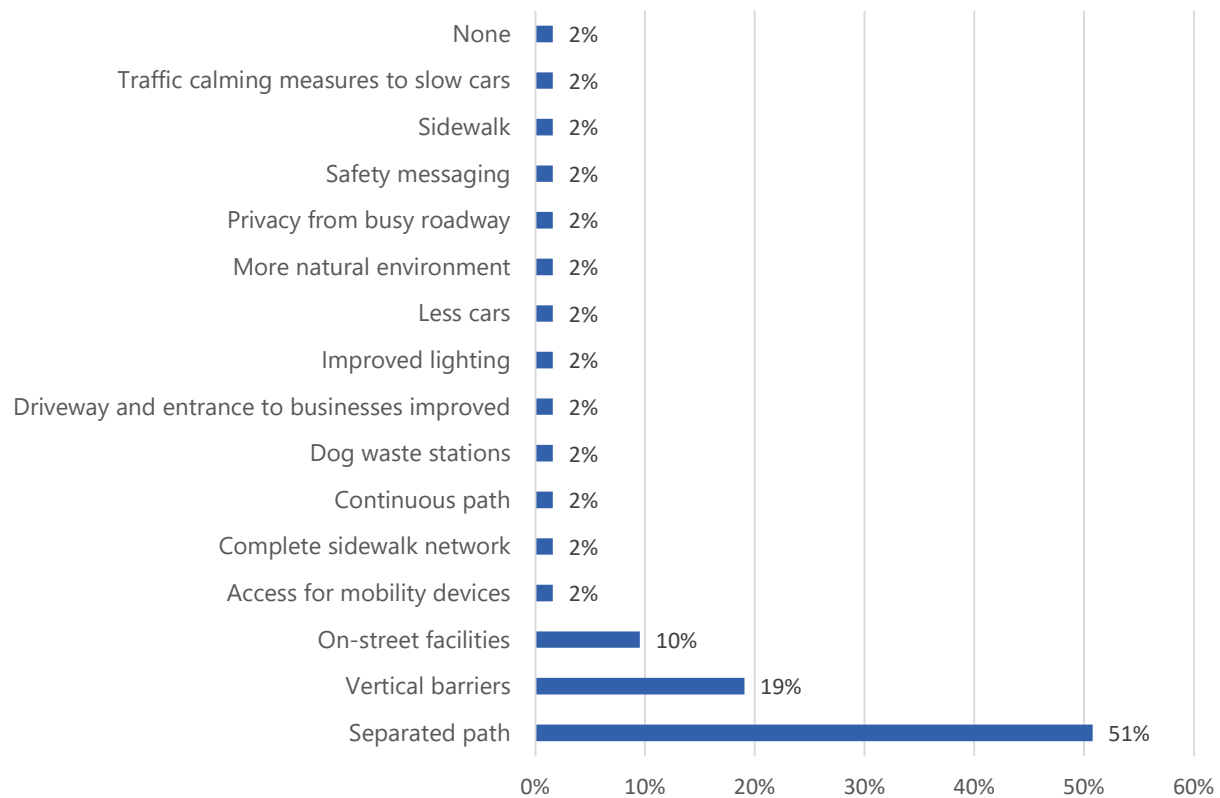
Respondents shared that they would use the proposed shared use path most for recreation or exercise.

For which reasons would you use this proposed trail segment? Please choose all that apply.



Most respondents would be encouraged to walk or bike more if the proposed path was separated.

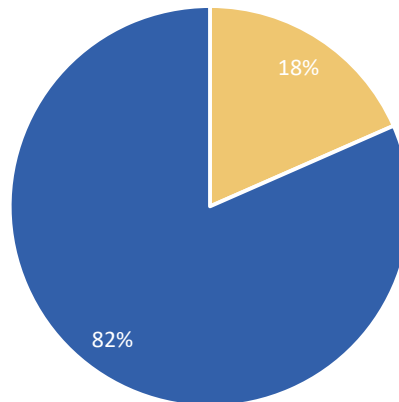
Which safety or design features would encourage you to walk or bike more? Please choose all that apply.



Meyers Beavercreek Shared Use Path – S22

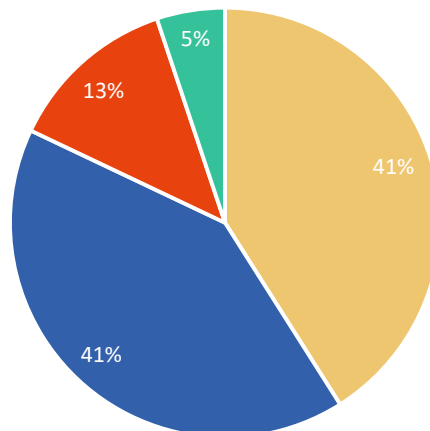
This segment received 39 responses and more than 80% of respondents said they would use the trail if it were built.

Would you use this proposed trail segment to walk or bike if it were built?



■ No ■ Yes

Do you typically walk or bike?

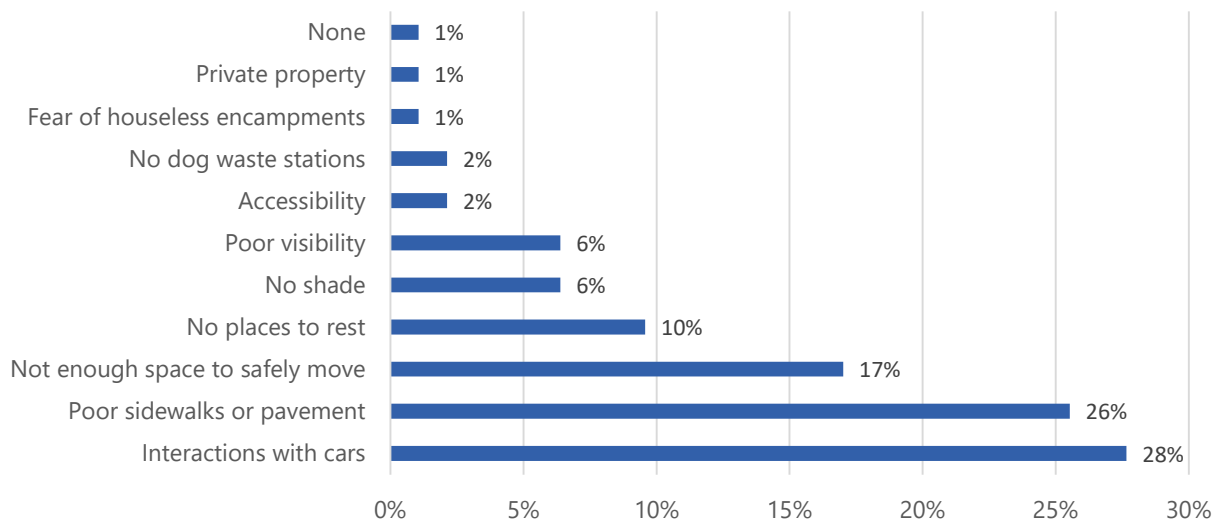


■ Walk ■ Both ■ Bike ■ Neither

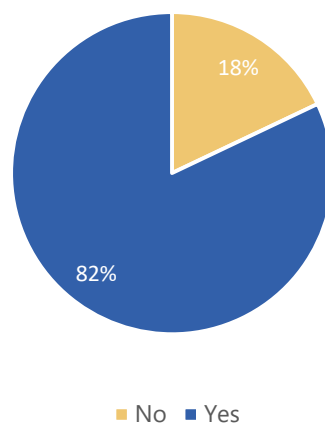
Challenges and Concerns

Respondents identified interactions with cars, poor sidewalks or pavement, and not enough space to safely move as significant challenges. Approximately 80% of respondents said these challenges discourage them from walking or biking.

What challenges do you face when walking or biking in the area near this proposed trail segment? Please choose all that apply.

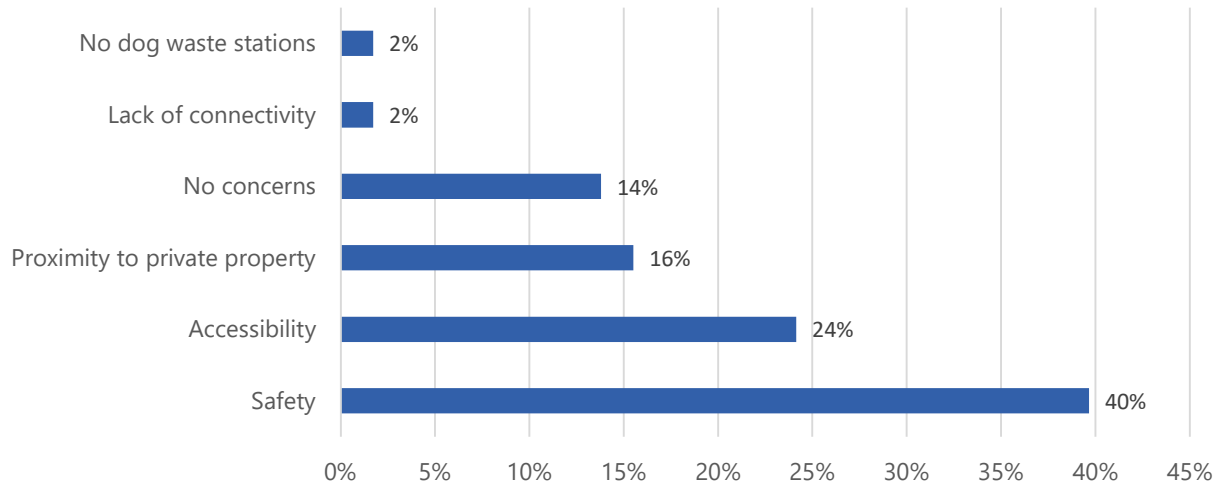


Do these challenges discourage you from walking or biking?



Safety was the primary concern identified by community members when asked about location of the proposed trail.

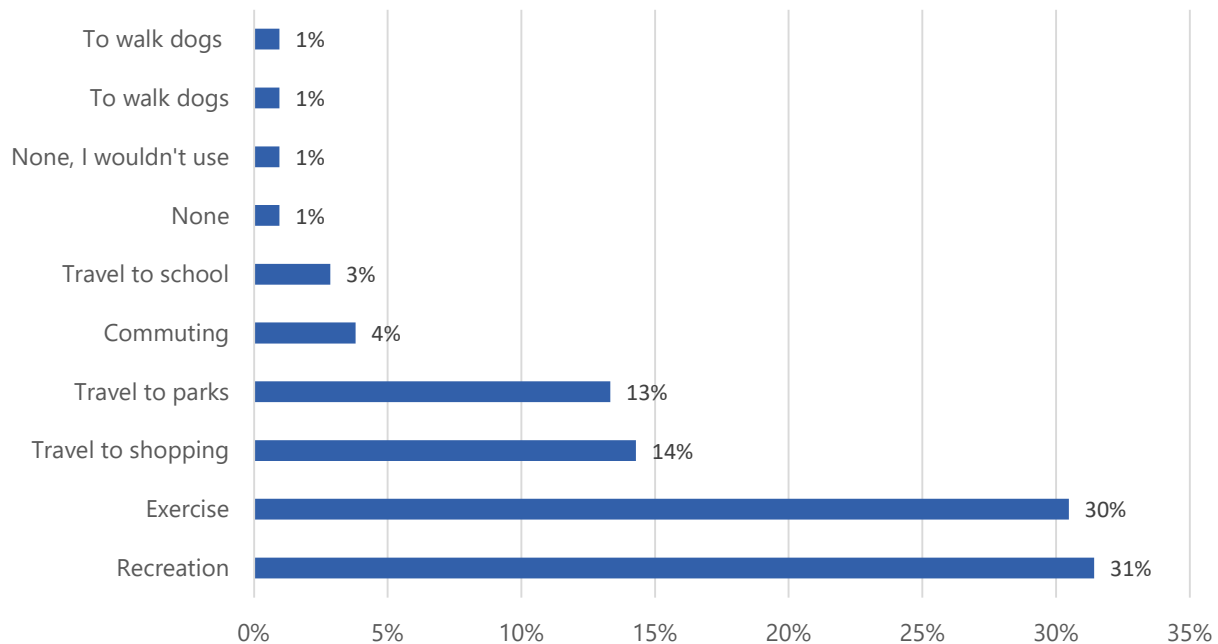
What concerns, if any, do you have about where the trail could be located? Please choose all that apply.



Opportunities

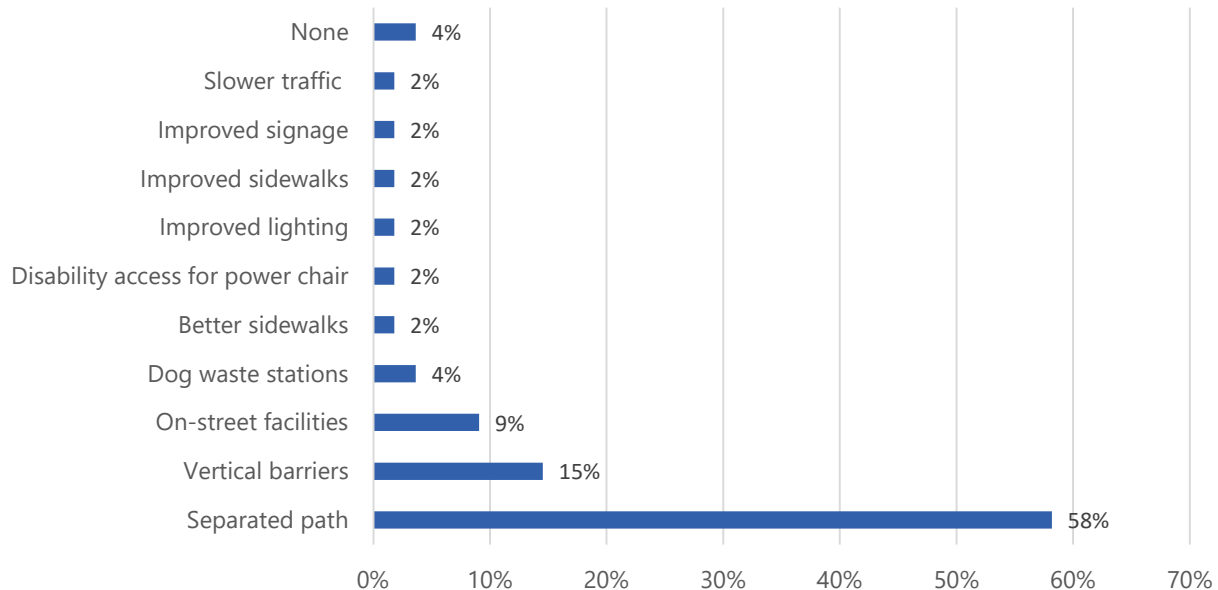
Respondents shared that they would use the proposed shared use path for recreation or exercise. Travel to shopping and travel to parks were other notable reasons for using the proposed path.

For which reasons would you use this proposed trail segment? Please choose all that apply.



Most respondents would be encouraged to walk or bike more if the proposed path was separated.

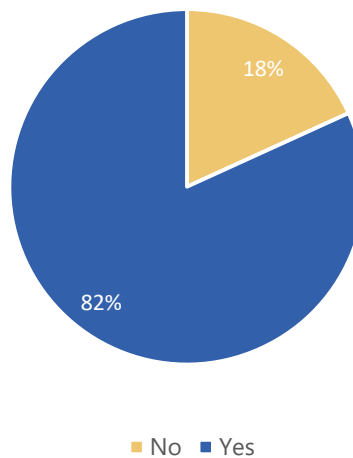
Which safety or design features would encourage you to walk or bike more? Please choose all that apply.



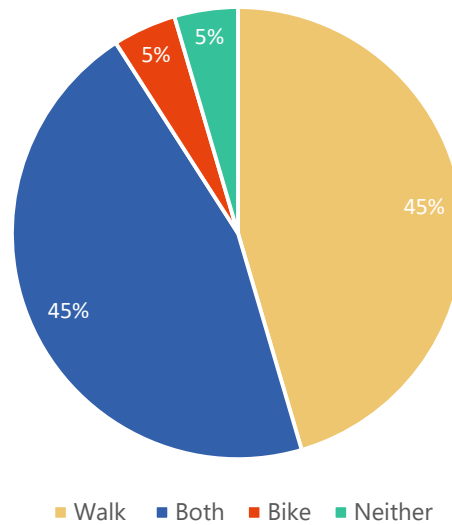
Gaffney Lane Elementary Shared Use Path – S24

This segment received 22 responses. Similar to other segments, over 80% of respondents said they would walk or bike more frequently if this trail were built.

Would you use this proposed trail segment to walk or bike if it were built?



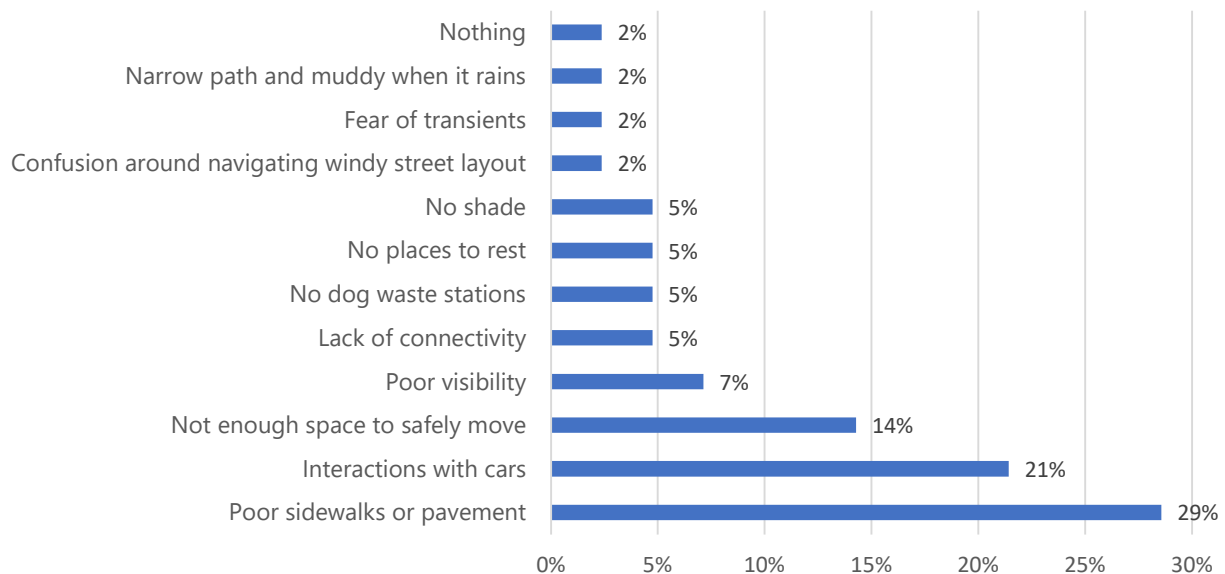
Do you typically walk or bike?



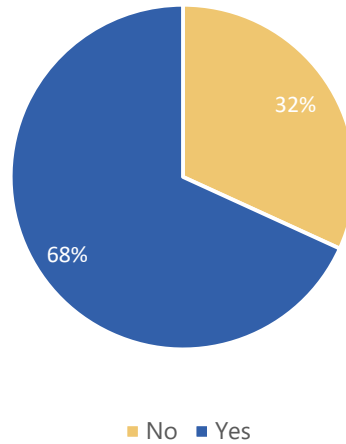
Challenges and Concerns

The major challenges for respondents include poor sidewalks or pavement, interactions with cars, and not enough space to safely move.

What challenges do you face when walking or biking in the area near this proposed trail segment? Please choose all that apply.

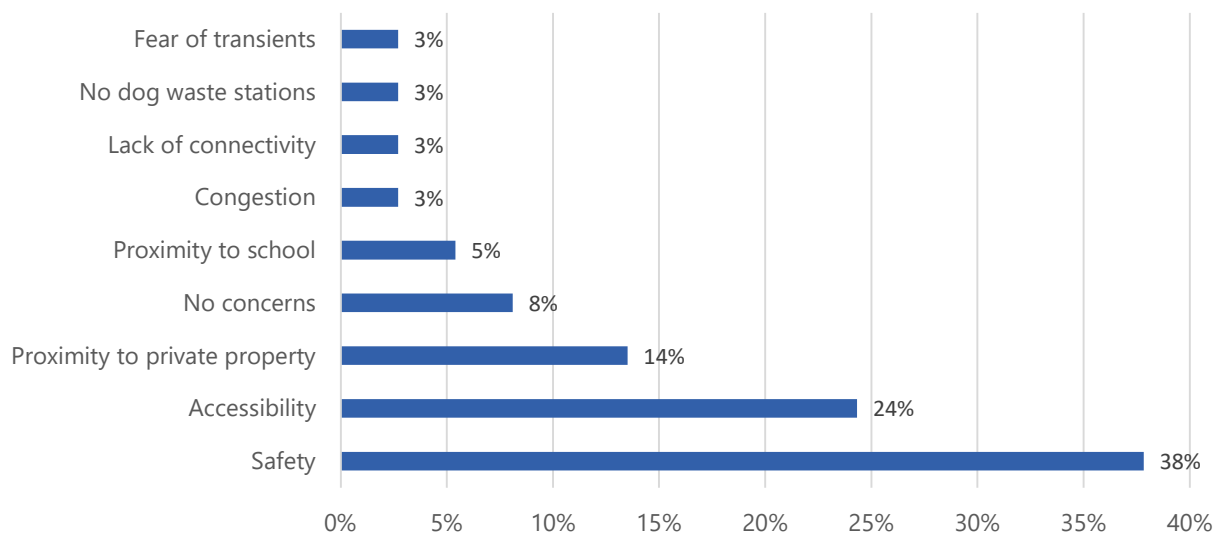


Do these challenges discourage you from walking or biking?



The biggest concerns for respondents when it comes to the location of this shared use path are safety and accessibility.

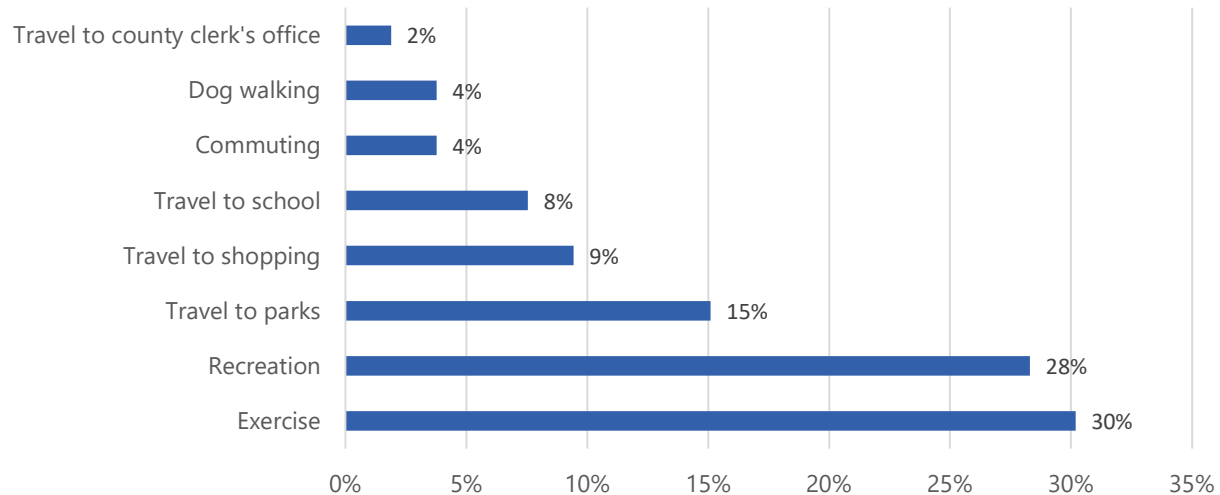
What concerns, if any, do you have about where the trail could be located? Please choose all that apply.



Opportunities

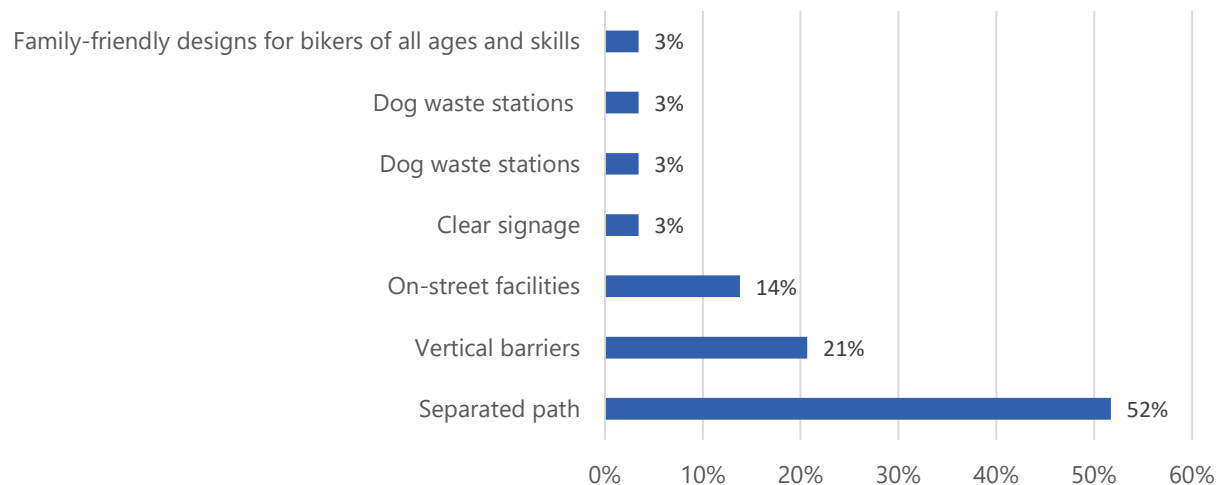
Respondents would likely use the proposed shared use path for recreation or exercise.

For which reasons would you use this proposed trail segment? Please choose all that apply.



Most respondents would be encouraged to walk or bike more if the proposed path were separated from vehicle traffic.

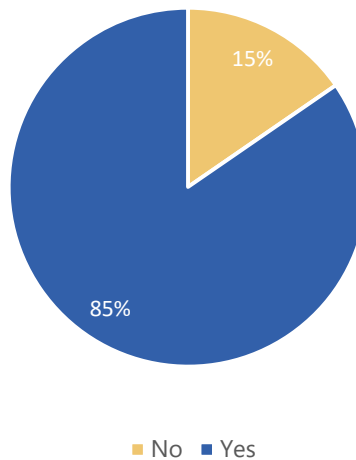
Which safety or design features would encourage you to walk or bike more? Please choose all that apply.



Orchard Grove Hazelnut Shared Use Path – S30

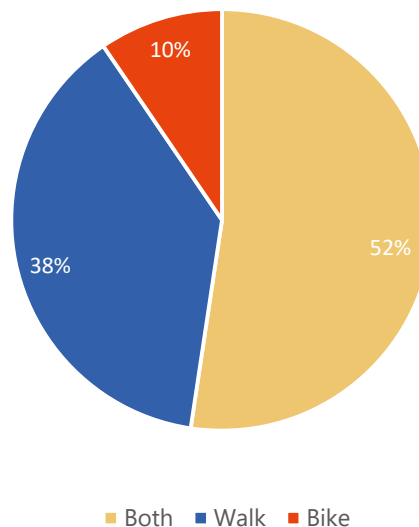
This proposed shared use path received 14 responses.

Would you use this proposed trail segment to walk or bike if it were built?



Most respondents typically walk, or both walk and bike.

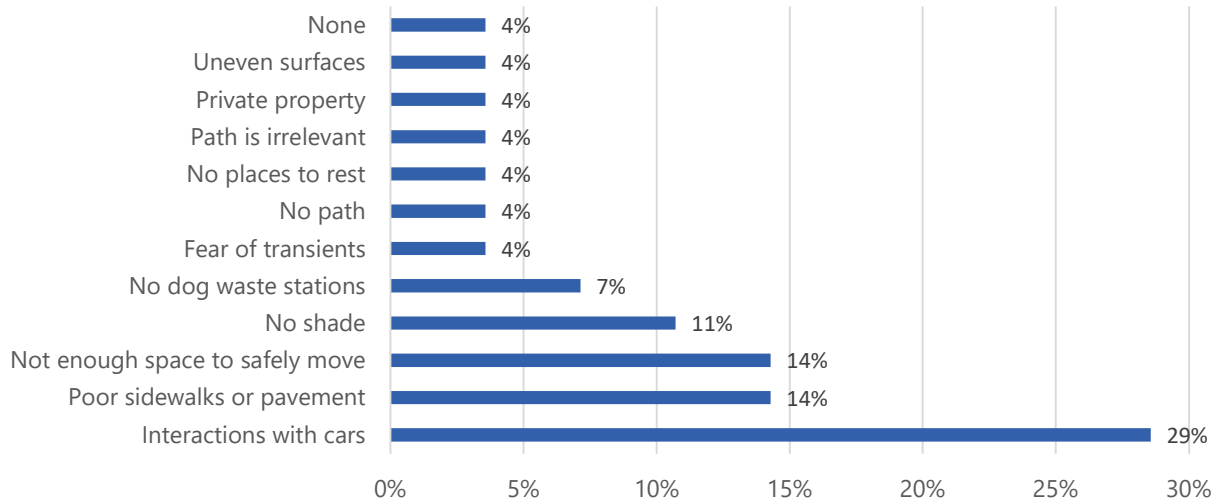
Do you typically walk or bike?



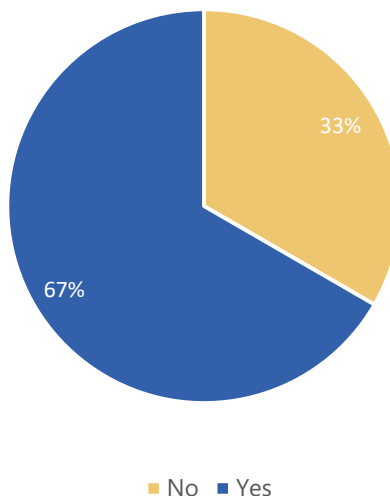
Challenges and Concerns

The challenges that respondents face when walking or biking include interactions with cars, not enough space to safely move, poor sidewalks, and no shade.

What challenges do you face when walking or biking in the area near this proposed trail segment? Please choose all that apply.

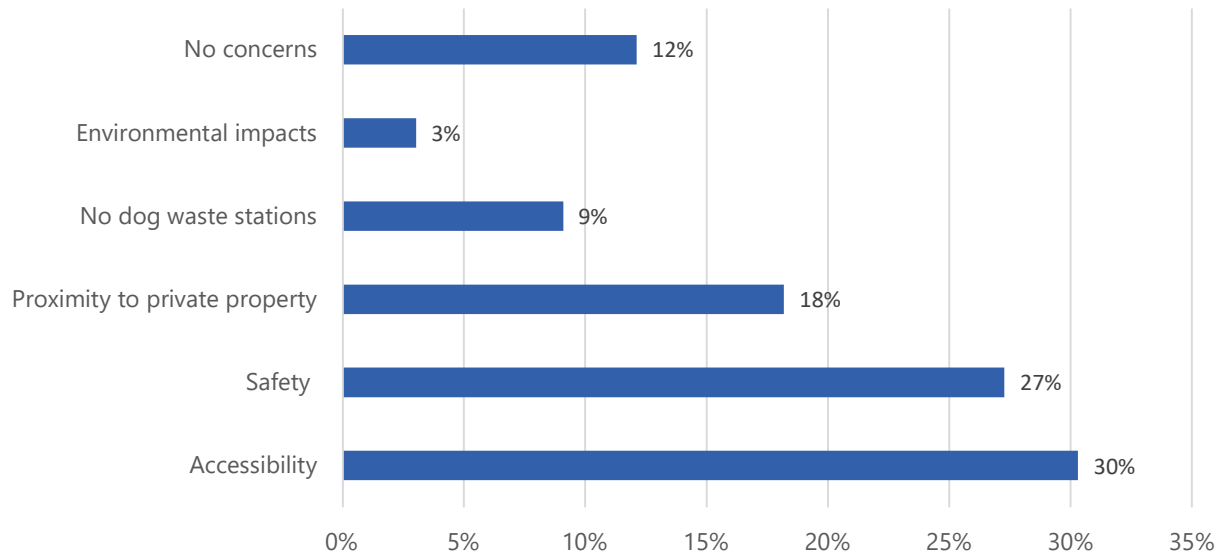


Do these challenges discourage you from walking or biking?



For this segment, respondents are concerned with safety, accessibility, and proximity to private property.

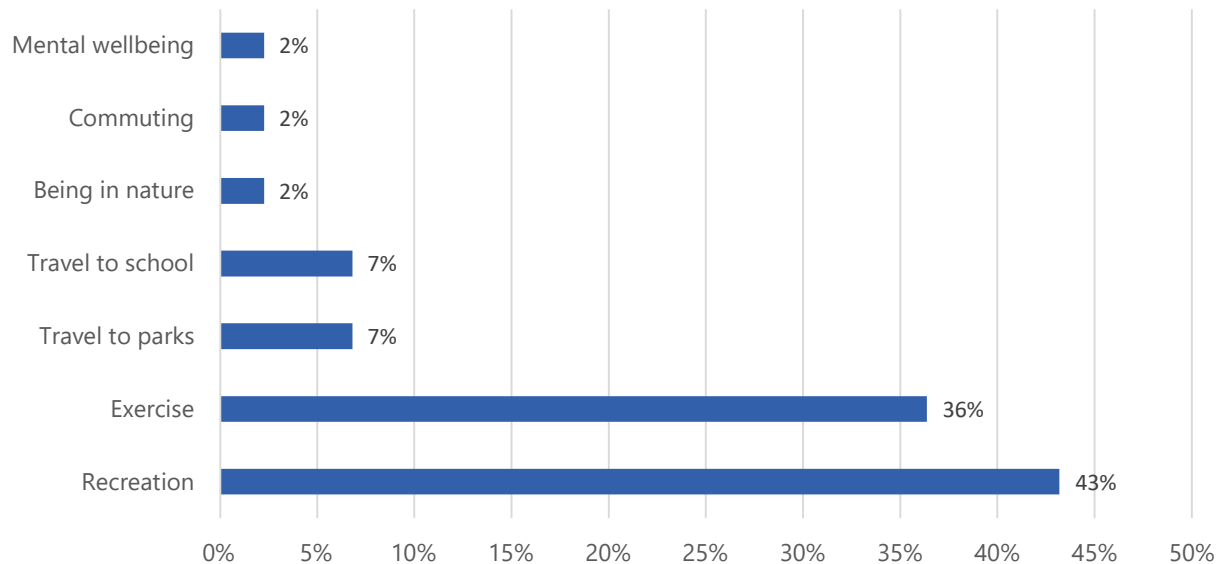
What concerns, if any, do you have about where the trail could be located? Please choose all that apply.



Opportunities

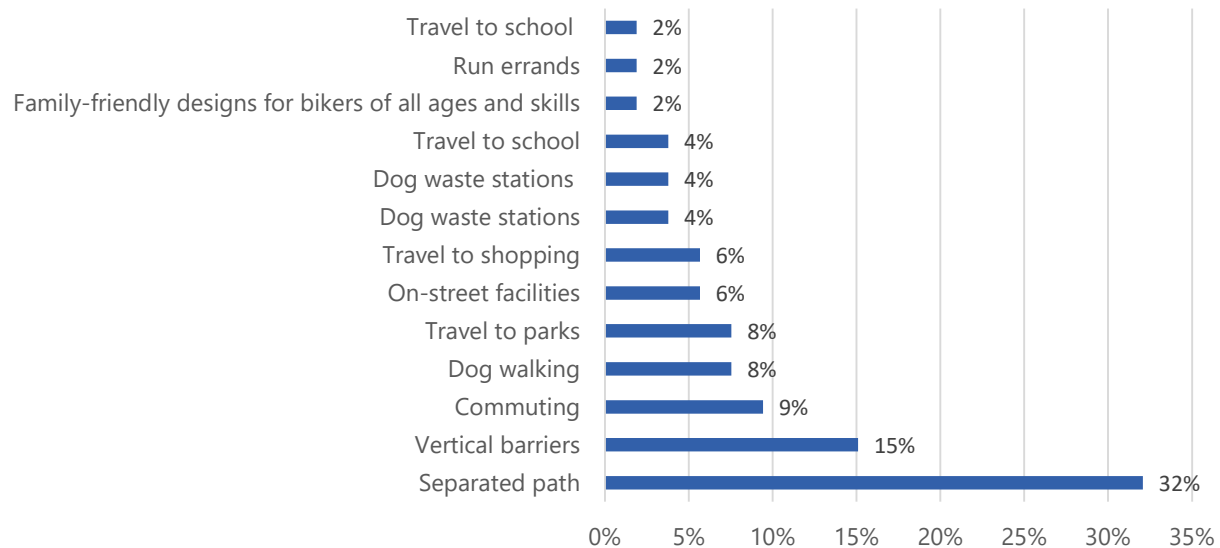
If the proposed path were built, respondents would likely use it for recreation or exercise.

For which reasons would you use this proposed trail segment? Please choose all that apply.



Most respondents would be encouraged to walk or bike more if the proposed path were separated from vehicle traffic.

Which safety or design features would encourage you to walk or bike more? Please choose all that apply.



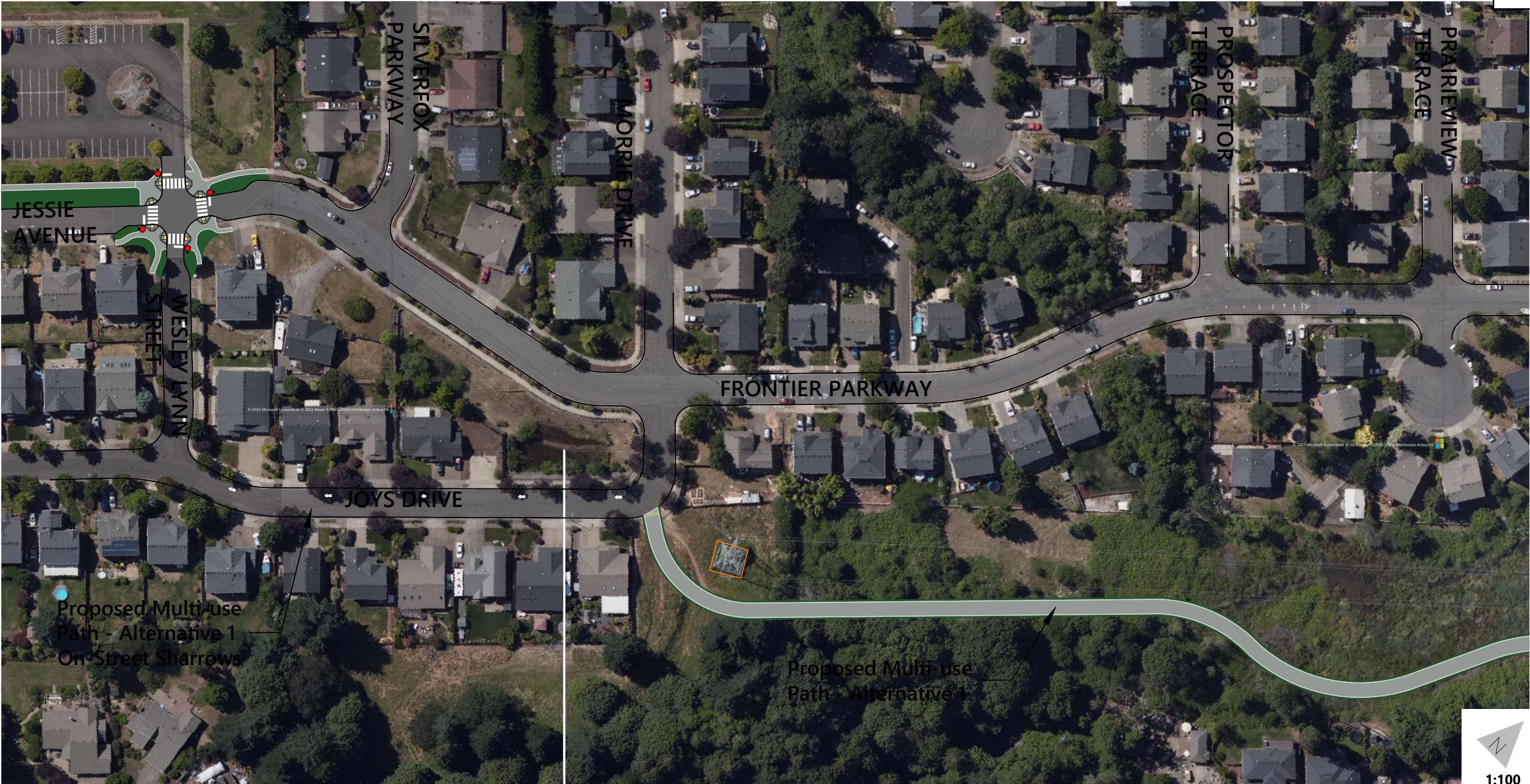
Appendix C: Concepts & Cross-Sections



Figure 1
Oregon City Loop Trail
Gaffney Lane & Beaver Creek to Meyers Multi-use Paths
Gaffney Lane Elementary School



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.



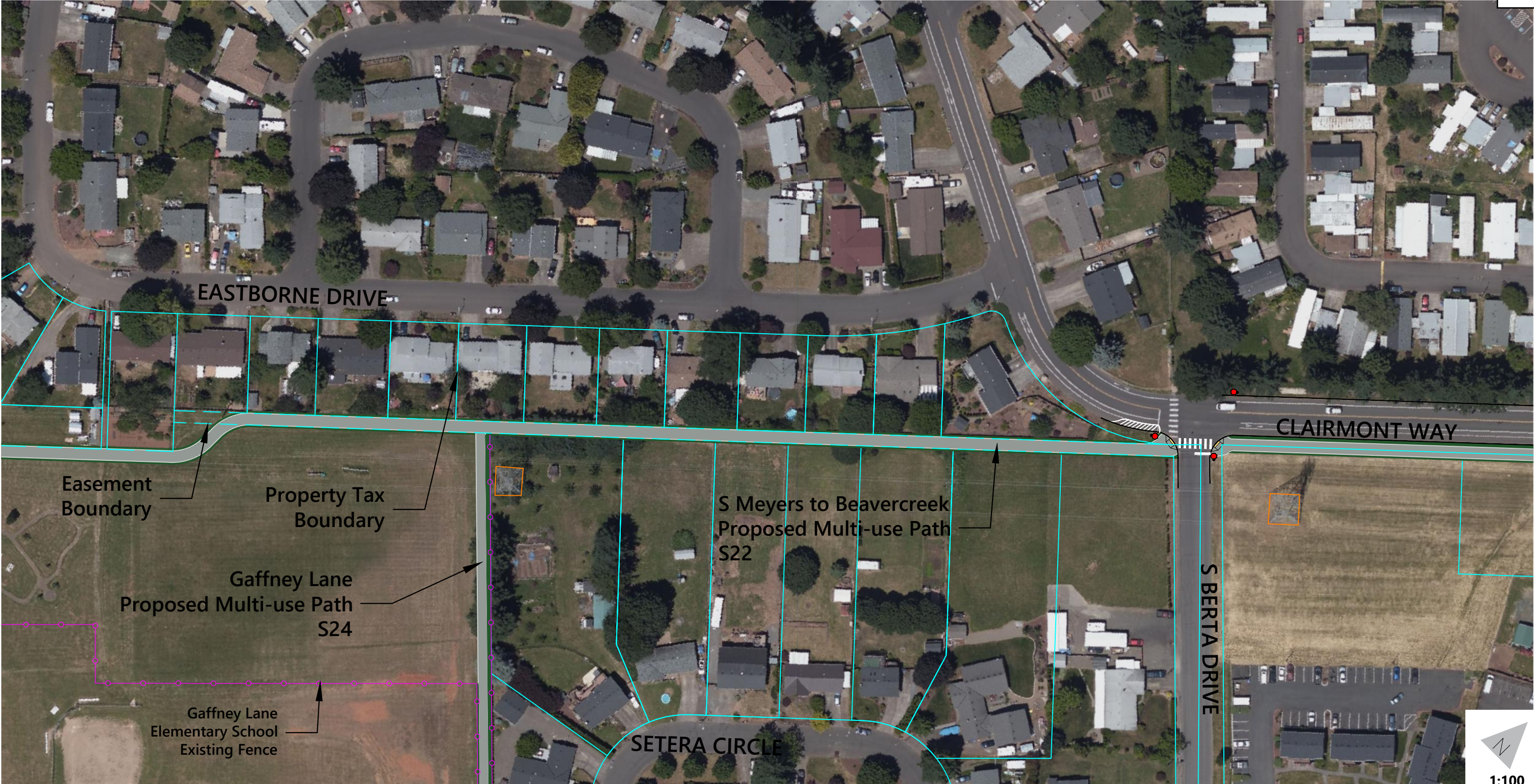
CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Sheet 6 of 7
Oregon City Loop Trail
Meyers Road to Beaver Creek Road
Clairmont Way / Molalla Avenue Intersection



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Figure 1
Oregon City Loop Trail
Meyers Road



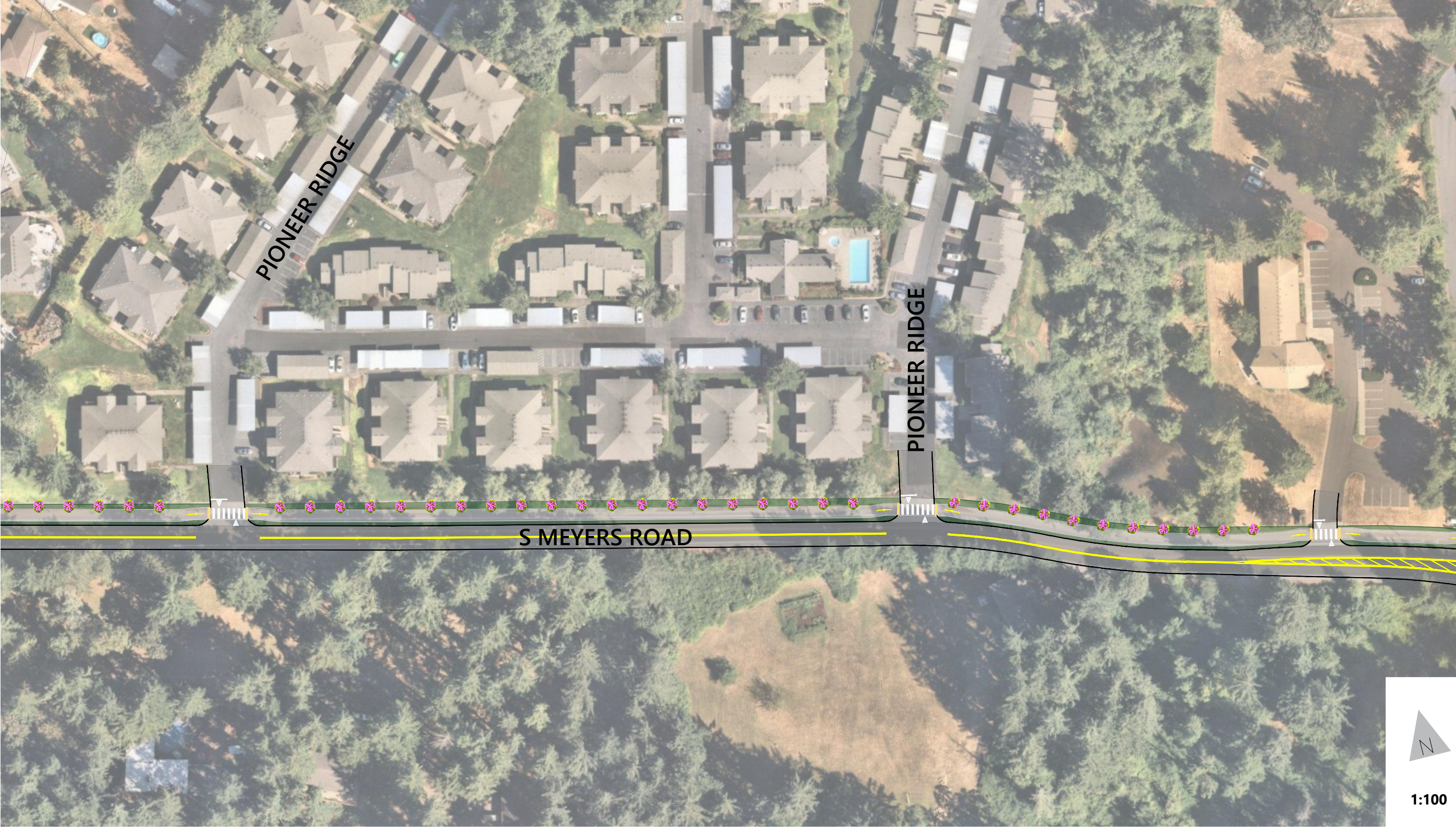
CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Figure 2
Oregon City Loop Trail
Meyers Road



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Figure 3
Oregon City Loop Trail
Meyers Road



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Figure 4
Oregon City Loop Trail
Meyers Road



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Figure 5
Oregon City Loop Trail
Meyers Road



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Figure 1
Oregon City Loop Trail
Orchard Grove - Hazelnut Avenue



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Figure 2
Oregon City Loop Trail
Orchard Grove - Hazelnut Avenue

Additional Cross-Sections

Item 8a.

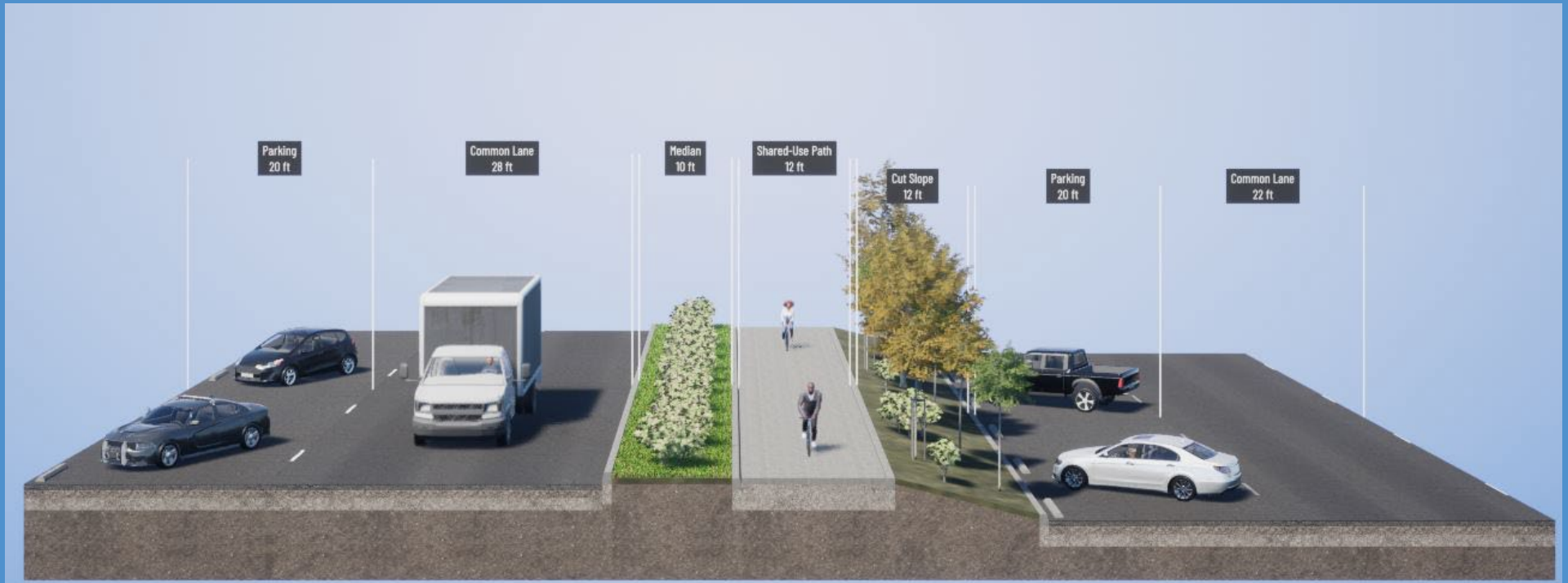


Figure D-1. Meyers-Beavercreek Proposed Cross-Section (Through Retail)

Appendix D: Cost-Estimates

S22 - Meyers to Beaver Creek (Beaver Creek to Meyers Road)

Item	Unit	Unit Cost (\$)	Quantity	Total Cost (\$)
General Excavation	C.Y.	\$100	6,786	\$678,600
Borrow	C.Y.	\$35	5,352	\$187,320
Granular Base	C.Y.	\$40	669	\$26,760
Emulsified Asphalt	TON	\$700	1,497	\$1,047,900
Curb and Gutter	L.F.	\$10	5,160	\$51,600
Painted Line (white)	L.F.	\$2	3,115	\$6,230
Painted Line (yellow)	L.F.	\$2	2,500	\$5,000
Painted Stop Line	S.F.	\$13	355	\$4,615
Painted Traffic Arrow	EACH	\$300	25	\$7,500
Painted Crosswalk (white, green)	S.F.	\$13	890	\$11,570
Painted Bike Lane Symbol	EACH	\$300	10	\$3,000
Painted Bike Sharrows	EACH	\$350	11	\$3,850
COB Green Plastic Bike Crossing	S.F.	\$15	1,760	\$26,400
ADA Ramp (New)	EACH	\$12,000	20	\$240,000
Reflective Stop Sign (New)	EACH	\$900	5	\$4,500
Traffic Signal Installation - Hawk Signal	Each	\$250,000	0	\$0
Site Prep & Demolition	15%			\$180,300
Traffic Control	20%			\$240,400
Mobilization	10%			\$120,200
Items Subtotal				\$2,845,745
Contingency	20%			\$372,000
Design Engineering	15%			\$279,000
Construction Admin	10%			\$186,000
Project Total Cost				\$3,685,000
Low Cost	-20%			\$2,950,000
Base Cost	0%			\$3,685,000
High Cost	20%			\$4,420,000

Right-Of-Way, environmental permits, retaining walls and match slopes, new and relocation of utilities, and temporary easements are not included in these cost estimates. These estimates are based on planning level analysis of project needs, they are not final. While assumptions were made for quantities the level of information these assumptions were based on was limited. The estimates are based on a conceptual cross-section and a 10% design concept plan, based on the best information available at the time. These are not engineered drawings and further study and design is needed.

S22 - Meyers to Beavercreek (Meyers Road to Wesley Lynn Park, Long-Term)

Item	Unit	Unit Cost (\$)	Quantity	Total Cost (\$)
General Excavation	C.Y.	\$100	2743	\$274,000
Borrow	C.Y.	\$35	2163	\$76,000
Granular Base	C.Y.	\$40	271	\$11,000
Emulsified Asphalt	TON	\$700	605	\$424,000
Curb and Gutter	L.F.	\$10	250	\$3,000
Painted Line (white)	L.F.	\$2	0	\$0
Painted Line (yellow)	L.F.	\$2	600	\$1,000
Painted Stop Line	S.F.	\$13	77	\$1,000
Painted Traffic Arrow	EACH	\$300	0	\$0
Painted Crosswalk (white, green)	S.F.	\$13	340	\$4,000
Painted Bike Lane Symbol	EACH	\$300	3	\$1,000
Painted Bike Sharrows	EACH	\$350	20	\$7,000
COB Green Plastic Bike Crossing	S.F.	\$15	0	\$0
ADA Ramp (New)	EACH	\$12,000	12	\$144,000
Reflective Stop Sign (New)	EACH	\$900	7	\$6,000
Traffic Signal Installation - Hawk Signal	Each	\$250,000	1	\$250,000
Site Prep & Demolition	30%			\$360,600
Traffic Control	5%			\$60,100
Mobilization	20%			\$240,400
Items Subtotal				\$1,860,000
Contingency	40%			\$744,000
Design Engineering	20%			\$372,000
Construction Admin	10%			\$186,000
Project Total Cost				\$3,160,000
Low Cost	-20%			\$2,530,000
Base Cost	0%			\$3,160,000
High Cost	20%			\$3,790,000

Right-Of-Way, environmental permits, retaining walls and match slopes, new and relocation of utilities, and temporary easements are not included in these cost estimates. These estimates are based on planning level analysis of project needs, they are not final. While assumptions were made for quantities the level of information these assumptions were based on was limited. The estimates are based on a conceptual cross-section and a 10% design concept plan, based on the best information available at the time. These are not engineered drawings and further study and design is needed.

S22 - Meyers to Beavercreek (Meyers Road to Wesley Lynn Park, Near-Term)

Item	Unit	Unit Cost (\$)	Quantity	Total Cost (\$)
General Excavation	C.Y.	\$100	948	\$95,000
Borrow	C.Y.	\$35	747	\$26,000
Granular Base	C.Y.	\$40	94	\$4,000
Emulsified Asphalt	TON	\$700	209	\$146,000
Curb and Gutter	L.F.	\$10	720	\$7,000
Painted Line (white)	L.F.	\$2	0	\$0
Painted Line (yellow)	L.F.	\$2	900	\$2,000
Painted Stop Line	S.F.	\$13	77	\$1,000
Painted Traffic Arrow	EACH	\$300	0	\$0
Painted Crosswalk (white, green)	S.F.	\$13	600	\$8,000
Painted Bike Lane Symbol	EACH	\$300	3	\$1,000
Painted Bike Sharrows	EACH	\$350	32	\$11,000
COB Green Plastic Bike Crossing	S.F.	\$15	0	\$0
ADA Ramp (New)	EACH	\$12,000	20	\$240,000
Reflective Stop Sign (New)	EACH	\$900	8	\$7,000
Traffic Signal Installation - Hawk Signal	Each	\$250,000	0	\$0
Site Prep & Demolition	10%			\$54,800
Traffic Control	10%			\$54,800
Mobilization	10%			\$54,800
Items Subtotal				\$160,000
Contingency	20%			\$109,600
Design Engineering	15%			\$82,200
Construction Admin	10%			\$54,800
Project Total Cost				\$405,000
Low Cost	-20%			\$325,000
Base Cost	0%			\$405,000
High Cost	20%			\$485,000

Right-Of-Way, environmental permits, new and relocation of utilities, and temporary easements are not included in these cost estimates. These estimates are based on planning level analysis of project needs, they are not final. While assumptions were made for quantities the level of information these assumptions were based on was limited. The estimates are based on a conceptual cross-section and a 10% design concept plan, based on the best information available at the time. These are not engineered drawings and further study and design is needed.

S23 - Meyers Road Planning Level Cost-Estimate

Item Number	Item	Unit	Unit Cost (\$)	Quantity	Total Cost (\$)
	General Excavation	C.Y.	\$100	7960	\$796,000
	Borrow	C.Y.	\$35	6280	\$220,000
	Granular Base	C.Y.	\$40	790	\$32,000
	Emulsified Asphalt	TON	\$700	1760	\$1,232,000
	Curb and Gutter	L.F.	\$10	6050	\$61,000
	Painted Line (white)	L.F.	\$2	2350	\$5,000
	Painted Line (yellow)	L.F.	\$2	12160	\$24,000
	Painted Stop Line	S.F.	\$13	370	\$5,000
	Painted Traffic Arrow	EACH	\$300	20	\$6,000
	Painted Crosswalk (white, green)	S.F.	\$13	1700	\$22,000
	Painted Bike Lane Symbol	EACH	\$300	10	\$3,000
	Painted Bike Sharrows	EACH	\$350	30	\$11,000
	COB Green Plastic Bike Crossing	S.F.	\$15	1600	\$24,000
	ADA Ramp (New)	EACH	\$4,500	5	\$23,000
	Tactile Pad	EACH	\$1,500	30	\$45,000
	Painted dashed line (yellow)	L.F.	\$2	1130	\$2,000
	Traffic Signal Installation - Hawk Signal	Each	\$250,000	1	\$250,000
Site Prep & Demolition	15%				\$ 414,000
Traffic Control	10%				\$ 276,000
Mobilization	10%				\$ 276,000
Items Subtotal					\$4,120,000
Contingency	20%				\$824,000
Design Engineering	15%				\$618,000
Construction Admin	10%				\$412,000
Project Total Cost					\$5,970,000
Low Cost	-20%		\$4,776,000		\$4,776,000
Base Cost	0%		\$5,970,000		\$5,970,000
High Cost	20%		\$7,164,000		\$7,164,000

These estimates are based on planning level analysis of project needs, they are not final. While assumptions were made for quantities the level of information these assumptions were based on was limited. The estimates are based on a conceptual cross-section and a 10% design concept plan, based on the best information available at the time. These are not engineered drawings and further study and design is needed.

Right-Of-Way, new and reallocation of utilities, and temporary easements are not included in these cost estimates

S24 - Gaffney Lane Elementary Shared Use Path Planning Level Cost-Estimate

Item Number	Item	Unit	Unit Cost (\$)	Quantity	Total Cost (\$)
	General Excavation	C.Y.	\$100	1170	\$117,000
	Borrow	C.Y.	\$35	920	\$32,000
	Granular Base	C.Y.	\$40	120	\$5,000
	Emulsified Asphalt	TON	\$700	250	\$175,000
	ADA Ramp (New)	EACH	\$4,500	2	\$9,000
Site Prep & Demolition	10%				\$34,000
Traffic Control	5%				\$17,000
Mobilization	10%				\$34,000
Items Subtotal					\$420,000
Contingency	20%				\$84,000
Design Engineering	10%				\$42,000
Construction Admin	10%				\$42,000
Project Total Cost					\$590,000
Low Cost	-20%		\$472,000		\$472,000
Base Cost	0%		\$590,000		\$590,000
High Cost	20%		\$708,000		\$708,000

These estimates are based on planning level analysis of project needs, they are not final. While assumptions were made for quantities the level of information these assumptions were based on was limited. The estimates are based on a conceptual cross-section and a 10% design concept plan, based on the best information available at the time. These are not engineered drawings and further study and design is needed.

Right-Of-Way, new and reallocation of utilities, and temporary easements are not included in these cost estimates

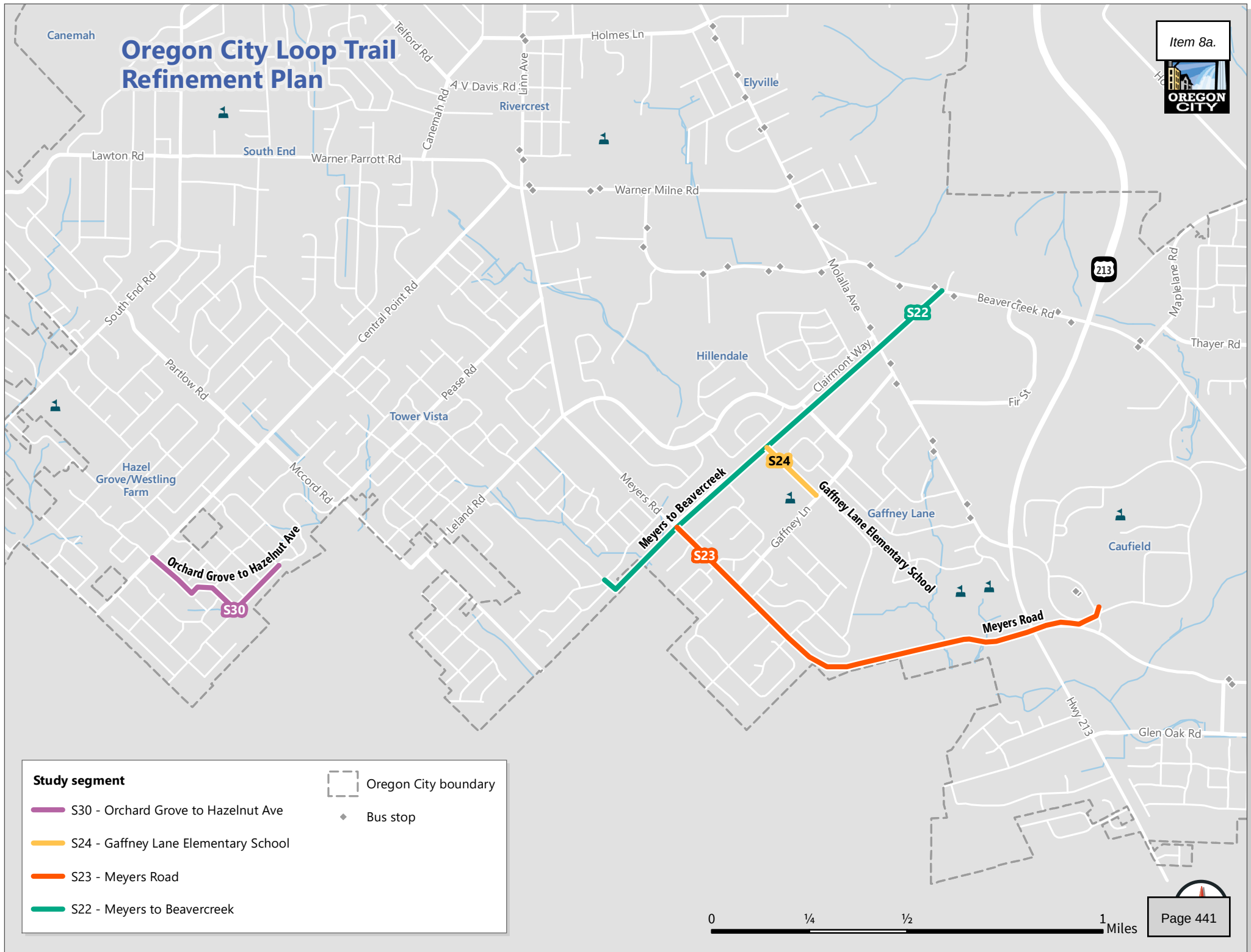
S-30 Orchard Grove-Hazelnut Planning Level Cost-Estimate

Item Number	Item	Unit	Unit Cost (\$)	Quantity	Total Cost (\$)
	Painted Bike Lane Symbol	EACH	\$300	8	\$2,400
	Painted Bike Sharrows	EACH	\$300	10	\$3,000
	ADA Ramp (New)	EACH	\$4,500	4	\$18,000
	Reflective Stop Sign (New)	EACH	\$500	2	\$1,000
	W11-2 Sign (Pedestrians Crossing)	EACH	\$500	4	\$2,000
				0	\$0
				0	\$0
				0	\$0
				0	\$0
Site Prep & Demolition	15%				\$4,000
Traffic Control	10%				\$3,000
Mobilization	10%				\$3,000
Items Subtotal					\$40,000
Contingency	20%				\$8,000
Design Engineering	15%				\$6,000
Construction Admin	10%				\$4,000
Project Total Cost					\$70,000
Low Cost	-20%		\$56,000		\$56,000
Base Cost	0%		\$70,000		\$70,000
High Cost	20%		\$84,000		\$84,000

These estimates are based on planning level analysis of project needs, they are not final. While assumptions were made for quantities the level of information these assumptions were based on was limited. The estimates are based on a conceptual cross-section and a 10% design concept plan, based on the best information available at the time. These are not engineered drawings and further study and design is needed.

Right-Of-Way, new and reallocation of utilities, and temporary easements are not included in these cost estimates

Oregon City Loop Trail Refinement Plan



Study segment

 S30 - Orchard Grove to Hazelnut Ave

 S24 - Gaffney Lane Elementary School

 S23 - Meyers Road

 S22 - Meyers to Beaver Creek

 Oregon City boundary

 Bus stop

Applicant Narrative for a Legislative Proposal

Date of submittal: October 27, 2023

APPLICANT: City of Oregon City, c/o Public Works Department, 13895 Fir Street, Oregon City, OR 97045
John Lewis, PE, Public Works Director
Josh Wheeler, PE, Assistant City Engineer

REQUEST: Legislative. The Public Works Department proposes the inclusion of the Oregon City Loop Trail Refinement Plan, an Ancillary Document to the Oregon City Transportation System Plan and the OC2040 Comprehensive Plan. This proposal amends the Comprehensive Plan.

LOCATION(S): City Wide

I. BACKGROUND:

File No. LEG-23-00002 updates the Oregon City Transportation System Plan (2013) by adopting the Oregon City Loop Trail Refinement Plan. The Oregon City Transportation System Plan is an ancillary document to the Oregon City Comprehensive Plan.

According to the 2004 Oregon City Comprehensive Plan (Introduction, “Implementing the Plan” Page 4): “Ancillary Plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities, and sewer facilities. Usually prepared by City departments through a public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to city departments in planning for and carrying out city services. These plans are updated more frequently than the Comprehensive Plan.”

The Oregon City Loop Trail Plan is a document that proposes street and trail specific cross sections to various streets within the City which defines typical cross sections within the Transportation System Plan (TSP) to more fully align with the existing conditions with the existing road network which will be used as private development occurs or funds becomes available. The specific TSP Projects which were analyzed for this plan are : S-22, S-23, S-24 and S-30.

The Oregon City Loop Trail will create a loop around Oregon City providing travelers with off-street paths and on-street connections along local roadways. This path is shown in the City of Oregon City Trails Master Plan. The segments are those portions of the Trail which lie within City Limits and do not have any plan or site specific cross sections related to them.

PROCESS

Adoption of the code amendments is a legislative action that requires review and recommendation from the Planning Commission prior to adoption by the City Commission following public hearings.

Public Involvement and Public Comment

While portions of the alignments identified in this plan can be constructed on property currently owned by the City, in some cases easements will be required to connect the paths through privately held properties.

To understand concerns from property owners and agencies that could have large portions of the shared use paths traversing or adjacent to their properties, stakeholder interviews were completed early in the planning process. Stakeholder interviews also included representatives from key destinations along the paths and regional planning agencies.

Representatives from the following agencies participated in stakeholder interviews:

- Clackamas County Community College
- Deering Property Management
- Gaffney Lane Neighborhood Association
- Oregon City Parks Department
- Portland General Electric (PGE)
- Metro
- Oregon City School District
- Oregon City Parks Department

A representative from ODOT attended the pre-application meeting and commented to ensure ODOT standards are followed if an ODOT facility ends up being impacted from a future design and construction.

The Oregon City Loop Trail Refinement Plan has been available for review on the Oregon City website at the following address: <https://oregoncity.teammunicode.com/publicworks/project/ps-22-002>

Postcards were used to promote opportunities to share feedback, along with promotion on City websites and social media platforms.



OREGON CITY
Loop Trail Plan
WE WANT TO HEAR FROM YOU!

Oregon City Public Works is developing a plan for four segments of the Oregon City Loop Trail that are included in the City's Transportation System Plan. This plan will identify **where to build the trails** and **what type of trail to build**.

To share your thoughts on the proposed trails, please take our survey which can be found here:
<https://bit.ly/3AOkpzu>

For updates on the project, visit the project website here:
<https://www.oregoncity.org/publicworks/project/ps-22-002>



Community members had two opportunities to share their concerns and priorities for development of the Loop Trail and ancillary paths.

The first opportunity was through an online survey, which asked community members to share how they would use the paths, what discourages them from walking or riding a bicycle today, and what design features would make them feel safer and more comfortable when using the paths.

Nearly 70 community members responded to the survey. Key takeaways that informed recommendations in this plan include:

- A concern about the loss of privacy in areas where paths may be located next to residential areas
- A desire for amenities such as trash cans, dog waste stations, and landscaping
- A need for separation from vehicles and enhanced lighting
- A need for paths that meet the needs of a wide variety of users

The second opportunity was an in-person workshop held at Gaffney Lane Elementary School which focused on the Gaffney Lane path and the Meyers-Beavercreek path. Feedback from community members included:

- A desire to maintain existing green space between Meyers Road and Frontier Parkway
- Paths that used to traverse the existing school property were highly-utilized; opportunities to follow that alignment should be prioritized
- Concerns about proximity of the paths to houses and the elementary school

The Legislative Process as it relates to the Oregon City Comprehensive Plan

The applicable approval criteria for a legislative action are the guidance provided in the Oregon City Comprehensive Plan, the applicable goals and policies of the Oregon City Comprehensive Plan, and any applicable statewide planning goals.

Section 2 – *Land Use* of the 2004 Oregon City Comprehensive Plan indicates that the regular review and updated of the Comprehensive Plan should consider the following:

1. Plan implementation process.
2. Adequacy of the Plan to guide land use actions, including an examination of trends.
3. Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.
4. Addition of updated factual information including that made available to the City of regional, state and federal governmental agencies.

Oregon City Comprehensive Plan (P.16)

Regular Review and Update

Plan maintenance and updating is a continuous technical review of the Plan by the Planning staff. This review and any subsequent recommendations for Plan updating should be presented to the

Neighborhood Associations, Planning Commission and City Commission for input and discussion in the same manner as requested Plan changes. The continuous review should consider:

1. Plan implementation process;

The Oregon City Loop Trail Refinement Plan is a special purpose plan that is part of the City's Transportation System Plan, an adopted Ancillary Document to the Oregon City Comprehensive Plan. The TSP is both a technical document and a conceptual guide that requires regular review in order to maintain and update it. The applicant, Oregon City Public Works Department, has presented the update for input by the residents, affected agencies, property owners, and the Gaffney Neighborhood Association. The applicant will present to Planning Commission and City Commission in accordance with the recommended method described in the Comprehensive Plan and pursuant to the applicable process described in Oregon City Municipal Code section 17.50.170. The plan implementation process is consistent with the Comprehensive Plan.

The Planning Commission will be initiating the legislative process tentatively scheduled for December 11, 2023.

Staff presented the amendments to the Citizen Involvement Committee on November 6, 2023.

The first evidentiary public hearing for the proposed amendments will be held with the Planning Commission and will follow the notice procedures for a legislative action per OCMC 17.50. The City Commission public hearing will be scheduled once the Planning Commission has completed their review and provided a recommendation on the proposed amendments.

The Department of Land Conservation and Development will be notified as required by ORS 197.610 – 197.625. The Staff Report will be made available at least seven days prior to the public hearing and the application was processed according to the Legislative Hearing Process as required under Oregon City Municipal Code 17.50.170. Implementation of the Plan is discussed further in Criterion 2.

2. Adequacy of the Plan to guide land use actions, including an examination of trends.

The Oregon City Loop Trail Refinement Plan provides an analysis of existing conditions and provides direction for future development, funding and needs. The plan provides cross sections of shared use paths to be used as an adequate guide for future land use actions and the development of criteria to be utilized in land use actions. The plan includes construction cost estimates and contingencies for the planning and design of recommended system facilities.

3. Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.

Community members had two opportunities to share their concerns and priorities for development of the Loop Trail and ancillary paths.

The first opportunity was through an online survey, which asked community members to share how they would use the paths, what discourages them from walking or riding a bicycle today, and what design features would make them feel safer and more comfortable when using the paths.

Nearly 70 community members responded to the survey. Key takeaways that informed recommendations in this plan include:

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The second opportunity was an in-person workshop held at Gaffney Lane Elementary School which focused on the Gaffney Lane path and the Meyers-Beavercreek path. Feedback from community members included:

- A desire to maintain existing green space between Meyers Road and Frontier Parkway
- Paths that used to traverse the existing school property were highly-utilized; opportunities to follow that alignment should be prioritized
- Concerns about proximity of the paths to houses and the elementary school

4. *Addition of updated factual information including that made available to the City by regional, state and federal governmental agencies.*

The Oregon City Loop Trail Refinement Plan provides provided factual information concerning environmental impacts and electrical easements.

The impacts and easements determined the best location for the shared use paths with the least amount of conflict with these areas.

Public Notice and Comments

This is a legislative action that requires public notice pursuant to OCMC 17.50.090.C. - *Notice of Public Hearing on a Legislative Proposal*. The Community Development Director will provide the required Post Acknowledgement Plan Amendment (PAPA) notice to the Oregon Department of Land Conservation and Development. Notice of a Planning Commission public hearing will be provided to the Citizen Involvement Committee, Neighborhood Associations, and affected service districts, agencies and parties by email.

II. DECISION-MAKING CRITERIA

The remainder of this staff report provides additional findings to demonstrate that the proposed Oregon City Loop Trail Refinement Plan is consistent with applicable approval criteria.

Chapter 17.68 - Zoning Changes and Comprehensive Plan Amendments

17.68.010 - Initiation of the amendment.

A text amendment to the comprehensive plan, or an amendment to the zoning code or map or the Comprehensive Plan map, may be initiated by:

- A. A resolution request by the City Commission;*
- B. An official proposal by the Planning Commission;*
- C. An application to the Planning Division; or.*
- D. A Legislative request by the Planning Division.*

All requests for amendment or change in this title shall be referred to the Planning Commission.

Response: The proposal qualifies as initiated as a legislative request by the initiation of a request by the Public Works Department and by Legislative Request by the Planning Division.

17.68.015 –Procedures.

Applications shall be reviewed pursuant to the procedures set forth in Chapter 17.50.

17.50.170 - Legislative hearing process.

A. Purpose. Legislative actions involve the adoption or amendment of the city's land use regulations, comprehensive plan, maps, inventories and other policy documents that affect the entire city or large portions of it. Legislative actions which affect land use shall begin with a public hearing before the planning commission.

B. Planning Commission Review.

1. Hearing Required. The planning commission shall hold at least one public hearing before recommending action on a legislative proposal. Any interested person may appear and provide written or oral testimony on the proposal at or prior to the hearing. The community development director shall notify the Oregon Department of Land Conservation and Development (DLCD) as required by the post-acknowledgment procedures of ORS 197.610 to 197.625, as applicable.

C. City Commission Review.

1. City Commission Action. Upon a recommendation from the planning commission on a legislative action, the city commission shall hold at least one public hearing on the proposal. Any interested person may provide written or oral testimony on the proposal at or prior to the hearing. At the conclusion of the hearing, the city commission may adopt, modify or reject the legislative proposal, or it may remand the matter to the planning commission for further consideration. If the decision is to adopt at least some form of the proposal, and thereby amend the city's land use regulations, comprehensive plan, official zoning maps or some component of any of these documents, the city commission decision shall be enacted as an ordinance.

2. Notice of Final Decision. Not later than five days following the city commission final decision, the community development director shall mail notice of the decision to DLCD in accordance with ORS 197.615(2).

Response: This legislative action followed the procedures found in OCMC 17.50.170 including meetings with the Gaffney Neighborhood, Planning Commission, and City Commission where applicable.

17.68.020 - Criteria.

The criteria for comprehensive plan amendment or text or map amendment in the zoning code are set forth as follows:

- A. The proposal shall be consistent with the applicable goals and policies of the comprehensive plan;*

Response: This legislative action is consistent with the applicable goals and policies of the comprehensive plan as detailed in the responses below. Therefore, the proposed amendments are consistent with Criterion (A).

OC2040 Oregon City Comprehensive Plan

According to the OC2040 Comprehensive Plan (Appendix 3): “Ancillary plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities, and sewer facilities. Usually prepared by City departments through a public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to city departments in planning for and carrying out city services. These plans are updated more frequently than the comprehensive plan.”

The Oregon City Loop Trail Refinement Plan will be adopted as an ancillary document to the Oregon City Transportation System Plan (TSP). The TSP is an adopted ancillary document to the Oregon City Comprehensive Plan. The TSP is both a technical document and a conceptual guide that requires regular review.

Conformity of the proposal with the city's comprehensive plan;

Inset Relevant OC2040 Text, Goals, Policies and Strategies here.

Section 1 Citizen Involvement

Goal 1.2 Community and Comprehensive Planning

Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.

Policy 1.2.1 - Encourage citizens to participate in appropriate government functions and land-use planning.

Goal 1.3 Community Education - Provide education for individuals, groups, and communities to ensure effective participation in decision-making processes that affect the livability of neighborhoods.

Goal 1.4 Community Involvement - Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.

Policy 1.4.1 - Notify citizens about community involvement opportunities when they occur.

Goal 1.5 Government/Community Relations -Provide a framework for facilitating open, two-way communication between City representatives and individuals, groups, and communities.

Finding: Complies as Proposed. Development of the plan included an extensive public involvement effort. Oregon City Public Works Department has presented the project to the public at several meetings including a Gaffney Neighborhood Meeting, Citizen Involvement Committee, Planning

Commission and City Commission. Documentation produced with the corridor plan has been posted on the project website throughout the duration of the project and comments have been integrated into the final product. Direct outreach was completed with directly impacted property owners through mailings and phone calls as discussed in the report. The product will be reviewed through the Legislative approval process.

The public involvement and public comment process included: placing project information on the City's website, (1) meeting with the Gaffney Lane Neighborhood, (8) discussions with directly impacted organizations, and numerous postcards and letters seeking input from directly impacted neighbors meetings.

One survey was completed to get feedback about location and design of the various trails.

This application will be noticed by mailings to all properties within 300 feet of the xxx and notice in the newspaper.

Comprehensive Plan Section 2 Land Use

Section 2: Land Use

Goal 2.1 Efficient Use of Land

Ensure that property planned for residential, commercial, office, and industrial uses is used efficiently and that land is developed following principals of sustainable development

Policy 2.1.3 Encourage sub-area master planning for larger developments or parcels, including re-development, where it may be feasible to develop more mixed uses, or campus-style industrial parks, with shared parking and landscaping areas. Allow development to vary from prescriptive standards if planned and approved under this provision.

Policy 2.1.4 Use redevelopment programs such as urban renewal to help redevelop underutilized commercial and industrial land.

Goal 2.6 Industrial Land Development

Ensure an adequate supply of land for major industrial employers with family-wage jobs.

Policy 2.6.7 Establish priorities to ensure that adequate public facilities are available to support the desired industrial development.

Finding: Complies as Proposed. No change to land uses are proposed. The Plan aims to connect residents to all uses within the neighborhood and beyond.

Goal 2.4: Neighborhood Livability - Provide a sense of place and identity for residents and visitors by protecting and maintaining neighborhoods as the basic unit of community life in Oregon City while implementing the goals and policies of the other sections of the Comprehensive Plan.

Policy 2.4.2 Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.

Finding: Complies as Proposed. The Plan aims to connect residents to all uses within the neighborhood and beyond, and to provide connections between other pedestrian and bicycle routes. The Plan will add to the vibrancy of the area by creating a safer environment for people to travel within their neighborhoods on foot and by bicycle when funds become available to build the infrastructure.

Policy 2.4.3 *Promote connectivity between neighborhoods and neighborhood commercial centers through a variety of transportation modes.*

Finding: Complies as Proposed. The Plan aims to connect residents to all uses within the neighborhood and beyond, and to provide connections between other pedestrian and bicycle routes.. The Plan will add to the vibrancy of the area by creating a safer environment for people to travel within their neighborhoods on foot and by bicycle when funds become available to build the infrastructure.

Goal 2.7 Oregon City Comprehensive Plan Land-Use Map

Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.

Policy 2.7.2 *Use the following 11 land-use classifications on the Oregon City Comprehensive Plan Land-Use Map to determine the zoning classifications that may be applied to parcels:*

- Low Density Residential (LR)
- Medium Density Residential (MR)
- High Density Residential (HR)
- Commercial (C)
- Mixed Use Corridor (MUC)
- Mixed Use Employment (MUE)
- Mixed Use Downtown (MUD)
- Industrial (I)
- Public and Quasi-Public (QP)
- Parks (P)
- Future Urban Holding (FUH)

Finding: This proposal makes no changes to the Comprehensive Plan, zoning, or land use designations for lands within the Urban Growth Boundary. The proposal will maintain the existing Oregon City Land Use Map as the official long range planning guide for land use development of the city by types, density and location (Goal 2.7).

Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

Goal 5.1 – Open Space

Policy 5.1.1 *Conserve open space along creeks, urban drainage ways, steep hillsides, and throughout Newell Creek Canyon.*

Policy 5.1.2 *Manage open space areas for their value in linking citizens and visitors with the natural environment, providing solace, exercise, scenic views and outdoor education. Built features in open space sites should harmonize with natural surroundings.*

Finding: This proposal makes no changes to the existing inventories of open space, scenic and historic areas, and natural resources or the adopted maps, code and policies pertaining thereto. The proposal

will assist in the identification, conservation and management of new resources that may be impacted when improvements are planned and constructed(Goal 5.1).

Goal 5.2 Scenic Views and Scenic Sites

Policy 5.2.1 *Identify and protect significant views of local and distant features such as Mt. Hood, the Cascade Mountains, the Clackamas River Valley, the Willamette River, Willamette Falls, the Tualatin Mountains, Newell Creek Canyon, and the skyline of the city of Portland, as viewed from within the city.*

Policy 5.2.2 *Maximize the visual compatibility and minimize the visual distraction of new structures or development within important viewsheds by establishing standards for landscaping, placement, height, mass, color, and window reflectivity.*

Finding: This proposal makes no changes to the existing inventories of open space, scenic and historic areas, and natural resources or the adopted maps, code and policies pertaining thereto. The proposal will assist in the identification, conservation and management of new resources that may be impacted when improvements are planned and constructed(Goal 5.1 and 5.2).

Goal 5.3 Historic Resources

Policy 5.3.3 *Promote the designation of qualifying properties outside Historic and Conservation Districts as historic.*

Policy 5.3.8 *Preserve and accentuate historic resources as part of an urban environment that is being reshaped by new development projects.*

Finding: This proposal makes no changes to the existing inventories of open space, scenic and historic areas, and natural resources or the adopted maps, code and policies pertaining thereto. The proposal will assist in the identification, conservation and management of new resources that may be impacted when improvements are planned and constructed (Goal 5.1 – 5.3).

Goal 5.4 Natural Resources

Policy 5.4.1 *Conserve and restore ecological structure, processes and functions within the city to closely approximate natural ecosystem structure, processes, and functions.*

Policy 5.4.5 *Ensure that riparian corridors along streams and rivers are conserved and restored to provide maximum ecological value to aquatic and terrestrial species. This could include an aggressive tree and vegetation planting program to stabilize slopes, reduce erosion, and mitigate against invasive species and stream impacts where appropriate.*

Policy 5.4.9 *Protect and enhance riparian corridors along streams in Oregon City to increase shade, reduce streambank erosion and intrusion of sediments, and provide habitat for a variety of plants, animals, and fish.*

Policy 5.4.12 *Use a watershed-scale assessment when reviewing and planning for the potential effects from development, whether private or public, on water quality and quantity entering streams.*

Policy 5.4.13 *Adopt and/or establish standards for all new development that promote the use of pervious surfaces and prevent negative ecological effects of urban stormwater runoff on streams, creeks and rivers.*

Policy 5.4.16 *Protect surfacewater quality by:*

- *providing a vegetated corridor to separate protected water features from development*
- *maintaining or reducing stream temperatures with vegetative shading*
- *minimizing erosion and nutrient and pollutant loading into water*
- *providing infiltration and natural water purification by percolation through soil and vegetation*

Policy 5.4.18 *Encourage use of native and hardy plants such as trees, shrubs and groundcovers to maintain ecological function and reduce maintenance costs and chemical use.*

Finding: This proposal makes no changes to the existing inventories of open space, scenic and historic areas, and natural resources or the adopted maps, code and policies pertaining thereto. The proposal will assist in the identification, conservation and management of new resources that may be impacted when improvements are planned and constructed (Goal 5.4).

Section 6: Quality of Air, Water and Land Resources

Goal 6.1 *Air Quality -Promote the conservation, protection and improvement of the quality of the air in Oregon City.*

Policy 6.1.2 *-Ensure that development practices comply with or exceed regional, state, and federal standards for air quality.*

Policy 6.3.3 *Employ practices in City operations and facilities, including street lighting, which increases safety and reduces unnecessary glare, light trespass, and light pollution.*

Finding: Complies as Proposed. The plan included an analysis of natural resources. Creating safe travel corridors for pedestrian and bikes will allow more people to avoid driving, which will better preserve and protect natural resources. When permits are sought for construction, any applicable land use review for Natural Resource Overlay District and Geologic Hazard Overlay District will be required.

Goal 7.1: Natural Hazards

Protect life and reduce property loss from the destruction associated with natural hazards.

Finding: Complies as Proposed. The plan included an analysis of natural resources. Creating safe travel corridors for pedestrian and bikes will allow more people to avoid driving, which will better preserve and protect natural resources. When permits are sought for construction, any applicable land use review for Natural Resource Overlay District and Geologic Hazard Overlay District will be required.

Goal 11: Public Facilities

Policy 11.1.1 *Ensure adequate public funding for the following public facilities and services, if feasible:*

Transportation infrastructure • Wastewater collection • Stormwater management • Police protection • Fire protection • Parks and recreation • Water distribution • Planning, zoning and subdivision regulation • Library services • Aquatic Center • Carnegie Center • Pioneer Community Center • City Hall • Buena Vista House • Ermatinger House

Policy 11.4.2 *Adopt “green streets” standards to reduce the amount of impervious surface and increase the use of bioswales for stormwater retention where practicable.*

Finding: Complies as Proposed. Goal 11 requires that public facilities and services be provided in a timely, orderly and efficient manner. The goal’s central concept is that local governments should plan public services in accordance with the community’s needs as a whole rather than be forced to respond to individual developments as they occur. The Oregon City Loop Trail Refinement Plan will provide a design for public facilities as well as a means to obtain future funding.

Policy 11.4.4 *Maintain existing drainageways in a natural state for maximum water quality, water resource preservation, and aesthetic benefits.*

Finding: Complies as Proposed. The plan included an analysis of natural resources. Creating safe travel corridors for pedestrian and bikes will allow more people to avoid driving, which will better preserve and protect natural resources. When permits are sought for construction, any applicable land use review for Natural Resource Overlay District and Geologic Hazard Overlay District will be required.

Goal 12: Transportation

Policy 12.1.1 *Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.1.2 *Continue to develop corridor plans for the major arterials in Oregon City, and provide for appropriate land uses in and adjacent to those corridors to optimize the land use-transportation connection.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.1.4 *Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.3.1 *Provide an interconnected and accessible street system that minimizes vehicle-miles-traveled and inappropriate neighborhood cut-through traffic.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.3.2 *Provide an interconnected and accessible pedestrian system that links residential areas with major pedestrian generators such as employment centers, public facilities, and recreational areas.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.3.3 *Provide a well-defined and accessible bicycle network that links residential areas, major bicycle generators, employment centers, recreational areas, and the arterial and collector roadway network.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.3.4 *Ensure the adequacy of pedestrian and bicycle connections to local, county, and regional trails.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.6.1 *Provide a transportation system that serves existing and projected travel demand.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.6.2 *Identify transportation system improvements that mitigate existing and projected areas of congestion.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.6.3 *Ensure the adequacy of travel mode options and travel routes (parallel systems) in areas of congestion.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Policy 12.6.4 *Identify and prioritize improved connectivity throughout the city street system.*

Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the City through the addition of sidewalks and bike lanes.

Section 14 Urbanization

Goal 14.3 Orderly Provision of Services to Growth Areas

Plan for public services to lands within the Urban Growth Boundary through adoption of a concept plan and related Capital Improvement Program, as amendments to the Comprehensive Plan.

Policy 14.3.1

Maximize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.

Policy 14.3.2

Ensure that the extension of new services does not diminish the delivery of those same services to existing areas and residents in the city.

Policy 14.3.3

Oppose the formation of new urban services districts and oppose the formation of new utility districts that may conflict with efficient delivery of city utilities within the Urban Growth Boundary.

Policy 14.3.4

Ensure the cost of providing new public services and improvements to existing public services resulting from new development are borne by the entity responsible for the new development to the maximum extent allowed under state law for Systems Development Charges.

Finding: This proposal makes no changes to the Comprehensive Plan, zoning, or land use designations for lands within the Urban Growth Boundary. The proposed Oregon City Loop Trail Refinement Plan may assist in assuring the orderly provision of services to growth areas (Goal 14.3).

Goal 14.5 Urbanization

Policy 14.5.2

Coordinate public facilities, services and land-use planning through intergovernmental agreements with the school district, Clackamas Community College, Clackamas County Fire District #1, Tri-Cities Services District and other public entities as appropriate.

Finding: This proposal makes no changes to the Comprehensive Plan, zoning, or land use designations for lands within the Urban Growth Boundary. The proposed Oregon City Loop Trail Refinement Plan may assist in assuring the orderly provision of services to growth areas (Goal 14.3).

Statewide Planning Goals

Response: This proposal makes no changes to the Comprehensive Plan, zoning, or land use designations for lands within the Urban Growth Boundary. Since the City's Comprehensive Plan and its ancillary documents are already acknowledged by the Oregon Department of Land Use and Conservation (DLCD), no further analysis for consistency with Statewide Planning Goals is required.

Chapter 17.50 Administration and Procedures

17.50.050 – Pre-application conference.

- A. *Pre-application Conference. Prior to a Type II – IV or Legislative application, excluding Historic Review, being deemed complete, the applicant shall schedule and attend a pre-application conference with City staff to discuss the proposal, unless waived by the Community Development Director. The purpose of the pre-application conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal.*
 1. *To schedule a pre-application conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee.*
 2. *At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans.*
 3. *The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the pre-application conference.*
- B. *A pre-application conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant shall schedule and attend another conference before the City will accept a permit application. The Community Development Director may waive the pre-application requirement if, in the Director's opinion, the development has not changed significantly and the applicable municipal code or standards have not been significantly amended. In no case shall a pre-application conference be valid for more than one year.*
- C. *Notwithstanding any representations by City staff at a pre-application conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.*

Response: Staff held the required pre-application conference meeting (File PA-23-00032), on October 24, 2023. The pre-application conference notes are attached to the application.

17.50.055 - Neighborhood association meeting.

Neighborhood Association Meeting. The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.

- A. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, Planning Commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the City-recognized neighborhood association in whose territory the application is proposed no earlier than one year prior to the date of application. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.*
- B. The applicant shall request via email or regular mail a request to meet with the neighborhood association chair where the proposed development is located. The notice shall describe the proposed project. A copy of this notice shall also be provided to the chair of the Citizen Involvement Committee.*
- C. A meeting shall be scheduled within thirty days of the date that the notice is sent. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall host a meeting inviting the neighborhood association, Citizen Involvement Committee, and all property owners within three hundred feet to attend. This meeting shall not begin before six p.m. on a weekday or may be held on a weekend and shall occur within the neighborhood association boundaries or at a City facility.*
- D. If the neighborhood association is not currently recognized by the City, is inactive, or does not exist, the applicant shall request a meeting with the Citizen Involvement Committee.*
- E. To show compliance with this section, the applicant shall submit a copy of the email or mail notice to the neighborhood association and CIC chair, a sign-in sheet of meeting attendees, and a summary of issues discussed at the meeting. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, postcard or other correspondence used, and a summary of issues discussed at the meeting and submittal of these materials shall be required for a complete application.*

Response: Staff presented the amendments to the Citizen Involvement Committee on November 6, 2023. A copy of the PowerPoint presentation is attached to the application.

17.50.070 - Completeness review and one hundred twenty-day rule.

- C. Once the Community Development Director determines the application is complete enough to process, or the applicant refuses to submit any more information, the City shall declare the application complete. Pursuant to ORS 227.178, the City will reach a final decision on an application within one hundred twenty calendar days from the date that the application is determined to be or deemed complete unless the applicant agrees to suspend the one hundred twenty calendar day time line or unless State law provides otherwise. The one hundred twenty-day period, however, does not apply in the following situations:*
 - 1. Any hearing continuance or other process delay requested by the applicant shall be deemed an extension or waiver, as appropriate, of the one hundred twenty-day period.*
 - 2. Any delay in the decision-making process necessitated because the applicant provided an incomplete set of mailing labels for the record property owners within three hundred feet of the subject property shall extend the one hundred twenty-day period for the amount of time required to correct the notice defect.*

3. *The one hundred twenty-day period does not apply to any application for a permit that is not wholly within the City's authority and control.*
 4. *The one hundred twenty-day period does not apply to any application for an amendment to the City's comprehensive plan or land use regulations nor to any application for a permit, the approval of which depends upon a plan amendment.*
- D. A one-hundred day period applies in place of the one-hundred-twenty day period for affordable housing projects where:*
1. *The project includes five or more residential units, including assisted living facilities or group homes;*
 2. *At least 50% of the residential units will be sold or rented to households with incomes equal to or less than 60% of the median family income for Clackamas County or for the state, whichever is greater; and*
 3. *Development is subject to a covenant restricting the owner and successive owner from selling or renting any of the affordable units as housing that is not affordable for a period of 60 years from the date of the certificate of occupancy.*
- E. The one hundred twenty-day period specified in OCMC 17.50.070.C or D may be extended for a specified period of time at the written request of the applicant. The total of all extensions may not exceed two hundred forty-five calendar days.*
- F. The approval standards that control the City's review and decision on a complete application are those which were in effect on the date the application was first submitted.*

Response: Legislative actions are not subject to the 120-day deadline.

III. CONCLUSION

Provide conclusion



Oregon City

Loop Trail Plan

WE WANT TO HEAR FROM YOU!

Oregon City Public Works is developing a plan for **four segments of the Oregon City Loop Trail** that are included in the City's Transportation System Plan. This plan will identify **where to build the trails** and **what type of trail** to build.

To share your thoughts on the proposed trails, please take our survey which can be found here:

<https://bit.ly/3AOkpzu>

For updates on the project, visit the project website here:

<https://www.oregoncity.org/publicworks/project/ps-22-002>



THE SURVEY IS AVAILABLE FROM SEPTEMBER 9 TO OCTOBER 3, 2022

Item 8a.



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THE SURVEY IS AVAILABLE FROM SEPTEMBER 9 TO OCTOBER 3, 2022



OREGON CITY PUBLIC WORKS
13895 FIR STREET
OREGON CITY, OR 97045
971-204-4601

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Meyers-Beavercreek Shared Use Path

Project Overview:

This project would construct a shared-use path under the power lines between Frontier Parkway and Beavercreek Road to connect residential neighborhoods to planned trails and Wesley Lynn Park.

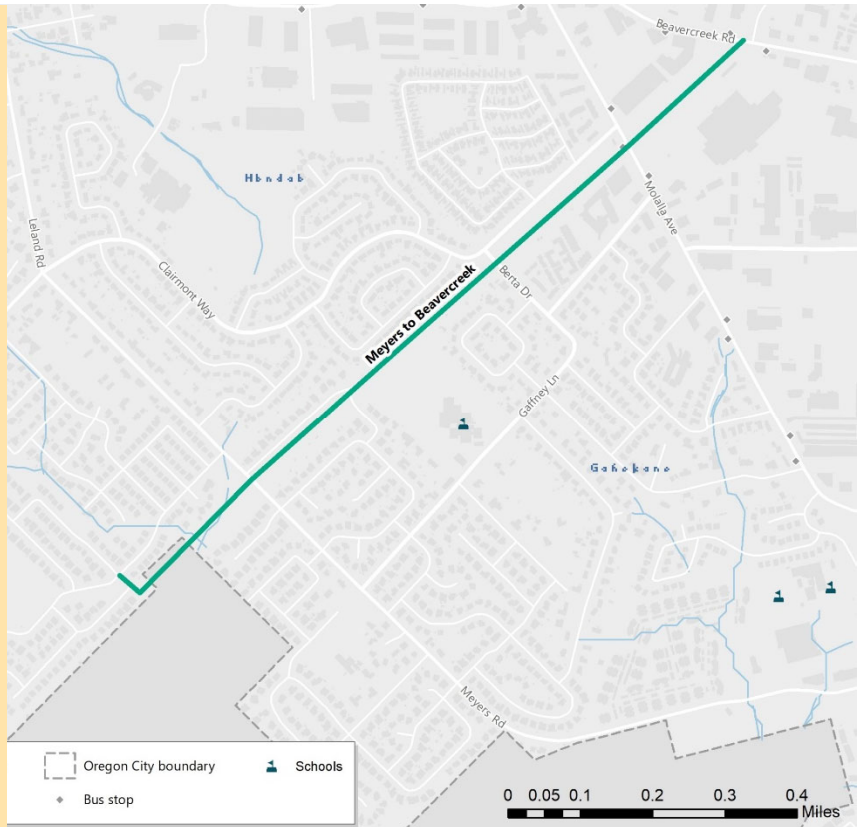
What will be the outcomes of this study?

This study will identify a preferred alignment and cross-section for the path between Beavercreek Road and Frontier Parkway and identify potential funding sources for design and construction of the path.

What do we want to hear from you?

Please share any opportunities or constraints you would like the project team to be aware of as this study is completed. We'd also like to hear if you would use the proposed path, how you would use it, and any concerns you'd like to have considered.

Please use the space below to share any thoughts or feedback you have for this project!



Stay Connected!



orccity.org/publicworks/project/ps-22-002



971-204-4634

Oregon City Loop Trail Connections Stakeholder Workshop

October 10, 2022

Agenda

5 minutes

Meeting Welcome & Overview

15 minutes

Overview Presentation & Questions

30 minutes

Walking Audit

10 minutes

Wrap-Up

Meeting Purpose & Objectives

- Provide an overview of the Oregon City Loop Trail Plan Study
- Gather feedback on the proposed Meyers-Beavercreek segment
- Share opportunities and constraints for the Meyers-Beavercreek segment
- Provide an opportunity for stakeholders to ask questions

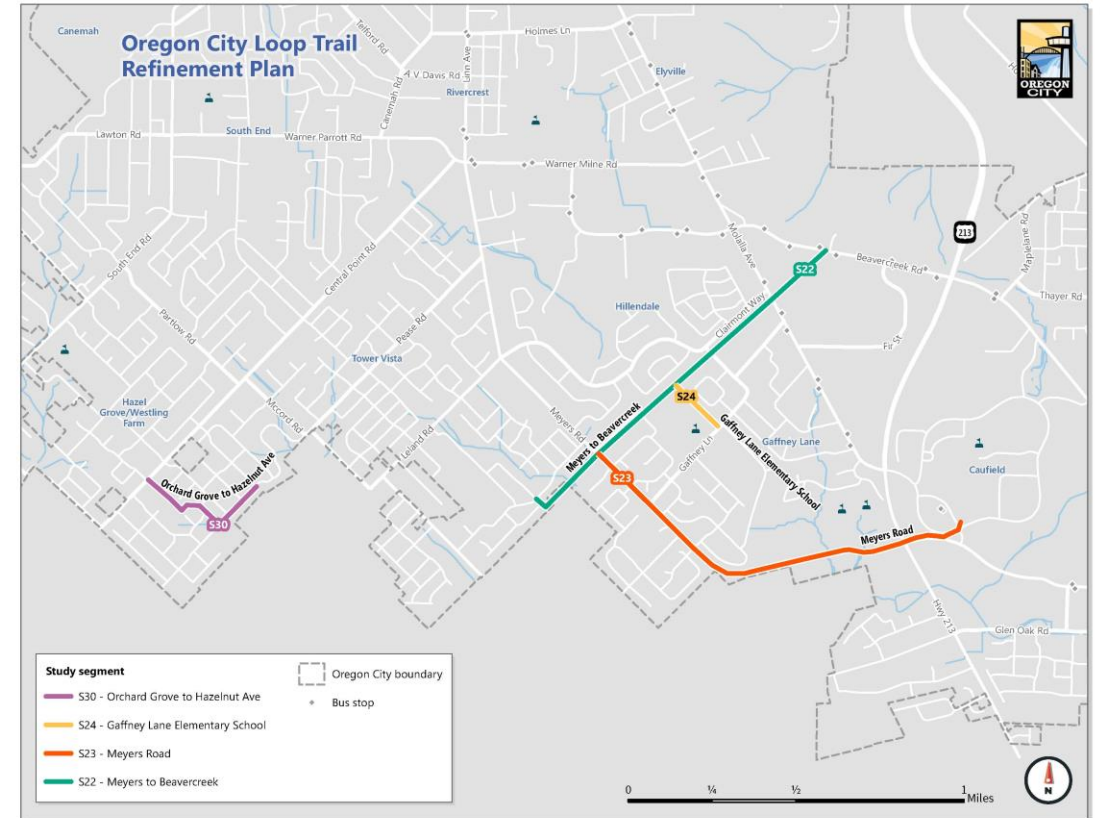
Project Overview

- In 2004, the Oregon City Trails Master Plan was completed
- Sets the vision for the City's trail system
- Identified the Oregon City Loop Trail as a regional trail
- Provides guidance for how trails should be constructed

Insert map of entire Loop Trail

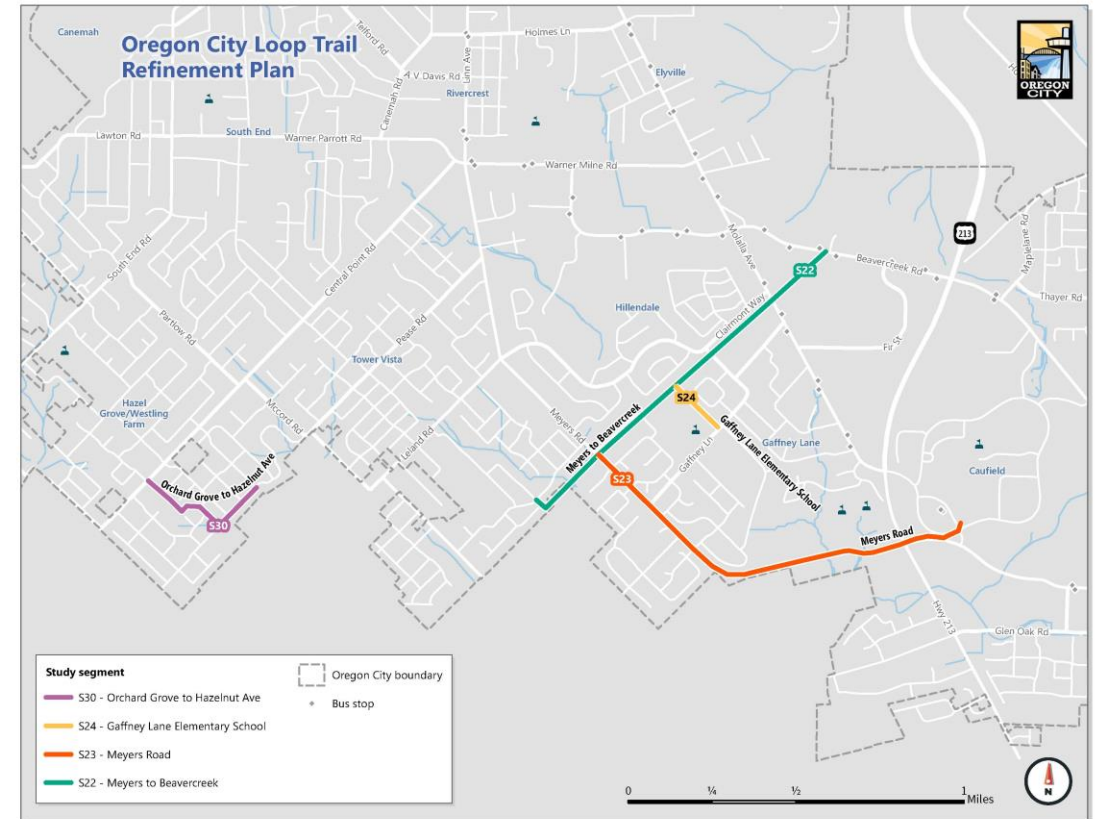
Project Overview

- In 2013, the Oregon City Transportation System Plan (TSP) was completed
- Provides a long-term guide for City transportation investments
- Includes projects that would build segments of the Loop Trail and connections to the Loop Trail
- This study is focusing on four segments identified in the TSP



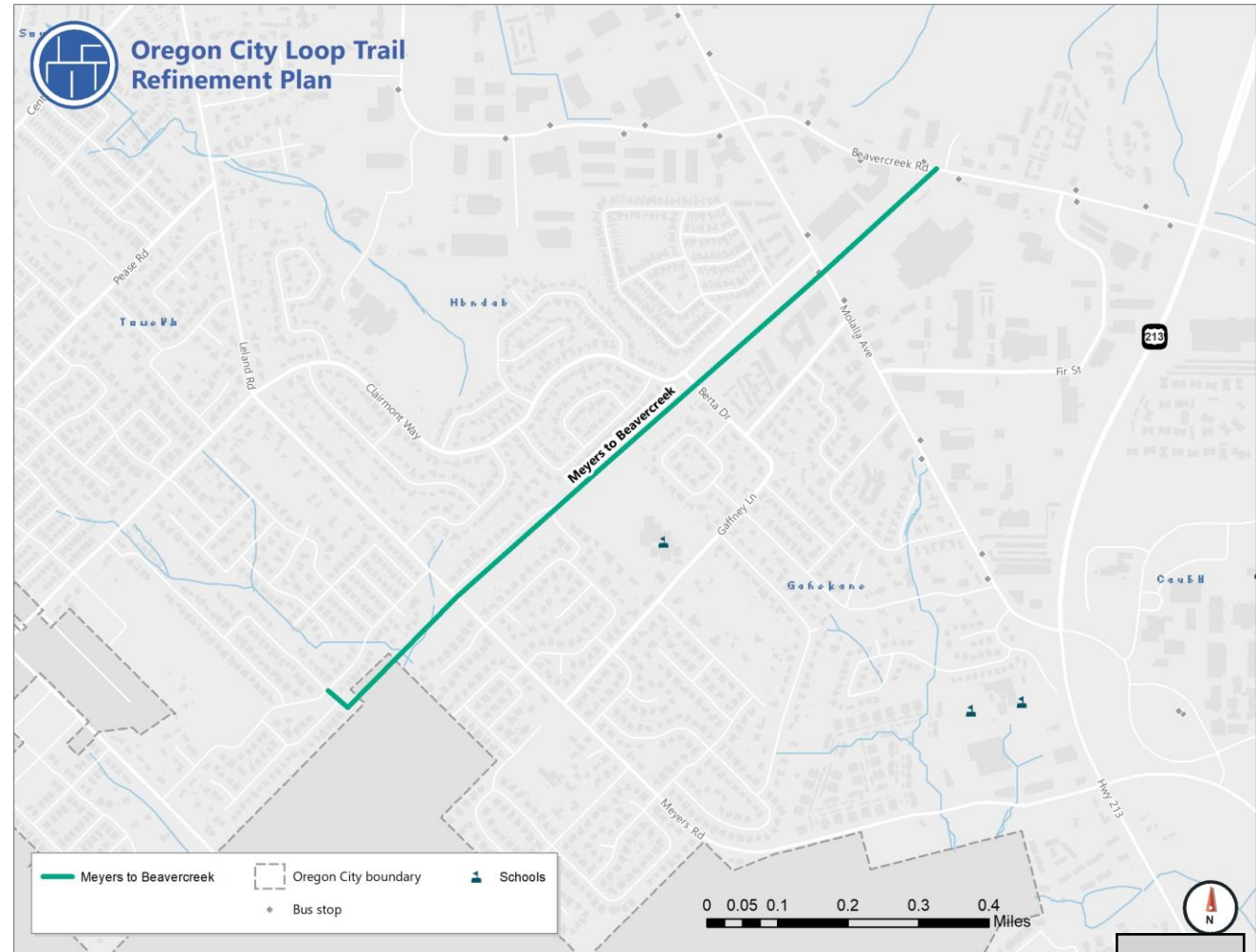
Project Goals

- Refine proposed design for the four segments
- Identify where to build the trail
- Determine how wide the trail should be and what type of trail should be built
- Position the City to secure funding to construct trails or require development to construct them



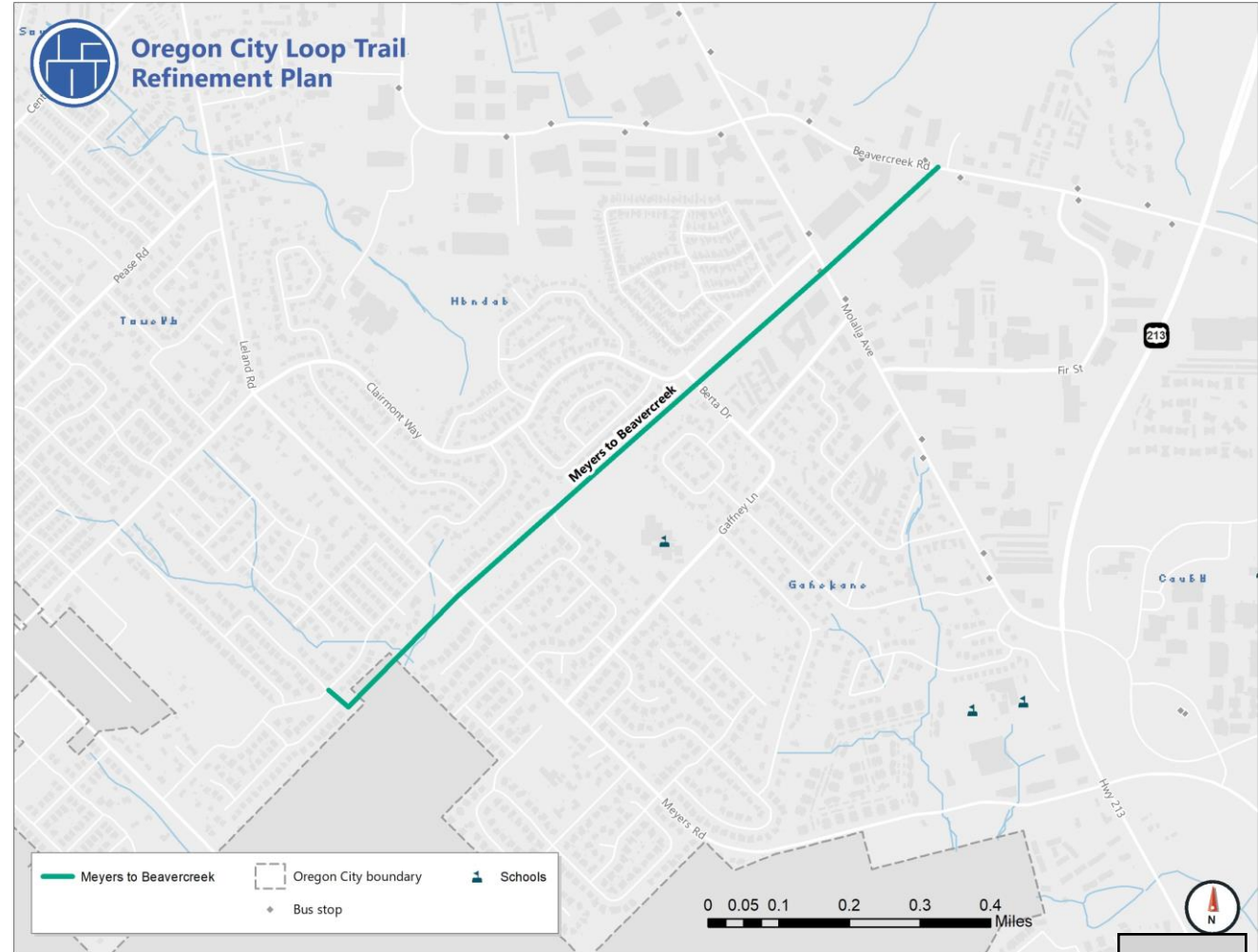
Meyers-Beavercreek (Power Lines Trail)

- Intended to provide an off-street connection to the Loop Trail for people walking and biking
- Proposed to follow the power lines
- As a local trail, it should provide access for all users



Meyers-Beavercreek (Power Lines Trail)

- Intended to provide an off-street connection to the Loop Trail for people walking and biking
- Proposed to follow the power lines
- As a local trail, it should provide access for all users



Opportunities

- Provide an off-street connection for walking and biking to Gaffney Lane Elementary School
- Existing easement for power lines from Beaver Creek Road to Frontier Parkway
- Large portions of the proposed trail are owned by the City
- School district is supportive

Insert simplified Land Use Map highlighting opportunities

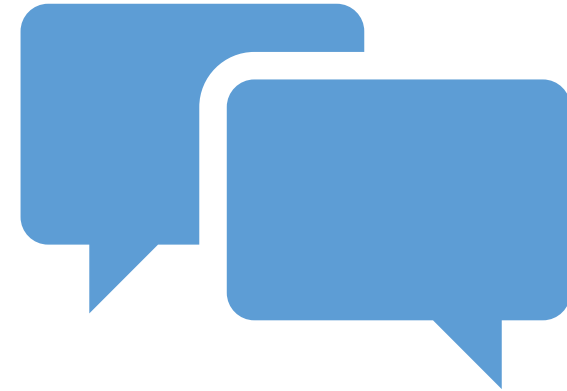
Constraints

- Navigating retail center between Beaver Creek Road and Molalla Avenue
- Access between Berta Drive and elementary school
- Meyers Road to Frontier Parkway connection
- Maintaining adequate distance from power lines

Insert simplified Land Use Map highlighting constraints

Share your thoughts!

- Questions about the study
- Concerns about the trail and proposed alignment
- Would you use the trail?
- Where would you use the trail to go?



Next Steps

- Project team will be developing alternatives for alignments
- Once alignment is identified the appropriate trail width and surface will be identified
- Share updates and opportunities for input throughout the study

Oregon City Loop Trail: Project Update

June 13, 2023

Agenda

Item 8a.

Project Background & Purpose

Meyers to Beaver Creek (S22): Opportunities & Constraints and Outcomes

Gaffney Lane Elementary (S24): Opportunities & Constraints and Outcomes

Meyers Road (S23): Opportunities & Constraints and Outcomes

Orchard Road (S30): Opportunities & Constraints and Outcomes

Next Steps

Project Update

Item 8a.

- **Provide** an overview of the project background and purpose
- **Present** the proposed alignments and cross-sections for each trail
- **Share** next steps and answer questions

Project Background & Purpose

- Oregon City Loop Trail is identified in the City's **Trails Master Plan**
- The **Transportation System Plan (TSP)** includes projects to complete segments of trail and ancillary paths
- This project begins the **project refinement** process
- Positions the City to add projects to the CIP, **apply for grant funding**, and condition development to design/construct portions of the trail

Project Outcomes

Item 8a.

- **Determine** the appropriate alignment for the trail segments
- **Develop** cross-sections for the segments based on available Right-of-Way (ROW)
- **Prepare** cost-estimates based on alignment and cross-sections.
- **Identify** grants that the City could apply for to fund design/construction of trails

Project Overview: Trail Segments



Opportunities & Constraints

- Identifying opportunities & constraints focused on:



**Previous
Planning
Efforts**



**Surrounding
Land Use &
Context**



**Land
Ownership &
Right-of-Way
(ROW)**



**Existing
Infrastructure**



Utilities



**Environmental
Constraints**

Community Outreach

Opportunities for community members to participate included:

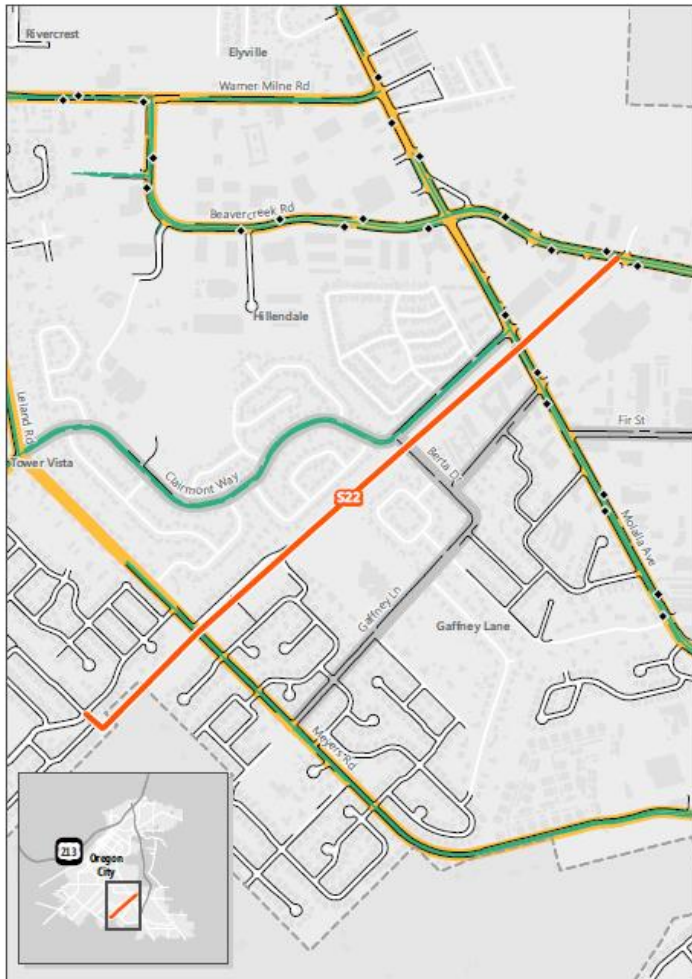
- Online survey – live from September 9th to October 3rd, 2022.
 - Promoted with a postcard and on City's social media
- In-Person Workshop – October 10th, 2022.
 - Held at Gaffney Lane Elementary
 - 24 Attendees
 - Shared opportunities and constraints for Meyers-Beavercreek and included walking audit



Development of Trail Alignment

- Developed evaluation framework to evaluate potential alignment options
- Key evaluation criteria included:
 - Does the proposed alignment minimize **impact to privately owned properties**?
 - Does the proposed alignment **minimize impacts to natural resource areas**?
 - Does the proposed alignment utilize areas where there is an **existing easement or city owned land**?
 - Does the proposed alignment align with **regional priorities for trails funding**?

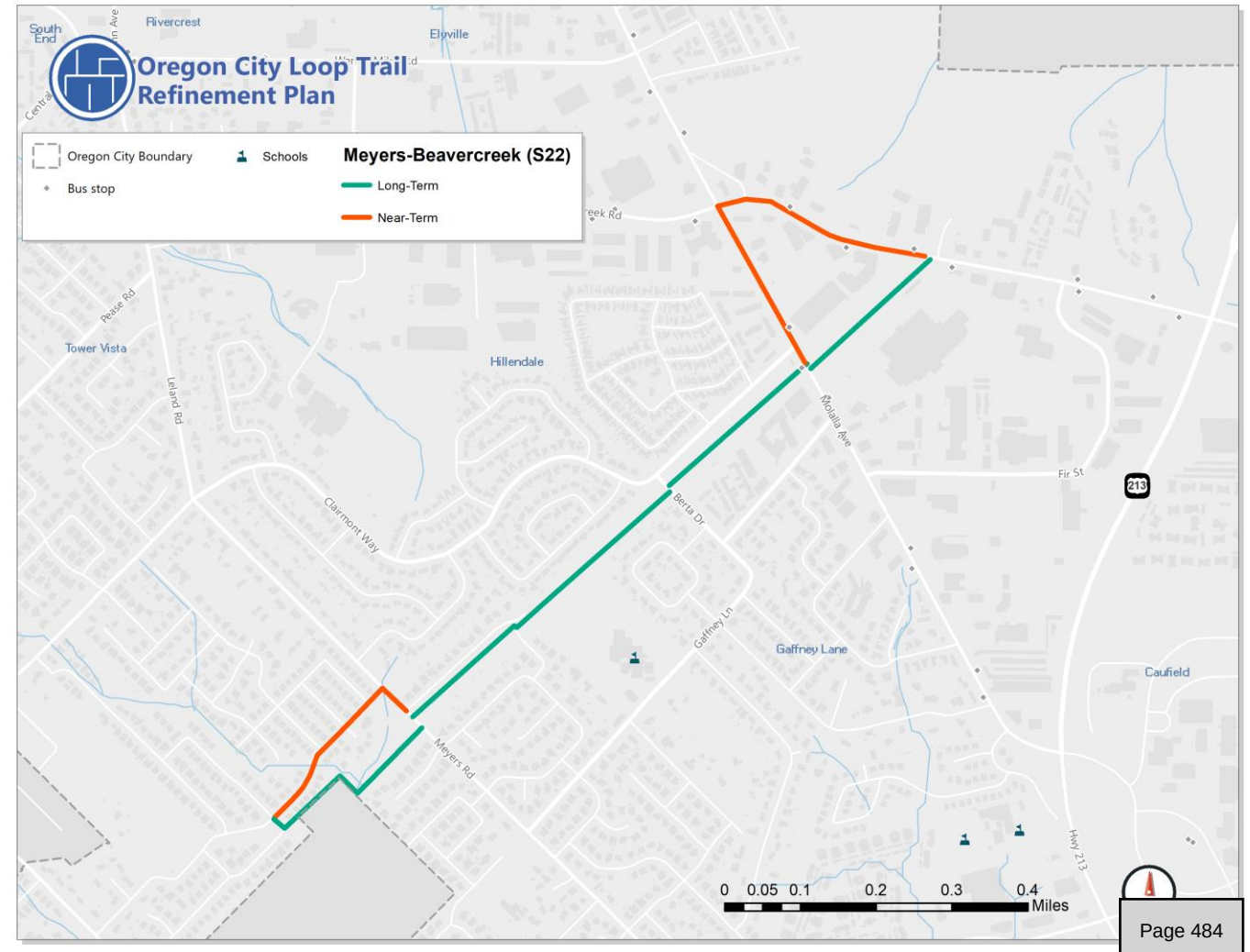
S22 – Meyers Road to Beavercreek Road



- Segment would create a connection from planned regional trails to Wesley Lynn Park
- **Opportunities:**
 - Land along proposed alignment owned by the City & School District
 - Connection to Gaffney Lane Elementary
- **Constraints:**
 - Stormwater detention basin and wetland areas near Meyers Road
 - Proximity to homes between Berta Drive and Meyers Road

S22 – Meyers Road to Beavercreek Road

- Alignment includes two portions with near-term options
- Near-term options utilize existing roadways to create connections where long-term alignment will be more challenging to construct



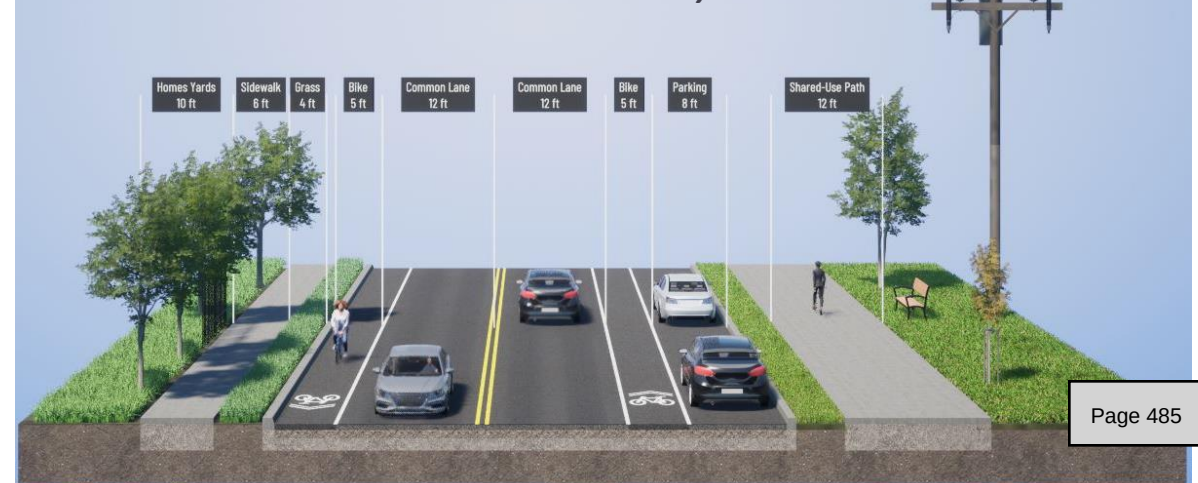
S22 – Meyers Road to Beavercreek Road

- Near-term options use existing sidewalks and bicycle lanes on Beavercreek and Molalla to make connections in the near-term
- Long-term vision would create a path outside the existing roadway between Beavercreek & Frontier Parkway
- Proposed cross-section provides a 12' shared-use path

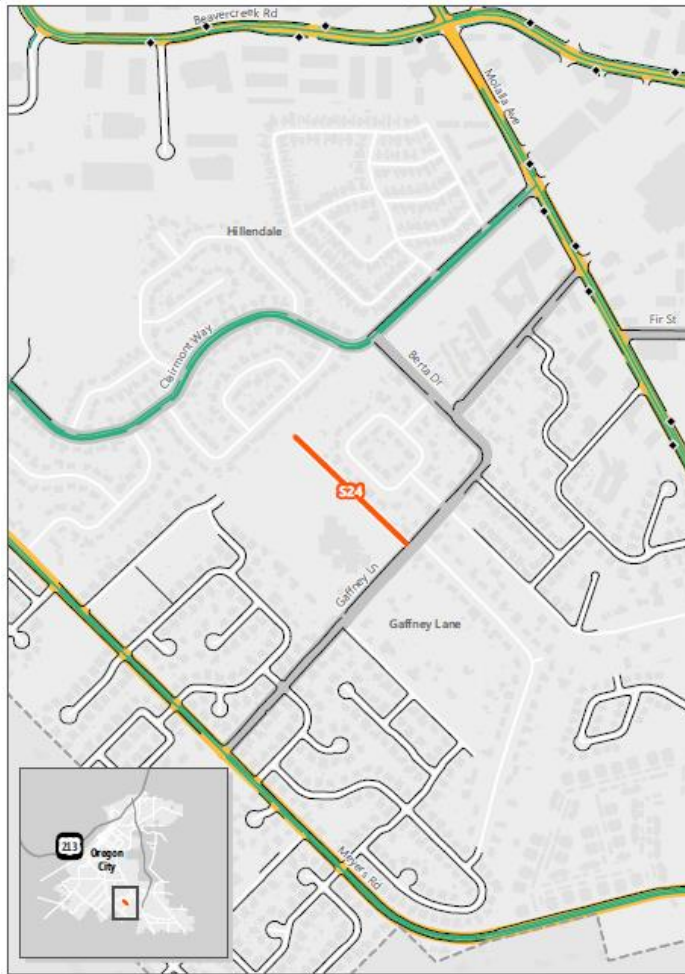
Connection through Retail Parking Lot



Shared-Use Path on Clairmont Way



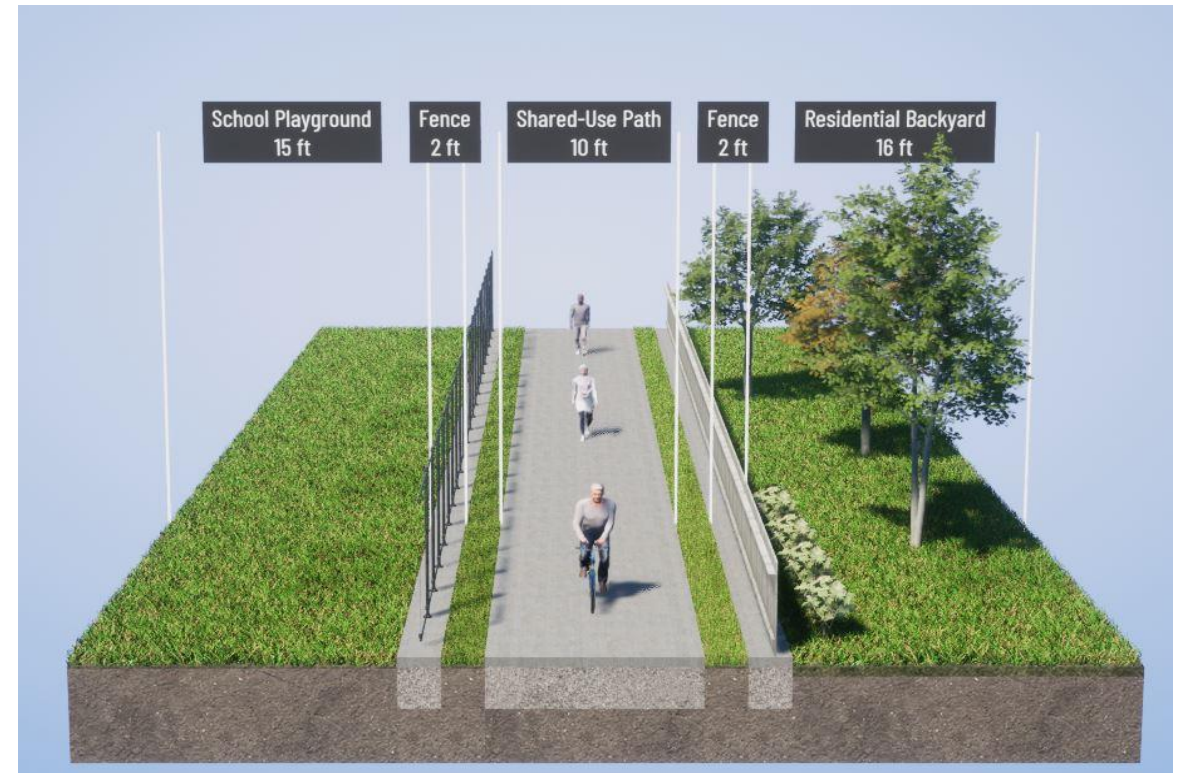
S24 – Gaffney Lane



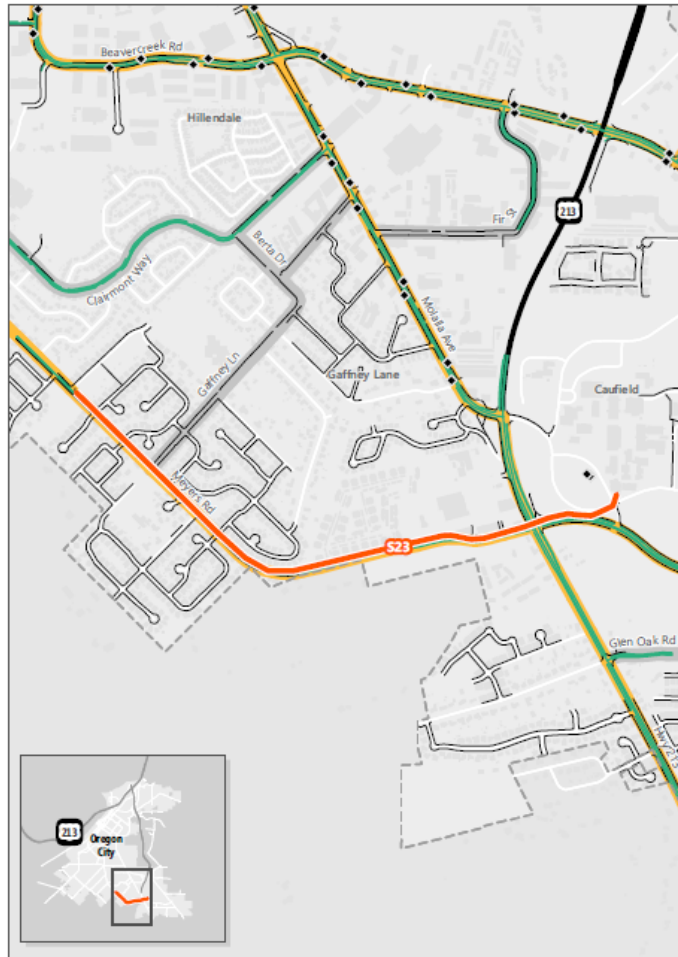
- Provide a connection for elementary students to off-street connections and residential areas
- **Opportunities**
 - Rudimentary path already exists and is well utilized
 - School district is supportive of improving connection
- **Constraints**
 - Existing sidewalks gaps on Gaffney Lane will need to be addressed to improve future connections

S24 – Gaffney Lane

- Proposed cross-section provides a 10' shared-use path
- Will widen and pave existing path
- Uses space between the school playground and residential homes
- Enhances connection to planned Meyers-Beavercreek Trail



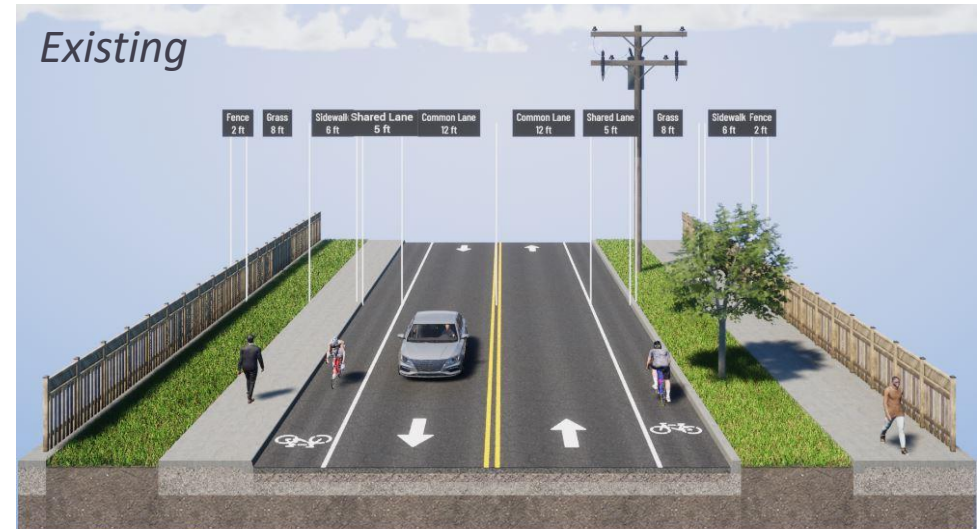
S23 – Meyers Road



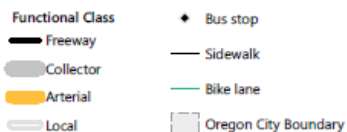
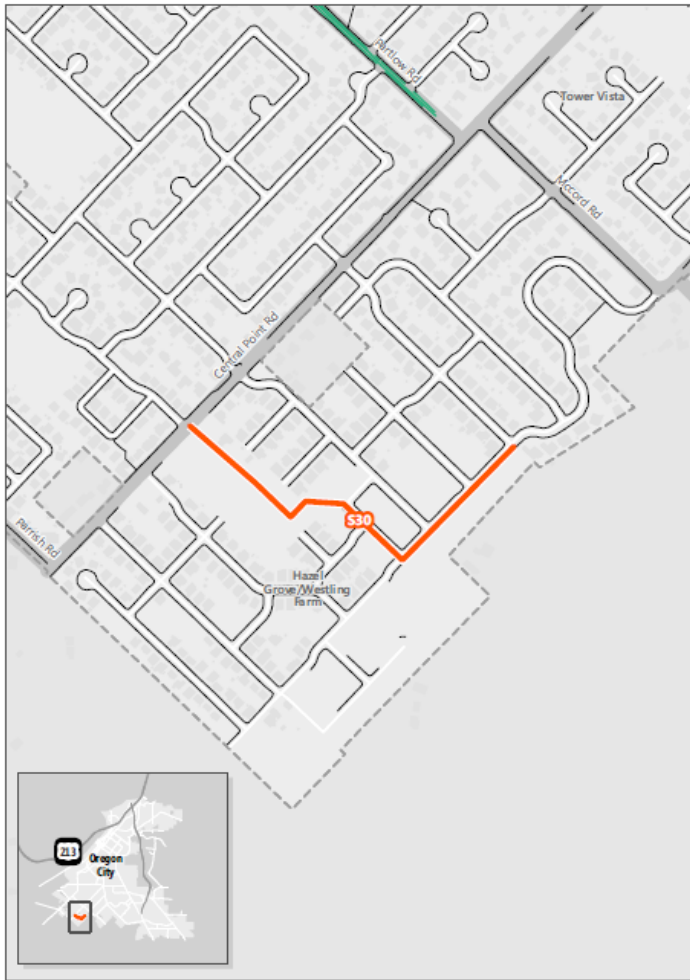
- Portion of Oregon City Loop Trail that will connect from Clackamas County Community College to Frontier Parkway
- **Opportunities**
 - Many CCC students live in apartments on Meyers Road
 - People currently travel to CCC for recreational walking/biking
- **Constraints**
 - Land use along Meyers Road is built out
 - No space to improve existing facilities within the current cross-section

S23 – Meyers Road

- Proposing to move the existing curb and remove existing on-street bicycle lanes
- Create a 12' shared-use path on the north side
- Maintain existing sidewalks on the south side
- Off-street connection would qualify for trails funding



S30 – Orchard Grove Dr / Hazelnut Avenue



- Portion of the Loop Trail that will connect to Hazelwood Park and John McLoughlin Elementary School
- **Opportunities:**
 - Portions of the roadway network have not been built yet
 - Most existing roadways have sidewalks and bike lanes
- **Constraints:**
 - Connection through undeveloped property will be reliant on development

S30 – Orchard Grove Dr / Hazelnut Avenue

- Proposed concept maintains the existing roadway cross-section
- People walking will use existing sidewalks
- Vehicle travel lane will be shared with people riding bicycles
- New roadway connections should be built with the same cross-section



Next Steps

- Finalize cost-estimates
- Share outcomes with residential areas surrounding Meyers Road
- Finalize report documenting outcomes

Project Overview – Trail Segments

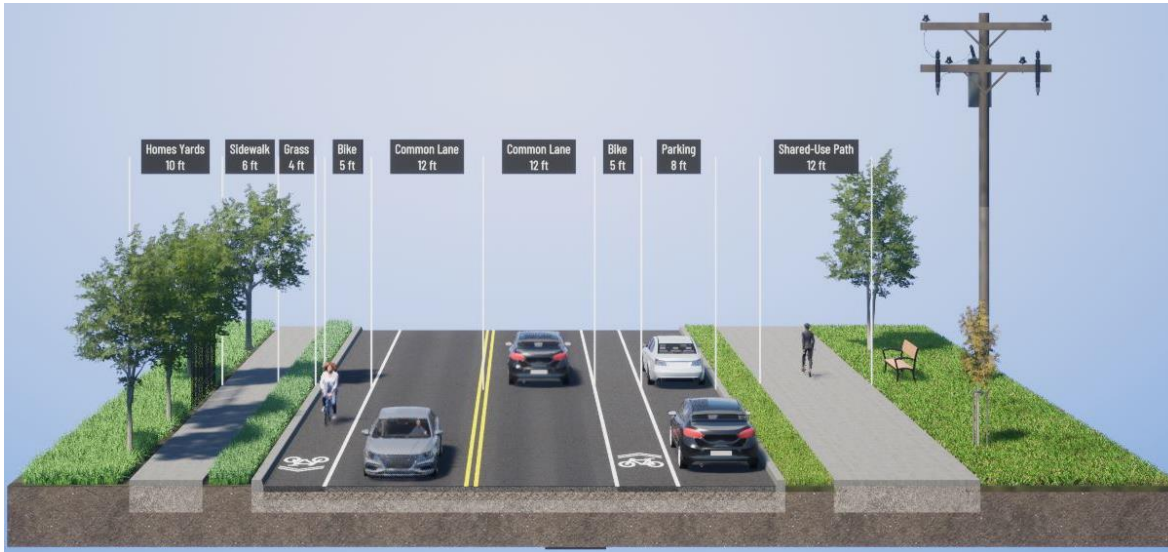
- Loop Trail : Part of Trails Master Plan
- Segments within City Limits
 - S22 - Clairmont
 - S23 – Meyers
 - S24 - Gaffney
 - S30 – Orchard Grove



Some Refinement Plan Cross Sections

S22 – Along Clairmont

- Continue behind Gaffney School and connect to S24



Project S30 would be completed by private development.

S23 – Along Meyers

- Shift Road, place bikes on path



Refinement Plan allows City to seek grants.



Oregon City Loop Trail Refinement Plan



OREGON CITY

Community Development – Planning

695 Warner Parrott Road | Oregon City OR 97045

Ph (503) 722-3789 | Fax (503) 722-3880

PA-23-000032

Pre-Application Conference Notes

Meeting Date: 10/24/2023

Final Notes

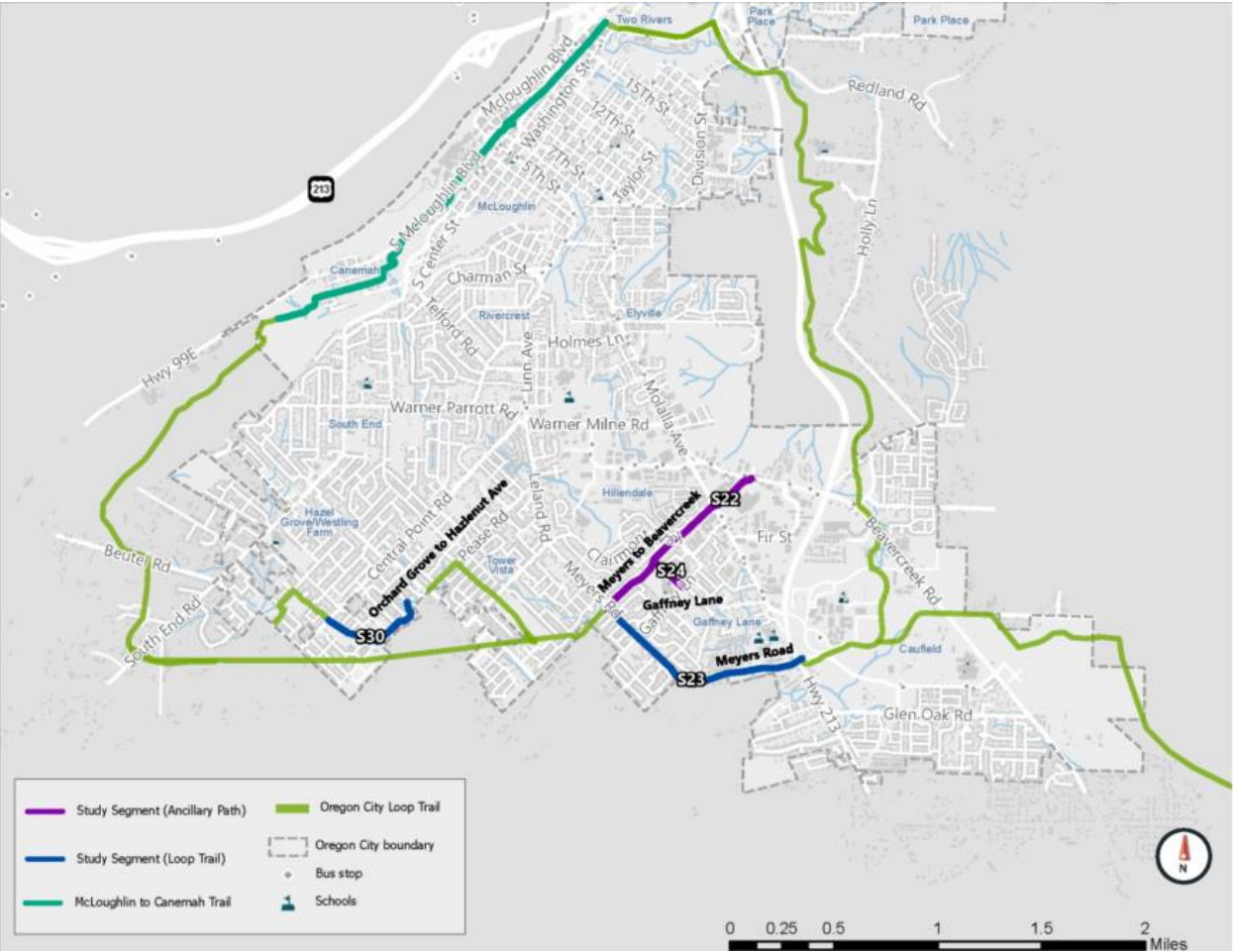
These non-binding pre-application conference notes reflect the applicant's submission to the City along with the discussion at the meeting. The applicant has one week from the receipt of the notes to notify City staff of any perceived mistake or omission in the notes; staff will then review and respond to the inquiry, and the inquiry will be added to the City's file. If no notification is received within 7 business days, the notes will be considered final and will not be modified. See additional disclaimers at the end of this document.

Proposed Project: OC Loop Trail – TSP Amendments

Address: citywide

General Information: The Oregon City Loop Trail will create a loop around Oregon City providing travelers with off-street paths and on-street connections along local roadways. This refinement plan was developed to further define two segments of the Loop Trail and two ancillary paths that will create local connections to the Loop Trail. This plan includes recommended alignments and cross sections, planning-level cost estimates, and phasing that could be considered to align construction of the paths with available funding.

The plan also identifies potential funding sources that the City could explore to advance design and construction of the paths. This plan positions the City to add projects to the Capital Improvement Program (CIP), condition new development to design and construct portions of the path, and apply for grant funding, bringing the City's goal of improving options for people walking and riding a bicycle within the City to fruition.



Review Process: The Legislative Application will be a Type IV City Commission decision. The application is anticipated to consist of the following land use application review types:

Application / Review	Oregon City Municipal Code Chapter, (Section)**	Review Fee*
Legislative File	OCMC 17.58	\$5,588
Mailing Labels		\$20.00

* <https://www.oregoncity.org/DocumentCenter/View/3274/2023-Planning-Fee-Schedule-Effective-May-3-2023-PDF?bidId=>

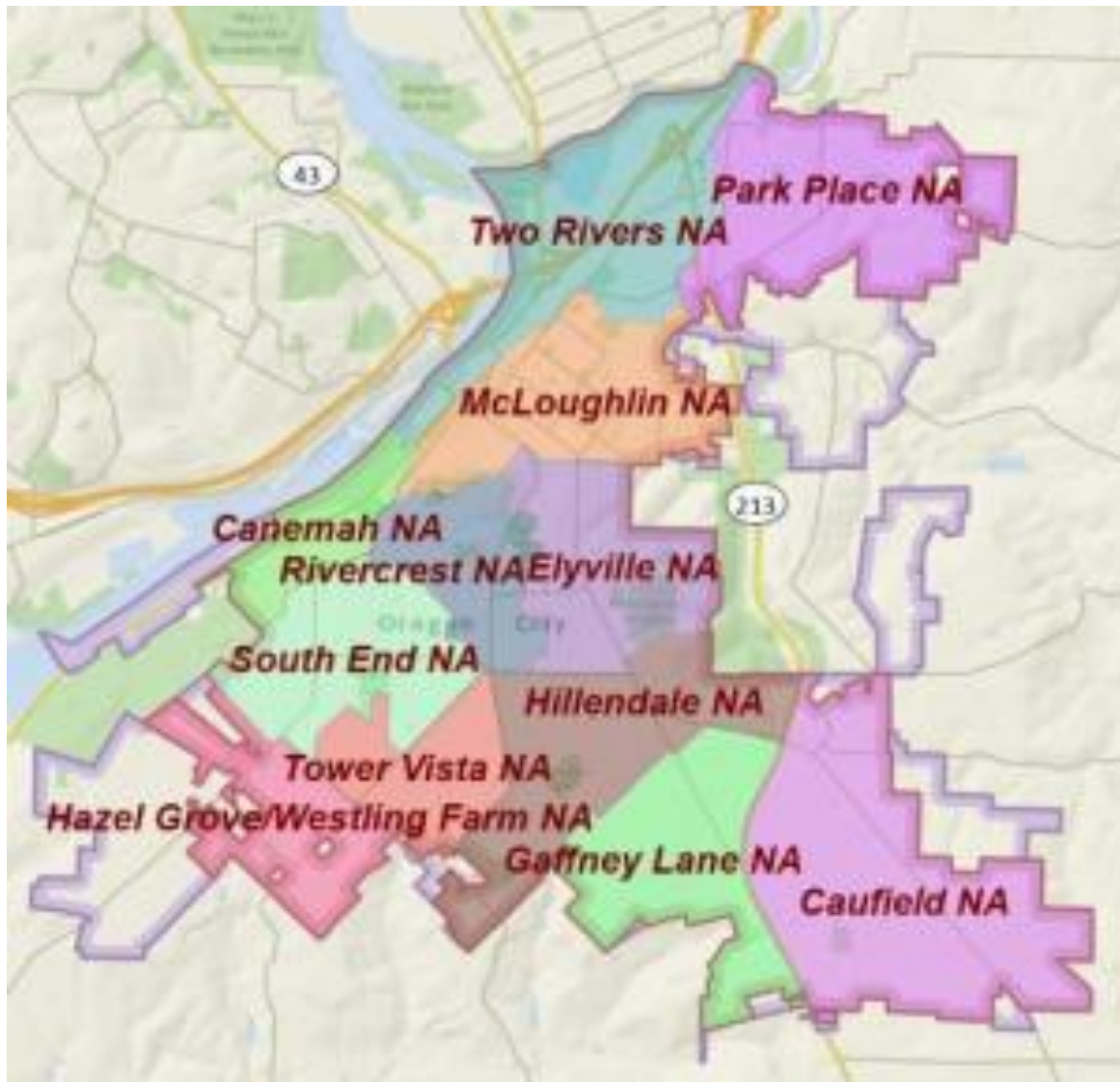
** Planning staff will provide the applicant with a Code Response template with applicable approval criteria from the Oregon City Municipal Code, and applicable Comprehensive Plan Goals and Policies to address in the application narrative.

Affected Neighborhood Association: Hazelgrove/Westling Farm, Hillendale, Gaffney Lane
A Neighborhood Association meeting is required for each effective NA or through the CIC.

17.50.055 - Neighborhood association meeting.

Neighborhood Association Meeting. The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.

A. Applicants applying for annexations, zone change, **comprehensive plan amendments**, conditional use, planning commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the city-recognized neighborhood association in whose territory the application is proposed **no earlier than one year prior to the date of application**. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.



Tentative Hearing Schedule

Schedule A	
Submit Land Use App (Zone Change / Comp. Plan Amendment / Zoning Text Amendment)	October 25
Application Complete	?
DLCD 35-Day Notice Sent	November 6
Application Noticed	November 15
Planning Commission Hearing	December 11
City Commission Hearing	January 17
CC Continuation (if needed)	Feb 7

List of Applicable Code Chapters

The following code chapters may be applicable to the review of this proposal. Staff will provide you with a Code Response template to assist you with the preparation of your application. Development chapters do not require a response, but NROD and GER chapters should have a general comment that they were taken into account when choosing alignment and compliance will be required at the time of development.

CHAPTER 17.68 - ZONING CHANGES AND AMENDMENTS
OREGON CITY COMPREHENSIVE PLAN
OREGON CITY TRANSPORTATION SYSTEM PLAN

Planning Division:

Christina Robertson-Gardiner, Senior Planner, reviewed the pre-application submittal and prepared these conference notes. Christina will be the reviewer for the land use application and your point of contact for all review-related matters. The Planning Division uses third-party consultants to review certain parts of the application for compliance with city code. Additional review costs could apply for this review. Consultants could include:

- Transportation Impact Analysis: DKS Engineering
- Natural Resources Overlay District Review: David Evans and Associates
- Geologic Hazards Overlay District Review: Pali Consulting, Inc.

Email: crobertson@orc.org, Phone: (503) 496-1564

Clackamas County Fire:

Your application was transmitted to Mike Boumann, Lieutenant Deputy Fire Marshal of Clackamas County Fire District #1. No comments were returned regarding your application. You may contact Mr. Boumann at 503.742.2660 or at mike.boumann@ClackamasFire.com.

Public Disclosure:

The purpose of a pre-application meeting is to introduce the impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal (City Code 17.50.050). Omissions or failures by staff to identify all relevant applicable land use requirements or how they might affect a proposal may occur, either as a result of a limited pre-application submittal or the consideration of discretionary criteria.

All pre-application conference related communications, including these notes, are informational only. They do not substitute for a public hearing and no land use decision is rendered at this phase. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of the Oregon City Municipal Code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

Pre-application conferences are required by Section 17.50.050 of the City Code, as follows:

- A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.*
- B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.*

Christina Robertson-Gardiner

From: WERTH Kenneth <Kenneth.WERTH@odot.oregon.gov>
Sent: Tuesday, October 24, 2023 12:57 PM
To: Oregon City Planning
Cc: Josh Wheeler; Denise Toyooka; Planning; Christina Robertson-Gardiner
Subject: Comments on PA-23-00032 Ordinance OC Loop Trail

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi there,

Apologies again for having connection issues during the Zoom pre-application conference. If I heard correctly, Josh Wheeler explained that the City of Oregon City does not plan to interact with any ODOT facilities. If that is the case, then there might not be a need for ODOT to comment on these amendments to the Oregon City TSP.

However, in Appendix C, page 110, the Meyers Road Shared Use Path (S-23) along Meyers Road intersects with Cascade Highway. In the conceptual rendering of the intersection on page 110, it shows dashed green bike lanes and green two-stage turn queue boxes within the intersection. Therefore, while this rendering might be conceptual in nature, ODOT simply states that while no decisions need to be made at this stage in planning, more thought and discussion about the design of this intersection would be needed for ODOT support.

Please let me know if you have any questions.

Thank you,
Kenny

Kenny Werth (he/him)
Associate Planner
Oregon Department of Transportation, Region 1
Cell: 971-325-5066

Please note: This email, related attachments and any response may be subject to public disclosure under state law.



Pali Consulting

September 26, 2023

Re: Oregon City Loop Trail, Oregon City

PA-23-00032

The following provides our preliminary notes for PA-23-00032, Oregon City Loop Trail, Segments S22, S23, S24, & S30, Oregon City, Oregon. The project is a multi-use trail that will create a loop around Oregon City providing travelers with off-street paths and on-street connections along local roadways. The current submittal includes four trail segments as noted above. In general, these segments are on flat to moderate ground outside of mapped geologic hazard zones, except segment S23. Based on documents provided by the applicant and our desktop review, a portion of Segment S23 is located within The Geologic Overlay Zone based on areas of steep slopes and their buffer zones.

Although a portion of Segment S23 is within a Geologic Hazard Overlay Zone, it is our opinion that the provisions for Chapter 17.44 - Geologic Hazards be waived and that a Geological Assessment and Geotechnical Report not be required. Our recommendation is because the geologic hazard consists of a relatively low steep slope constructed on the north side of Meyers Road, just below Castleberry Loop. This cut slope is an engineered slope, not a natural geologic hazard, that likely presents a low risk to the project at this location.

This recommendation applies only to the segments noted and is based on the information the applicant submitted. Other segments have not been evaluated. If the scope of activities materially changes from what is outlined in the Pre-Application Conference Request, or other segments are added to the application form submitted by Josh Wheeler of the Oregon City Public Works Department, dated September 11, 2023, our recommendations may change from those stated.

PALI CONSULTING, INC.

TIMOTHY W. BLACKWOOD, PE, GE, CEG

President/Principal Geotechnical Engineer

Doc ID: PA 23-00032 Pre-App Letter

Christina Robertson-Gardiner

From: Pete Walter
Sent: Monday, January 8, 2024 9:35 AM
To: Josh Wheeler; Christina Robertson-Gardiner
Subject: FW: Oregon City Loop Trail

From: Jakob Wiley <jwiley@orcity.org>
Sent: Monday, January 8, 2024 8:41 AM
To: Commission <commission@orcity.org>
Cc: Recorder Team <recorderteam@orcity.org>; Tony Konkol <tkonkol@orcity.org>; Aquilla Hurd-Ravich <ahurdravich@orcity.org>; Pete Walter <pwalter@orcity.org>
Subject: FW: Oregon City Loop Trail

Dear City Commissioners,

Please see the below public comment.

Thank you,
 Jakob



Jakob Wiley, JD, MS
City Recorder
[Jwiley@orcity.org](mailto:jwiley@orcity.org)
 City of Oregon City
 PO Box 3040
 625 Center Street
 Oregon City, Oregon 97045
 Office Hours: Mon – Fri, 8 am – 5 pm
 503-496-1509 Direct phone
 503-657-0891 City phone
 503-657-7026 Fax

The City of Oregon City continues to offer services and programs in-person and online - find facility hours of operation [here](#).

Website: www.orcity.org | [Recorder Page](#) | [Facebook!](#) | [Twitter](#)
PUBLIC RECORDS LAW DISCLOSURE: *This e-mail is subject to the State Retention Schedule and may be made available to the public.*

From: anthony treacy <anthony.treacy@hotmail.com>
Sent: Saturday, January 6, 2024 2:52 PM
To: Recorder Team <recorderteam@orcity.org>
Subject: Oregon City Loop Trail

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Hi, I am a regular cyclist for small errands in the top of the hill area. The path designs look nice, but they both dump the cyclist at the busy road junctions of S22 / Mollala ave and S33 / Hwy 213 just as the situation is now. What is the plan to make these crossings less intimidating / dangerous for use?

These two crossings will continue to make end to end use of S22 and S23 unsuitable for recreational or shopping purposes, unless there is footbridge or underpass. I speak from personal experience at these crossings. They are both quite intimidating for a cyclist or walkers.

The current intersection environment in this area is far from cycling friendly for inexperienced riders.

Has there been any research at all on number of cyclists using the current low traffic back streets in Oregon City? I ride frequently, and I can tell you there are only a handful of regular riders in the top of the hill area. The major intersections are huge road blocks to cyclists.

I would like to bring this up at the meeting, to understand your plan for these intersections on S22 and S23

Regards

Tony Treacy

Oregon City Cyclist.

Get [Outlook for iOS](#)

Christina Robertson-Gardiner

From: Josh Wheeler
Sent: Tuesday, January 9, 2024 9:57 AM
To: Christina Robertson-Gardiner
Subject: OC Loop Trail Public Comment

Hello Christina,

Can you please add this to the record :

I spoke to several citizens over the phone about the Loop Trail. Here is who I talked to :

- 13450 Clairmont
- 19356 Orchard Grove
- 19572 Orchard Grove
- 13300 Gaffney
- 19862 Castleberry

The conversations were inquiries asking what the project was about, if there would be any impact. The biggest concern was 'would a path bring homeless to their area'.

My response was that the plan was for refinement purposes, refining the TSP and Trails Master Plan. This plan will prepare the City to have a greater chance to be awarded grant funds if and when they become available. At this time, construction is not planned. When and If a project is funded, the public will get new opportunities to discuss any adjustments to design for portions directly adjacent to their properties.



Josh Wheeler, PE
 Assistant City Engineer
 Public Works Department
 City of Oregon City
 13895 Fir Street
 Oregon City, Oregon 97045
 Email: jwheeler@orc.org
 971.204.4634 Office
 971.322.9745 Cell

Engineering Development Services Public Counter Hours at 13895 Fir Street are 9:00 AM to 4:00 PM Monday through Thursday. We are available for in-person discussions on Friday by appointment only.

The City of Oregon City continues to offer services and programs in-person and online - find facility hours of operation [here](#).

Website: www.orcity.org

Visit us on [Facebook](#)! and [Twitter](#)

PUBLIC RECORDS LAW DISCLOSURE: This e-mail is subject to the State Retention Schedule and may be made available to the public.

Jakob Wiley

From: anthony treacy <anthony.treacy@hotmail.com>
Sent: Wednesday, January 17, 2024 4:27 PM
To: Recorder Team
Subject: Trail project

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I have the following concerns about the new loop trail. As I mentioned below in my email to the recorder, the path looks great, but they will not be widely used if the intersections are not improved for safety.

Have you ever ridden a bike across these intersections? I frequently do, and I'm a rare sight at the intersections.

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CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission
From: Library Director Greg Williams

Agenda Date: 01/17/2024

SUBJECT:

Memorandum of Agreement (MOA) with Oregon City School District and Clackamas County for the Implementation of a Student Library Card Program

STAFF RECOMMENDATION:

Authorize the City Manager to sign the MOA with the Oregon City School District and Clackamas County to implement a Student Library Card program for Oregon City School District students.

EXECUTIVE SUMMARY:

The Oregon City Public Library (OCPL) is seeking to enter into a partnership with the Oregon City School District (OCSD) and Clackamas County to facilitate the automatic creation of School Library Card accounts for K-12 OCSD students starting in the 2024/2025 school year. This partnership will be the first of its kind within the Libraries in Clackamas County (LINCC) cooperative and will significantly reduce barriers and expand access to public library services and resources for K-12 students in the Oregon City Public Library service area.

BACKGROUND:

Given their mutual goals of fostering early literacy, supporting student learning, and eliminating barriers to educational resources, school districts and public libraries have a long history of cooperation and collaboration. Over the years, as the technology and systems employed by both schools and libraries have developed, many libraires and school districts have entered into partnerships in which 1) the school district provides computerized student data to libraries and 2) libraries use this data to automatically and efficiently create library accounts for these students, typically using the student's existing school ID number. Within the Portland Metro region, both Multnomah County

Library¹ and Washington County Cooperative Library Services (WCCLS)² have partnered with local school districts to implement such programs. To date, however, no library within the Libraries in Clackamas County (LINCC) cooperative has implemented this kind of program.

In early 2020, OCPL initiated conversations with OCSD and Clackamas County (who administers the Integrated Library System, or ILS, utilized by LINCC libraries) about implementing a student library card program. Unfortunately, due to the significant disruption caused by the subsequent COVID-19 pandemic, discussions were temporarily put on hold.

In Spring 2022, OCPL, led by Youth Services Librarian Barratt Miller, resumed work on implementing a student library card program. Since then, a significant amount of preparatory work involving multiple partners, workgroups, and stakeholders has been done to envision, develop and refine the technological and administrative parameters of the envisioned student library card program. Pending the City Commission's approval, OCPL, OCSD, and Clackamas County are prepared to move forward with implementation of a formal Student Library Card (SLC) program.

The proposed SLC program will allow parents of OCSD K-12 students to opt in (as part of annual school registration) for their student to receive a special digital Student Library Card based on the student's existing school ID number. SLC cardholders will be able to check out up to 6 e-books/e-audiobooks and 5 physical books/audiobooks at a time. SLC cardholders will be allowed to have up to 5 items on hold at any one time and will have access to electronic/online library resources provided through LINCC and/or the Oregon City Public Library. Overdue fines will not be assessed on SLC accounts.

OCPL, OCSD, and Clackamas County intend to implement a pilot program in Spring, 2024 with a limited number of OCSD students, to ensure that data export and import procedures are working as expected. Based on the results of that pilot, any necessary adjustments will be made before full rollout of the SLC program for the 2024/2025 school year.

Implementation of a Student Library Card program directly supports the Library's strategic focus of Creating and Supporting Young Readers, and is one of the major initiatives on the Library Board-approved 2023-2025 Oregon City Public Library Tactical Plan.

¹ Multnomah County Library – Library Connect (<https://multcolib.org/library-connect-information-parents-educators>)

² WCCLS Student Library Card (<https://www.wccls.org/student>)

In order to formalize the partnership and proceed with implementation of the Student Library Card program, the Library is requesting the City Commission authorize the City Manager to sign the attached Memorandum of Agreement (MOA) between the City of Oregon City, the Oregon City School District, and Clackamas County. The MOA outlines the responsibilities of each party, as well as the parameters of the Student Library Cards which will be issued to OCSD students. The MOA is based on one that has been successfully used in Washington County, and has been reviewed by the City Attorney, Clackamas County Counsel, and the Oregon City School District.

OPTIONS:

1. Authorize the City Manager to sign the MOA with the Oregon City School District and Clackamas County to implement a Student Library Card program for Oregon City School District students.
2. Do not authorize the City Manager to sign the MOA and provide City staff with further direction.

BUDGET IMPACT:

Amount: n/a

FY(s): n/a

Funding Source(s): n/a

**MEMORANDUM OF AGREEMENT
BY AND BETWEEN
THE OREGON CITY SCHOOL DISTRICT,
THE CITY OF OREGON CITY,
AND
CLACKAMAS COUNTY**

This Memorandum of Agreement ("Agreement") dated as of _____, and entered into between the Oregon City School District ("the District"), the City of Oregon City ("the City"), and Clackamas County Library Support Services (Library Network), (collectively, "the Parties").

PURPOSE

The purpose of this Agreement is to facilitate the creation and distribution of the Student Library Card ("SLC"), a special type of library card for children ages 0-17 who live or attend school in Clackamas County for use at Libraries in Clackamas County (LINCC) member libraries in person and online at lincc.org.

NOW, THEREFORE, in consideration of the mutual covenants herein contained and the terms and conditions hereinafter set forth, the Parties agree as follows:

- 1. Term.** This Agreement shall commence on the date last signed by a party and continue for one calendar year ("Initial Term"). Thereafter, the Agreement shall automatically renew annually for an additional period of one calendar year (each renewal a "Renewal Term"), unless a party gives written notice of non-renewal to all other Parties at least 30 days prior to the end of the Initial Term or a Renewal Term. Each Party's representative or successor representative identified in section 9 of this Agreement has the authority to consent to the renewal of this Agreement as provided in this section.
- 2. Responsibilities of Library Network.** By and through its employees and representatives, Library Network shall be responsible for the following:
 - A. To use student information provided by District to create an SLC account in the LINCC Integrated Library System (ILS) with the following features to all students enrolled within the District, unless that student already has a LINCC library account:
 - i. Access to checkout e-books and e-audiobooks (limit of 6 total at a time)
 - ii. Access to e-resources at lincc.org
 - iii. Physical item checkout of books and audiobooks (limit 5 total at a time)
 - iv. No overdue fines on any materials, including materials that currently accrue fines
 - v. Up to five (5) holds placed at a time
 - vi. Up to four (4) renewals per physical item, unless there is a hold placed on that item

- vii. Limits and parameters above may be updated at any time by mutual agreement of the Parties.
 - C. To securely transmit electronic student data received from the District to LINCC's ILS provider, currently SirsiDynix, for the purpose of SLC registration.
 - D. To securely destroy student registration information provided to Library Network by the District following data entry into the ILS.
3. **Responsibilities of Oregon City**, by and through its employees and representatives, shall be responsible for the following:
- A. To work with LINCC and its representatives to coordinate communication between LINCC, other libraries participating in SLCs, and the District
 - B. To provide the District with information regarding the SLCs, including registration process and use policies for access to LINCC services through the SLCs.
 - C. To work with SLC holders and/or parents or guardians to address account concerns, as outlined by Oregon City's circulation policies and practices.
4. **Responsibilities of the District**. The District, by and through its employees and representatives, shall be responsible for the following:
- A. To provide LINCC with the following student information for students who have opted-in to the SLC program in the format requested by LINCC in accordance with the Family Educational Rights and Privacy Act of 1974 (FERPA), 88 Stat. 571, 20 USC § 132g, as amended, for the purpose of creating and distributing SLCs:
 - i. Student Name (first "legal name", middle, last)
 - ii. Student ID number
 - iii. Student Year of Birth
 - iv. Name of Student's school
 - v. Primary phone number
 - vi. Parent e-mail address
 - B. To assist with distribution of SLC information to students after LINCC registers the students.
 - C. To communicate with students the policies, terms of use, and renewal information pertinent to the use of the SLCs.
5. **SLC Fines or Fees**. The Parties agree and understand that all SLC holders are subject to the following fines or fees:
- A. Lost or damaged items will be assessed at their replacement cost.
 - B. When a SLC holder's fees accrue to \$25.00 or more, the SLC holder will be blocked from checking out physical items until accrued fees are less than \$25.00. Online resources and e-books may continue to be available to accounts blocked from checking out physical items depending on vendor requirements and/or LINCC-wide access policies for individual resources/services.

6. **Indemnification.** Subject to the limitations and conditions of the Oregon Tort Claims Act, ORS 30.260 *et seq.*, and the Oregon Constitution, Article XI, Sections 7 and 9, the Parties agree to indemnify and hold one another harmless from any loss, damage, injury, claim, or demand arising from their respective activities in connection with this Agreement. Neither party shall be liable for any loss, damage, injury, claim or demand arising from the acts or omissions of the other party or its agents or employees.

7. **Privacy of Records**

Once LINCC receives the records from District, the records shall be library records protected from disclosure under ORS 192.355(23) and the LINCC Privacy Policy.

- A. Personally identifiable information obtained by LINCC from the District in the performance of their services:
 - i. will not be disclosed by LINCC to third parties-without the signed and dated written consent of the student, or if the student is under eighteen (18) years of age, without the signed and dated written consent of the student's parents/guardians or consent of the minor pursuant to individual LINCC member policy and
 - ii. will be used by LINCC only to fulfill LINCC's responsibilities under this Agreement.
- B. The District will only provide access to student information in compliance with FERPA.
- C. The District will not provide LINCC with student information regarding those students whose parents or guardians have opted out of the disclosure of student information.

8. **General Provisions**

- A. There are no covenants, promises, agreements, conditions or understandings between the Parties, either oral or written, other than those contained in this Agreement. This Agreement shall take precedence over any attachments or exhibits hereto.
- B. The laws of the State of Oregon shall govern this contract. Any action or suit commenced in connection with this contract shall be in the Circuit Court of Clackamas County or the Federal District Court for Oregon. All rights and remedies of the Parties shall be cumulative and may be exercised successively or concurrently. Each party to the Agreement agrees to personal jurisdiction of the courts identified in this section.
- C. This Agreement is not intended and shall not be construed to create the relationship of agent, servant, employee, partnership, or joint venture between LINCC, the District, the City of Oregon City, and students.
- D. Each party to this Agreement represents and warrants that (i) it has the full power and authority to enter into this Agreement; and (ii) has taken all action necessary to authorize the execution, delivery, and performance of this Agreement.
- E. No waiver or breach of any term or provision of this Agreement shall be construed to be, nor shall be, a waiver of any other breach of this Agreement. No waiver shall be binding unless in writing signed by the party waiving the breach.
- F. In the event that any provision of this Agreement shall be held void, voidable, or unenforceable, the remaining provisions of this Agreement shall remain in full force and

effect in accordance with its terms and disregarding such unenforceable or invalid provision.

- G. This Agreement is not intended to create any rights or interests for any other person or entity other than the City of Oregon City, the District and LINCC.
- H. This Agreement may be amended only by written agreement signed by the Parties.

9. **Notices.** All notices required or permitted to be given hereunder shall be in writing and shall be deemed given when (a) delivered in person or (b) two business days after being deposited in the United States mail, postage prepaid, registered or certified mail, addressed to the applicable party as follows:

DISTRICT:

Attn: _____, CFO
 _____ School District
 Address
 Address
 Telephone

LINCC:

Attn: Rick Peterson, Manager
 Libraries in Clackamas County
 1810 Red Soils Ct. #110
 Oregon City, OR 97045
 Telephone:

CITY ONE:

Attn: Greg Williams, Library Director
 City of Oregon City Public Library
 606 John Adams St.
 Oregon City, OR 97045
 Telephone:

[Signature page follows.]

IN WITNESS WHEREOF, each of the Parties hereto has executed this Agreement, or has caused this Agreement to be executed on its behalf by a representative duly authorized as of the date last signed by a party to the Agreement. The Parties, by their signature below, acknowledge having read this Agreement, understand it, and agree to be bound by its terms and conditions.

OREGON CITY SCHOOL DISTRICT:

By: _____

_____ Title: _____

_____ Date: _____

CLACKAMAS COUNTY:

By: _____

_____ Title: _____

_____ Date: _____

CITY OF OREGON CITY:

By: _____

_____ Title: _____

_____ Date: _____

Approved as to legal sufficiency:

City of Oregon City Attorney's Office

The student library card program will help make reading and books more accessible to teens and kids. As a student myself I know that a lot of teens and kids don't feel like getting a library card is accessible and easy to do. The first step of reading is actually finding a book that you are interested in. The library is full of interesting books but a lot of students don't always just go to the library and browse. A considerable amount of teens and kids don't know if they want the responsibility of having a library card or not and often when they do find themselves at the library they end up not carrying the information they need to check out a book. The student library card program will help with these things and will make it easier for teens and kids to access books and the other resources at the library.

-Elizabeth Stedman, 10th grader at OCHS, member of Oregon City Public Library Teen Advisory Committee



CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission **Agenda Date:** 01/17/2024
From: Aquilla Hurd-Ravich, Community Development Director
Pete Walter, Planning Manager

SUBJECT:

Climate Friendly and Equitable Communities (CFEC) Parking Reforms

STAFF RECOMMENDATION:

Staff recommends the City Commission approve the Resolution supporting staff's grant application to the Department of Land Conservation and Development. Additionally, staff recommends City Commission consider the materials and provide policy direction to staff.

EXECUTIVE SUMMARY:

At the January City Commission Work Session, staff presented an overview of Climate Friendly and Equitable Communities Oregon Administrative Rules and the reforms the City will be required to make at this time. The work session was intended to be informative so that the Commission could make an informed decision about the policies staff should pursue. At the meeting tonight, staff is requesting direction on whether or not the City should eliminate parking mandates city wide. If the answer is no, there are more policy questions to answer regarding minimum parking. If the answer is yes eliminate minimum parking requirements, there are still more reforms the City will need to make including Electric Vehicle Charging, Parking Maximums, Parking Design, and Bicycle Parking.

BACKGROUND:

Climate Friendly and Equitable Communities (CFEC) is a set of Oregon Administrative Rules (OARs) aimed at reducing climate pollution by 75% by the year 2050. It also aims to take steps at redressing past patterns of inequities and discrimination in land use zoning and transportation investments. In 2007, Oregon legislators adopted a goal to reduce climate pollution. However, the state is far off track in reducing pollution and particularly from transportation. In November of 2023 the Land Conservation and

Development Commission adopted changes to Oregon's planning system for communities in the State's most populated areas. Specifically, amendments were adopted in Oregon Administrative Rules related to Housing, Transportation, and Metropolitan Greenhouse Gas Reduction Targets.

The Climate-Friendly and Equitable Communities (CFEC) rules take effect incrementally over a multiyear period and affect local long-range transportation planning and development regulation to promote more housing and transportation choices in ways that reduce climate pollution and improve equity. The rules affect cities in Oregon's eight metropolitan areas, including Oregon City and all other Portland Metro area cities.

The major task groups that will implement CFEC cover a wide range of topics. They include:

- Climate Friendly Areas
 - Not applicable to Oregon City because we adopted a Regional Center in accordance with Metro's 2040 Growth Concept
- Electric Vehicle Conduit/ Charging
- Parking Minimum reforms or repealing
- Parking Maximums and other reforms
- Transportation System Plan (TSP) Update
 - New rules will apply when the City updates this plan scheduled to begin in 2025
 - New Transportation Planning Rules will apply to the TSP as well
- Housing Needs Analysis (Housing Capacity Analysis)
 - Scheduled for 2027

Oregon City must adopt code reforms by December 2024 pending an extension request. Parking Minimums and Electric Vehicle Charging are already in place via state codes, but amendments to the following areas of the OCMC are required to be consistent with state codes and address:

1. Parking Minimums
2. Electric Vehicle Charging
3. Parking Maximums
4. Parking Design
5. Bicycle Parking

Parking Minimums

CFEC rules already require Cities to waive or reduce minimum parking requirements near frequent transit corridors and for certain types of development. The first decision the City Commission must make is whether or not to eliminate all parking minimums throughout the City.

Decision 1. Shall the City eliminate parking mandates city-wide? If the City eliminates parking minimums (also referred to as parking mandates) then no further action is required. In this scenario, developers may still provide parking based on

market conditions, however, the city would not require it. Note that additional CFEC requirements for parking reform require a limit on the maximum number of parking spaces, see “Parking Maximums” later in this report.

Decision 2: Shall the City retain some minimum parking standards? If the commission’s decision is to keep some minimum parking standards, then further reforms are required to comply with the rules in Category 1 and 2, further defined below

Category 1:

- No minimum parking required:
 - Within ½ mile of TriMet Line 33 (or frequent bus line)
 - Small housing units less than 750 square feet
 - Affordable housing units and publicly subsidized housing
 - Childcare facilities
 - Residential Facilities and group homes
 - Domestic violence and emergency/ transitional shelters
- City may only require one parking space per unit for middle housing and multifamily developments (OCMC already meets this standard)
- Already in effect; amend OCMC for consistency with state code

Category 2- Must comply with A-D

- A. Reduce mandates/minimums: based on shared parking, solar panels, EV charging, car sharing, parking space accessibility, on-street parking, garage parking;
- B. May not require garages or carports

Decision 3(C):

C. Reform in Regional Center choose C1 or C2

C1. Remove all minimum parking rules in and within ¼ mile of the Regional Center or

C2. Create a parking district with paid on-street parking, change minimum parking for residential to maximum 0.5 spaces per unit, and remove commercial parking minimums.

Decision 3(D):

D. Choose D1 or D2

D1. Adopt 2 of 5 policies (must include one choice from options 1-3):

1. Require parking charged separately from residential rents
2. Require commercial parking charged separately from lease
3. Require large employers to provide a flexible commute benefit to employees if they provide free/subsidized parking

4. Tax commercial parking lots
5. Reduce minimum parking requirements for new multi-family to 0.5 or lower per unit.

D2. Adopt all of the following:

1. No mandate for a variety of specific uses, schools, bars, small commercial building, vacant buildings, studios/one bedrooms, historic buildings LEED or Oregon Reach Code developments
2. No additional parking for changes in use, redevelopments, expansions of over 30%
3. No mandates within ½ mile walking distance of Regional Center
4. Designate on-street paid parking district or unbundle parking

A consideration when making these decisions is the type of land uses that are outside of the half-mile transit corridor. Tri-Met line 33 is frequent bus service, meaning a bus arrives at each stop every 15 minutes. If the parking minimums are not eliminated completely, the City will still not be able to require parking within this half-mile buffer (see attached map for a visual). Most of the land outside of this buffer is zoned low and medium density residential. Many of the parking minimums for these zone districts were already eliminated in 2022 as part of the City's adoption of the middle housing requirements of HB 2001, so compliance with the newer CFEC mandates is not a major change. There is some Campus Industrial, Commercial, mixed-use, and high-density residential zoning in the Thimble Creek area and the north downtown area. The City currently does not have parking minimums for single family residential, and middle housing and multifamily developments are only required to provide one space per unit which meets the CFEC requirements.

In other words, minimum parking reforms would only apply to Campus Industrial and commercial uses. It is reasonable to expect that development within these zones will provide sufficient parking to serve anticipated market demand without mandates from the city.

Electric Vehicle Charging

- Require new buildings with 5 or more units to provide electric service to 40% of parking spaces.
- State code requires any non-residential use in a structure built to commercial standards to provide 20% EV capable parking spaces.
 - **Policy Question:** Does the City Commission wish to require more than 20% on commercial projects?
- Already in effect; amend OCMC for consistency with state code

Parking Maximums

- Parking Maximums apply within the Regional Center (OCMC complies)
- Residential uses within ½ mile of frequent bus line
 - 1.2 spaces per studio unit

- 2 spaces per non-studio unit for multifamily uses with 5 units or more
- Maximums set at 5 spaces per 1,000 square feet of floor space for all commercial and retail uses (OCMC complies)
- Uses larger than 65,000 square feet cannot have parking lots larger than the building
- Amendments needed by June 2024 or December 2024 with an extension

Parking Design

- Provide preferential carpool/vanpool parking when more than 50 spaces
- Allow redevelopment of parking areas for bike or transit uses
- Allow and encourage redevelopment of underused parking
- Allow and facilitate shared parking
- Require new parking areas greater than one-half (½) acre to install 40% tree canopy OR solar panels OR pay a fee-in-lieu
- Require new parking areas of more than one-half (½) acre to provide trees and pedestrian connections
- Amendments needed by June 2024 or December 2024 with an extension

Bicycle Parking

- Require 0.5 spaces per unit in multifamily and mixed-use new developments
- Require bike parking for new retail, office, institutional, major transit stops and park and ride lots; no ratio specified (OCMC complies)
- If off-street vehicle parking is required, bike parking must also be required
- Bike parking design must: be lit, allow lockable storage, provide room for maneuvering and large cargo bikes
- In the Regional Center, City must provide bike parking, and parking of shared bikes and small scale mobility devices.

Most other Cities in Oregon that have taken action decided to eliminate parking minimums citywide.

City	Action
Tigard	Eliminated all parking standards citywide
Springfield	Eliminated all parking standards citywide plus other reforms
Milwaukie	Adopting code to eliminate parking minimums citywide

Lake Oswego	Adopting code to eliminate parking minimums by December 2024
Albany	Repealed parking minimums citywide
Many other cities	No action yet and have approved extensions

Timeline and Next Steps:

January 2024: Staff will submit a grant application later this month

Spring 2024: DLCD will announce the grant awards which staff will use to hire a consultant to assist with draft code language and community engagement

Summer 2024: Draft code language will be presented at work sessions with the Planning Commission and City Commission

Fall 2024: Legislative public hearings will take place with the goal of adoption by December 2024.

OPTIONS:

Resolution 24-03 for Grant Application:

1. Approve Resolution 24-03 supporting staff pursuing a grant from DLCD to hire a consultant to assist with community engagement and drafting code language.
2. Approve Resolution 24-03 with modifications supporting staff pursuing a grant from DLCD to hire a consultant to assist with community engagement and drafting code language.
3. Do not approve Resolution 24-03.

Policy Direction needed:

1. Direct staff to pursue amendments that eliminate minimum parking requirements throughout the City and pursue additional amendments needed to comply with CFEC Administrative Rules.
2. Direct to staff to develop parking policies that do not eliminate all parking minimums and comply with other CFEC Administrative Rules
3. Request more information before providing direction to staff

RESOLUTION NO. 24-03

A RESOLUTION SUPPORTING THE CITY'S APPLICATION FOR A DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT CLIMATE FRIENDLY AND EQUITABLE COMMUNITIES GRANT TO MAKE CODE AMENDMENTS THAT MEET STATE RULES

WHEREAS, The Department of Land Conservation and Development (DLCD) is offering grants to cities and counties to help implement the Climate-Friendly and Equitable Communities (CFEC) program; and

WHEREAS, The program is intended to increase housing and transportation choices for Oregonians, while improving equity and reducing climate pollution; and

WHEREAS, The Department of Land Conservation and Development is offering grants to help implement Climate Friendly and Equitable Communities administrative rules; and

WHEREAS, Cities and Counties can apply for assistance in a range of areas including assistance with code amendments to meet parking reforms and other Oregon Administrative Rule requirements by mandated deadlines; and

WHEREAS, Community Development staff would like to request grant assistance for a consultant who can draft code amendments that meet the new Oregon Administrative Rules otherwise known as Climate Friendly and Equitable Communities; and

WHEREAS, If awarded the grant staff will request consultant assistance with community engagement as well to help inform proposed code language; and

WHEREAS, As part of the grant application, DLCD is seeking confirmation of the City Commission's support of this grant application, the use of staff time toward this effort, and implementation actions that adopt code amendments.

NOW, THEREFORE, OREGON CITY RESOLVES AS FOLLOWS

Section 1. This resolution shall take effect immediately upon its adoption by the City Commission.

Section 2. The City Commission of Oregon City supports City staff submitting an application for a grant to engage the community and draft code amendments that meet Oregon Administrative Rules.

Section 3. The City Commission supports the use of staff time toward this project and will support implementing actions to facilitate the goals of Climate Friendly and Equitable Communities.

Approved and adopted at a regular meeting of the City Commission held on the 17th day of January 2024.

DENYSE C. MCGRUFF
Mayor

Attested to this 5th day of July 2023:

Approved as to legal sufficiency:

Jakob Wiley, City Recorder

City Attorney

Item 9b.

Proposed Bus Line 33
Showing 1/2 Mile Buffer around
Proposed Bus Line and Regional Center

Item 9b.

Map showing the area within 1/2 mile of Oregon City's high-frequency transit corridor and Regional Center. The map displays various land use zones, transit corridors, and street names. A legend at the bottom left defines the symbols and colors used.

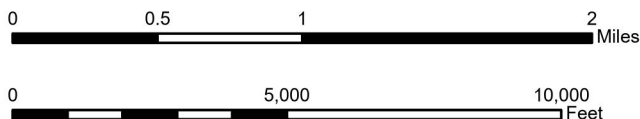
Legend:

- Bus Line 33 (Proposed)
- Regional Center
- Half Mile Buffer
- Oregon City Limits
- R-10 - Single Family Dwelling
- R-8 - Single Family Dwelling
- R-6 - Single Family Dwelling
- R-3.5 - Medium Density Residential
- R-2 - Multi-Family Dwelling
- C - General Commercial
- WFDD - Willamette Falls Downtown District
- MUC-2 - Mixed Use Corridor 2
- MUC-1 - Mixed Use Corridor 1
- HC - Historic Commercial
- MUD - Mixed Use Downtown
- MUE - Mixed Use Employment
- GI - General Industrial
- CI - Campus Industrial
- I - Institutional

This map shows the area within 1/2 mile of Oregon City's high-frequency transit corridor and Regional Center. Within this area, new developments will no longer have minimum parking requirements, pursuant to OAR 660-012-0440 - *Parking Reform Near Transit Corridors*. For more information, contact the Oregon City Planning Division.

This map shows the area within 1/2 mile of Oregon City's high-frequency transit corridor and Regional Center. Within this area, new developments will no longer have minimum parking requirements, pursuant to OAR 660-012-0440 - *Parking Reform Near Transit Corridors*. For more information, contact the Oregon City Planning Division.

The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, or surveying purposes. Notification of any errors is appreciated.



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Climate Friendly Equitable Communities- Parking Reforms

Decision 1: If City eliminates parking minimums (parking mandates) then Reform 1- Parking Minimums are not required.¹ If the City keeps minimums, then amendments are needed to comply with the Reform 1 Categories 1 and 2.

Reform 1- Parking Minimums^{2,3}

Category 1-

- No minimum parking required:
 - Within ½ mile of TriMet Line 33 (or frequent bus line)
 - Small housing units less than 750 square feet
 - Affordable housing units & Publicly supported housing
 - Childcare facilities
 - Residential Facilities
 - Domestic violence and emergency/ transitional shelters
- City may only require one parking space per unit for middle housing and multifamily developments (OCMC already meets this standard)
- Already in effect; amend OCMC for consistency with state code

¹ Eliminate all parking mandates: 660-012-0420

² Category 1: OAR 660-012-0430(2); OAR 660-012-0430(3)(a-h); OAR 660-012-0440(3)(b)

³ Category 2: 660-012-0445



Category 2- Must comply with A-D

- A. Reduce mandates/minimums: based on shared parking, solar panels, EV charging, car sharing, parking space accessibility, on-street parking, garage parking;
- B. May not require garages or carports

Decision 2:

C. Reform in Regional Center choose C1 or C2

C1. Remove all minimum parking rules in and within ¼ mile of the Regional Center or

C2. Create a parking district with paid on-street parking, change minimum parking for residential to maximum 0.5 spaces per unit, and remove commercial parking minimums.

Decision 3:

D. Choose D1 or D2

D1. Adopt 2 of 5 policies (must include one choice from options 1-3):

- 1. Require parking charged separately from residential rents
- 2. Require commercial parking charged separately from lease
- 3. Require large employers to provide a flexible commute benefit to employees if they provide free/subsidized parking
- 4. Tax commercial parking lots
- 5. Reduce minimum parking requirements for new multi-family to 0.5 or lower per unit.

D2. Adopt all of the following:

- 1. No mandate for a variety of specific uses, schools, bars, small commercial building, vacant buildings, studios/one bedrooms, historic buildings LEED or Oregon Reach Code developments
- 2. No additional parking for changes in use, redevelopments, expansions of over 30%
- 3. No mandates within ½ mile walking distance of Regional Center
- 4. Designate on-street paid parking district or unbundle parking



City must the make following reforms: ^{4,5,6,7}

Reform 2- Electric Vehicle Charging Infrastructure

- Require new buildings with 5 or more units to provide electric service to 40% of parking spaces.
- State code requires any non-residential use in a structure built to commercial standards to provide 20% EV capable parking spaces.
 - **Policy Question:** Does the City Commission wish to require more than 20% on commercial projects?
- Already in effect; amend OCMC for consistency with state code

Reform 3-Parking Maximum

- Parking Maximums apply within the Regional Center (OCMC complies)
- Residential uses within ½ mile of frequent bus line
 - 1.2 spaces per studio unit
 - 2 spaces per non-studio unit for multifamily uses with 5 units or more
- Maximums set at 5 spaces per 1,000 square feet of floor space for all commercial and retail uses (OCMC complies)
- Uses larger than 65,000 square feet cannot have parking lots larger than the building
- Amendments needed by June 2024 or December 2024 with an extension

⁴ EV Charing: 660-012-0410

⁵ Parking Maximums: 660-012-0415

⁶ Parking Design: 660-012-0405

⁷ Bicycle Parking: 660-012-0630



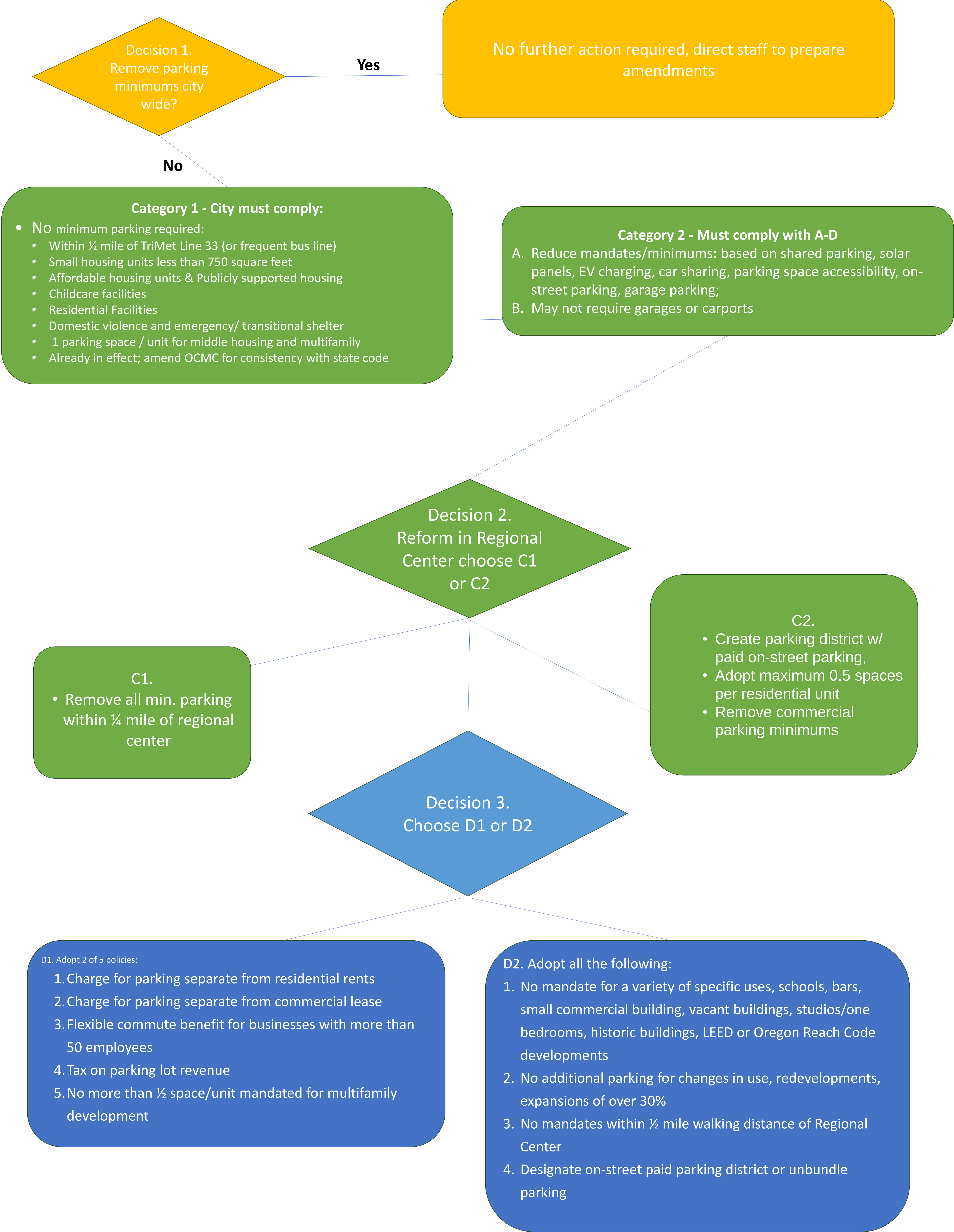
Reform 4-Parking Design

- Provide preferential carpool/vanpool parking when more than 50 spaces
- Allow redevelopment of parking areas for bike or transit uses
- Allow and encourage redevelopment of underused parking
- Allow and facilitate shared parking
- Require new parking areas greater than one-half (½) acre to install 40% tree canopy OR solar panels OR pay a fee-in-lieu
- Require new parking areas of more than one-half (½) acre to provide trees and pedestrian connections
- Amendments needed by June 2024 or December 2024 with an extension

Reform 5-Bicycle Parking

- Require 0.5 spaces per unit in multifamily and mixed-use new developments
- Require bike parking for new retail, office, institutional, major transit stops and park and ride lots; no ratio specified (OCMC complies)
- If off-street vehicle parking is required, bike parking must also be required
- Bike parking design must: be lit, allow lockable storage, provide room for maneuvering and large cargo bikes
- In the Regional Center, City must provide bike parking, and parking of shared bikes and small scale mobility devices.

Reform 1. Parking Minimums





CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission
From: Chief Shaun Davis

Agenda Date: 01/17/2024

SUBJECT:

Ordinance 24-1001 to adopt Municipal Code Updates

STAFF RECOMMENDATION:

Adoption of Municipal Code Ordinance 24-1001 to enact amendments to existing ordinances and enactment of new ordinances as discussed from November 15, 2023 City Commission Work Session.

BACKGROUND:

Over the past two years, code enforcement staff have encountered municipal ordinances, which were not clearly defined or not specified in our city's municipal code. Adding additional language to existing ordinances would assist in regulating, enforcing some activities, and improving neighborhood livability.

The City Commission brought forward a discussion regarding Oregon City Municipal Code Ordinances involving protentional updated language and/or adopting new ordinances. On November 15, 2023, the City Commission held a work session to discuss potential Municipal Code changes.

Topics discussed at the work session were:

- Garage Sales
- Construction Hours
- Graffiti
- Prohibited Stopping, Standing, and Parking
- Scattering Rubbish
- Change to Code Hearings Officer Language

The goal of the work session was for the City Commission to provide direction on clarity of existing ordinances and drafting of new ordinances which will improve the business districts, neighborhoods, and overall livability within Oregon City.

Staff made the changes to the codes as directed and worked with the City Attorney on these changes.

Ordinance 24-1001 will include changes to Chapter 8.20.160, 9.12, and 10.08.090.

Chapter 8.20.160 adds into the title “Scattering Rubbish &” and updates language to Section A, more specifically, it replaces:

- Place or dump or unreasonably accumulate solid waste or waste on private property or upon any of the streets, alleys or public property belonging to the city;

With:

- No person may place, throw, dump or deposit upon public or private property an injurious or offensive substance or any kind of rubbish, trash, debris, refuse, or any substance that would mar the appearance, create a stench, detract from the cleanliness or safety of such property, or would be likely to injure an animal, vehicle or person traveling upon a public way;

Chapter 9.12.020(E) amends language and changes construction hours:

E. The construction, demolition, alteration or repair of any building or the excavation of any streets and highways in a residentially zoned neighborhood that occurs:

- (1) between the hours of ~~ten~~ six p.m. and seven a.m., Monday through ~~Saturday~~ Friday;
- (2) between ~~eight~~ six p.m. and nine a.m. on Saturday and Sunday, or
- (3) between the hours of six p.m. and nine a.m. on any legal holiday as defined in ORS 187.010.

9.12.045 is a new ordinance defining the amount of garage sales a person may have in a year:

9.12.045 - Garage, Estate, and Yard Sales

- No owner or person in charge of a property shall conduct or allow to be conducted garage, estate, yard, or similar sales on more than two occasions within any one calendar year at the same location. Such sales are limited to no more than 3 days per sale.

Chapter 09.12.050 is a new ordinance for graffiti removal:

9.12.050 - Graffiti Removal

- The owner or person in charge of any property shall remove, or cause to be removed, any graffiti from such property. In circumstances where the graffiti

cannot be removed, and paint is used to cover the graffiti, the owner or person in charge shall use a similar color relatively consistent with the existing color. Graffiti must be removed within ten (10) days from the date a written notice is mailed.

10.08.090 adds in new language which define additional locations in section (A) where stopping standing and parking are prohibited:

- 10. In violation of disabled parking spaces as defined by Oregon State Motor Vehicle Law;
- 11. On any street in a location within ten (10) feet of any mailbox used for pickup or delivery of the United States mail;
- 12. Parking of any vehicle within the planter (or planting) strip.

And adds new section (C) and amends prior section (C) to new section (D):

- C. Except when authorized by a valid city issued parking permit, no person may park a motor vehicle in any on-street permit parking zone between the hours of seven a.m. and six p.m. or in an off-street city parking lot, or without paying for parking fees during the hours of seven a.m. and six p.m. Monday to Friday, except for Sundays and observed legal holidays.

Attached are redline exhibits A-E of each code change and clean version of the code changes.

OPTIONS:

1. Adopt Ordinance 24-1001.
2. Modify code changes and adopt ordinance 24-1001 with changes.
3. Deny ordinance 24-1001 and provide direction for staff on changes

BUDGET IMPACT:

Amount: No budget impact

ORDINANCE NO. 24-1001

**AN ORDINANCE OF THE CITY OF OREGON CITY REVISING THE CITY CODE
MUNICIPAL CODE TITLE 8.20.160 – SCATTERING RUBISH & PROHIBITED ACTIONS
MUNICIPAL CODE TITLE 9.12.023(E) – CONSTRUCTION HOURS
MUNICIPAL CODE TITLE 9.12.045 - GARAGE, ESTATE, AND YARD SALES
MUNICIPAL CODE TITLE 9.12.050 – GRAFFITI REMOVAL
MUNICIPAL CODE TITLE 10.08.090 – PROHIBITED STOPPING, STANDING AND PARKING**

WHEREAS, the City Commission brought forward a discussion regarding Oregon City Municipal Code Ordinances involving protentional updated language and/or adopting new ordinances; and

WHEREAS, over the past two years, code enforcement staff have encountered municipal ordinances, which were not clearly defined or not specified in our municipal code; and

WHEREAS, adding additional language to existing ordinances would assist in regulating, enforcing some activities, and improving neighborhood livability; and

WHEREAS, on November 15, 2023, the City Commission held a work session to discuss potential Municipal Code changes; and

WHEREAS, the City Commission to provide direction on clarity of existing ordinances and provide direction on drafting new ordinances which will improve the business districts, neighborhoods, and overall livability within Oregon City.

NOW, THEREFORE, OREGON CITY ORDAINS AS FOLLOWS:

Section 1. Oregon City Municipal Code section 8.20.160 is amended as included in Exhibit A to this ordinance, by adding the double underlined language and removing all struck through language.

Section 2. Oregon City Municipal Code section 9.12.023(E) is amended as included in Exhibit B to this ordinance, by adding the double underlined language and removing all struck through language.

Section 3. Oregon City Municipal Code section 9.12.045 is created as included in Exhibit C to this ordinance, by adding the double underlined language.

Section 4. Oregon City Municipal Code section 9.12.050 is created as included in Exhibit D to this ordinance, by adding the double underlined language.

Section 5. Oregon City Municipal Code section 10.08.090 is amended as included in Exhibit E to this ordinance, by adding the double underlined language and removing all struck through language.

Read for the first time at a regular meeting of the City Commission held on the 17th day of January, 2024 and the City Commission finally enacted the foregoing ordinance this 7th day of February, 2024.

DENYSE C. MCGRUFF
Mayor

Attested to this 7th day of February 2024,

Approved as to legal sufficiency:

Jakob S. Wiley, City Recorder

City Attorney

Ordinance No. 24-1001, Exhibit A**Scattering Rubbish Amendment****8.20.160 – Scattering Rubbish & Prohibited actions.**

No person shall:

- A. ~~Place or dump or unreasonably accumulate solid waste or waste on private property or upon any of the streets, alleys or public property belonging to the city; Place, throw, dump or deposit upon public or private property an injurious or offensive substance or any kind of rubbish, trash, debris, refuse, or any substance that would mar the appearance, create a stench, detract from the cleanliness or safety of such property, or would be likely to injure an animal, vehicle or person traveling upon a public way;~~
- B. Without the permission of the owner or generator of recyclable material, take recyclable materials set out to be collected by a person authorized by the city to provide collection service for that recyclable material, except in accordance with this chapter;
- C. Remove any recyclable material from a container, box, collection vehicle, depot or other receptacle for the accumulation or storage of recyclable materials without permission of the owner of the receptacle and the franchisee;
- D. Without the permission of the owner or generator of recyclable material and the franchisee, take recyclable materials set out to be collected by a person authorized by the city to provide collection service for that recyclable material, except in accordance with this chapter;
- E. Mix source-separated recyclable material with solid waste in any vehicle, box, container, or receptacle used in solid waste collection or disposal, except as permitted by the city or the franchisee or in accordance with federal law.

Ordinance 24-1001, Exhibit B

Construction Hours Ordinance Amendment

9.12.023 - Noises Prohibited.

The following acts are declared to be a violation of this section. This enumeration does not constitute an exclusive list:

A. Unreasonable Noises. The unreasonable making of, or knowingly and unreasonably permitting to be made, any unreasonable loud, boisterous, or unusual noise, disturbance, commotion or vibration in a boarding facility, dwelling, place of business or other structure, or upon any public street, park or other place or building. The ordinary and usual sounds, noises, commotion, or vibration incidental to the operation of these places when conducted in accordance with the usual standards of practice and in a manner which will not unreasonably disturb the peace and comfort of adjacent residences, or which will not detrimentally affect the operators of adjacent places of business are exempted from this provision.

B. Noisy Animals. Barking dogs or other unreasonably noisy animals which disturb the comfort of any person in the vicinity for a period of ten minutes in any hour except for animals provoked by a person trespassing, threatening to trespass, or taunting of the animal.

C. Sound Producing or Reproducing Equipment. Operating or permitting the unreasonable use or operation of any device designed for sound production or reproduction in such a manner as to cause an unreasonable noise; or operating or permitting the operating or use of any such device between the hours of ten p.m. and seven a.m.

D. Operation of Mechanically Powered Domestic Tools. Lawn equipment, garden tools, chainsaws, blowers, or similar devices, in a residentially zoned neighborhood between the hours of ten p.m. and seven a.m.

E. The construction, demolition, alteration or repair of any building or the excavation of any streets and highways in a residentially zoned neighborhood that occurs:

(1) between the hours of ~~ten-six~~ p.m. and seven a.m., Monday through ~~Saturday~~ Friday;

(2) between ~~eight-six~~ p.m. and nine a.m. on Saturday and Sunday, or

(3) between the hours of six p.m. and nine a.m. on any legal holiday as defined in ORS 187.010.

F. Yelling, Shouting, and Similar Activities. Yelling, shouting, hooting in residential or in public places, between the hours of ten p.m. and seven a.m., or at any time or place so as to unreasonably disturb the quiet and comfort of reasonable persons. This subsection is to be applied only to those situations where the disturbance is not a result of the content of the communication but due to the volume, duration, location, timing, or other factors.

G. Motor Vehicles.

(1) The parking of any motor vehicle of ten thousand pounds GVWR, or more, with the motor or attached auxiliary equipment in operation on private property in such a manner as to be plainly audible within any dwelling unit between the hours of ten p.m. and seven a.m.

(2) No person may operate, and no owner of any vehicle may permit to be operated, any motor vehicle so as to cause any greater noise or sound than is reasonably necessary.

Ordinance No. 24-1001, Exhibit C

Garage, Estate, and Yard Sales

9.12.045 - Garage, Estate, and Yard Sales

No owner or person in charge of a property shall conduct or allow to be conducted garage, estate, yard, or similar sales on more than two occasions within any one calendar year at the same location. Such sales are limited to no more than 3 days per sale.

Ordinance No. 24-1001, Exhibit D

Graffiti Ordinance

9.12.050 - Graffiti Removal

The owner or person in charge of any property shall remove, or cause to be removed, any graffiti from such property. In circumstances where the graffiti cannot be removed, and paint is used to cover the graffiti, the owner or person in charge shall use a similar color relatively consistent with the existing color. Graffiti must be removed within ten (10) days from the date a written notice is mailed.

Ordinance No. 24-1001, Exhibit E

Prohibited Stopping, Standing, and Parking Amendment

10.08.090 - Prohibited stopping, standing and parking.

A. No person shall stop, stand or park a vehicle in such a manner or location that it constitutes a hazard to public safety or an obstruction to vehicle, bicycle or pedestrian traffic on the street, which shall include but not be limited to, stopping, standing or parking:

1. On a sidewalk;
2. Within an intersection;
3. On a crosswalk;
4. Alongside or opposite a street excavation or obstruction when stopping, standing or parking would obstruct traffic;
5. Upon a bridge or other elevated structure used as a street or within a street tunnel;
6. On any railroad tracks or within seven and one-half feet of the nearest rail at a time when the parking of vehicles would conflict with railroad operations or repair of the railroad tracks;
7. On a throughway;
8. In the area between roadways of a divided highway, including crossovers;
9. Any place where official signs or markings prohibit stopping, standing or parking;
10. In violation of disabled parking spaces as defined by Oregon State Motor Vehicle Law;
11. On any street in a location within ten (10) feet of any mailbox used for pickup or delivery of the United States mail;
12. Parking of any vehicle within the planter (or planting) strip.

B. Except to momentarily pick up or discharge a passenger, no person shall stand or park a vehicle in such a manner or location that it constitutes a hazard to public safety or an obstruction to vehicle, bicycle or pedestrian traffic on the street, which shall include but not be limited to, standing or parking:

1. On the roadway side of a vehicle stopped or parked at the edge or curb of a street;
2. In front of a public or private driveway;
3. Within ten feet of a fire hydrant;
4. Within twenty feet of a crosswalk at an intersection;
5. Within fifty feet upon the approach to an official flashing signal, stop sign, yield sign or traffic control signal located at the side of the street if the standing or parking of the vehicle obstructs the view of the official traffic control device located at the side of the street;
6. Within fifteen feet of the driveway entrance to a fire station and on the side of the street opposite the entrance to the fire station within seventy-five feet of the entrance;
7. Within an area marked by yellow paint on the street or on the curb;
8. On a street or portion thereof designated by official signs as a "Tow-Away Zone";
9. Other than a motorbus in a bus stop which has been designated by official signs, or other than a taxicab in a taxicab stand which has been designated by official signs, or at any time in

interference with any motorbus or taxicab waiting to enter or about to enter the officially designated space;

10. A motorbus or taxicab on a street in a business district at a place other than a bus stop or taxicab stand, respectively.

C. Except when authorized by a valid city issued parking permit, no person may park a motor vehicle in any on-street permit parking zone between the hours of seven a.m. and six p.m. or in an off-street city parking lot, or without paying for parking fees during the hours of seven a.m. and six p.m. Monday to Friday, except for Sundays and observed legal holidays.

C.D. In the event a vehicle has been found standing or parked in violation of subsections A and B of this section, in addition to and after issuance of a citation for violation, the vehicle may be removed and impounded, and a hearing and sale provided for, as provided in Section 10.04.030(B), (C), (D) and (E).

Scattering Rubbish Amendment Clean Version

8.20.160 – Scattering Rubbish & Prohibited actions.

No person shall:

- A. Place, throw, dump or deposit upon public or private property an injurious or offensive substance or any kind of rubbish, trash, debris, refuse, or any substance that would mar the appearance, create a stench, detract from the cleanliness or safety of such property, or would be likely to injure an animal, vehicle or person traveling upon a public way;
- B. Without the permission of the owner or generator of recyclable material, take recyclable materials set out to be collected by a person authorized by the city to provide collection service for that recyclable material, except in accordance with this chapter;
- C. Remove any recyclable material from a container, box, collection vehicle, depot or other receptacle for the accumulation or storage of recyclable materials without permission of the owner of the receptacle and the franchisee;
- D. Without the permission of the owner or generator of recyclable material and the franchisee, take recyclable materials set out to be collected by a person authorized by the city to provide collection service for that recyclable material, except in accordance with this chapter;
- E. Mix source-separated recyclable material with solid waste in any vehicle, box, container, or receptacle used in solid waste collection or disposal, except as permitted by the city or the franchisee or in accordance with federal law.

Construction Hours Amendment Clean Version

9.12.023 - Noises Prohibited.

The following acts are declared to be a violation of this section. This enumeration does not constitute an exclusive list:

A. Unreasonable Noises. The unreasonable making of, or knowingly and unreasonably permitting to be made, any unreasonable loud, boisterous, or unusual noise, disturbance, commotion or vibration in a boarding facility, dwelling, place of business or other structure, or upon any public street, park or other place or building. The ordinary and usual sounds, noises, commotion, or vibration incidental to the operation of these places when conducted in accordance with the usual standards of practice and in a manner which will not unreasonably disturb the peace and comfort of adjacent residences, or which will not detrimentally affect the operators of adjacent places of business are exempted from this provision.

B. Noisy Animals. Barking dogs or other unreasonably noisy animals which disturb the comfort of any person in the vicinity for a period of ten minutes in any hour except for animals provoked by a person trespassing, threatening to trespass, or taunting of the animal.

C. Sound Producing or Reproducing Equipment. Operating or permitting the unreasonable use or operation of any device designed for sound production or reproduction in such a manner as to cause an unreasonable noise; or operating or permitting the operating or use of any such device between the hours of ten p.m. and seven a.m.

D. Operation of Mechanically Powered Domestic Tools. Lawn equipment, garden tools, chainsaws, blowers, or similar devices, in a residentially zoned neighborhood between the hours of ten p.m. and seven a.m.

E. The construction, demolition, alteration or repair of any building or the excavation of any streets and highways in a residentially zoned neighborhood that occurs:

(1) between the hours of ten six p.m. and seven a.m., Monday through Saturday Friday;

(2) between eight six p.m. and nine a.m. on Saturday and Sunday, or

(3) between the hours of six p.m. and nine a.m. on any legal holiday as defined in ORS 187.010.

F. Yelling, Shouting, and Similar Activities. Yelling, shouting, hooting in residential or in public places, between the hours of ten p.m. and seven a.m., or at any time or place so as to unreasonably disturb the quiet and comfort of reasonable persons. This subsection is to be applied only to those situations where the disturbance is not a result of the content of the communication but due to the volume, duration, location, timing, or other factors.

G. Motor Vehicles.

(1) The parking of any motor vehicle of ten thousand pounds GVWR, or more, with the motor or attached auxiliary equipment in operation on private property in such a manner as to be plainly audible within any dwelling unit between the hours of ten p.m. and seven a.m.

(2) No person may operate, and no owner of any vehicle may permit to be operated, any motor vehicle so as to cause any greater noise or sound than is reasonably necessary.

Garage, Estate, and Yard Sales Clean Version

9.12.045 - Garage, Estate, and Yard Sales

No owner or person in charge of a property shall conduct or allow to be conducted garage, estate, yard, or similar sales on more than two occasions within any one calendar year at the same location. Such sales are limited to no more than 3 days per sale.

Graffiti Ordinance Clean Version

9.12.050 - Graffiti Removal

The owner or person in charge of any property shall remove, or cause to be removed, any graffiti from such property. In circumstances where the graffiti cannot be removed, and paint is used to cover the graffiti, the owner or person in charge shall use a similar color relatively consistent with the existing color. Graffiti must be removed within ten (10) days from the date a written notice is mailed.

Prohibited Stopping, Standing, and Parking Amendment Clean Version

10.08.090 - Prohibited stopping, standing and parking.

A. No person shall stop, stand or park a vehicle in such a manner or location that it constitutes a hazard to public safety or an obstruction to vehicle, bicycle or pedestrian traffic on the street, which shall include but not be limited to, stopping, standing or parking:

1. On a sidewalk;
2. Within an intersection;
3. On a crosswalk;
4. Alongside or opposite a street excavation or obstruction when stopping, standing or parking would obstruct traffic;
5. Upon a bridge or other elevated structure used as a street or within a street tunnel;
6. On any railroad tracks or within seven and one-half feet of the nearest rail at a time when the parking of vehicles would conflict with railroad operations or repair of the railroad tracks;
7. On a throughway;
8. In the area between roadways of a divided highway, including crossovers;
9. Any place where official signs or markings prohibit stopping, standing or parking;
10. In violation of disabled parking spaces as defined by Oregon State Motor Vehicle Law;
11. On any street in a location within ten (10) feet of any mailbox used for pickup or delivery of the United States mail;
12. Parking of any vehicle within the planter (or planting) strip.

B. Except to momentarily pick up or discharge a passenger, no person shall stand or park a vehicle in such a manner or location that it constitutes a hazard to public safety or an obstruction to vehicle, bicycle or pedestrian traffic on the street, which shall include but not be limited to, standing or parking:

1. On the roadway side of a vehicle stopped or parked at the edge or curb of a street;
2. In front of a public or private driveway;
3. Within ten feet of a fire hydrant;
4. Within twenty feet of a crosswalk at an intersection;
5. Within fifty feet upon the approach to an official flashing signal, stop sign, yield sign or traffic control signal located at the side of the street if the standing or parking of the vehicle obstructs the view of the official traffic control device located at the side of the street;
6. Within fifteen feet of the driveway entrance to a fire station and on the side of the street opposite the entrance to the fire station within seventy-five feet of the entrance;
7. Within an area marked by yellow paint on the street or on the curb;
8. On a street or portion thereof designated by official signs as a "Tow-Away Zone";
9. Other than a motorbus in a bus stop which has been designated by official signs, or other than a taxicab in a taxicab stand which has been designated by official signs, or at any time in interference with any motorbus or taxicab waiting to enter or about to enter the officially designated space;

10. A motorbus or taxicab on a street in a business district at a place other than a bus stop or taxicab stand, respectively.

C. Except when authorized by a valid city issued parking permit, no person may park a motor vehicle in any on-street permit parking zone between the hours of seven a.m. and six p.m. or in an off-street city parking lot, or without paying for parking fees during the hours of seven a.m. and six p.m. Monday to Friday, except for Sundays and observed legal holidays.

D. In the event a vehicle has been found standing or parked in violation of subsections A and B of this section, in addition to and after issuance of a citation for violation, the vehicle may be removed and impounded, and a hearing and sale provided for, as provided in Section 10.04.030(B), (C), (D) and (E).



CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission
From: Public Works Director John M. Lewis, PE

Agenda Date: 01/17/2024

SUBJECT:

McLoughlin Boulevard Enhancements Project (CI 22-002) Update

BACKGROUND:

In September 2023, staff appeared before the Commission to introduce the McLoughlin Boulevard Enhancements Project. The Commission was presented with a summary of the project and work constructed, to date, along the corridor.

In November 2023, Consultants Kittelson & Associates provided the Commission with an overview of work that was completed and work in progress for this project. This included a review of the Project's Purpose & Need Statement - To develop a shared-use path that will improve multimodal safety and fill in the gap for people walking and biking (along the McLoughlin Boulevard corridor between 10th Street and Tumwata Village) through pedestrian, bicycle and streetscape enhancements will be at the forefront of this project.

In December 2023, staff planned to provide the Commission with a project update; however, were unable to due to time constraints.

A self-guided Virtual Open House of this project was held December 6th through the 22nd, 2023. This virtual experience provided an opportunity for community input and feedback regarding the potential bicycle/pedestrian pathway designs.

The open house goals included:

- Provide project information and engagement opportunities that are accessible, approachable, and inclusive.
- Solicit public input on the initial set of alignment alternatives.
- Create awareness about the project and its benefits and potential burdens or impacts.
- Communicate how input and feedback shape project outcomes.
- Create robust collaboration between agency partners and interested parties to facilitate the selection of a shared-use path preferred alternative.

Overall, 169 users accessed the virtual open house, and 154 comments were received (through the virtual open house, project website, and emails). 47% of the users (81 users) accessing the virtual open house were identified as being from Oregon City or Portland.

The public outreach resulted in comments pertaining to the following topics:

- Purpose and Need (13 comments)
- Corridor Vision (11 comments)
- Evaluation Criteria (7 comments)
- Input Opportunity: Design Alternatives (21 comments)
- Input Opportunity: Your Priorities (18 comments)
- Comment Form (2 comments)
- Emailed Comments (2 comments)
- Website Comment Form (60 comments)

The following themes were identified from the comment submissions:

- Improving traffic flow on McLoughlin Boulevard
- Upgrading access and safety for pedestrians and cyclists
- Enhancing safety for all users
- Building and improving connections to the future tumwata village development, downtown Oregon City, Willamette River, and nearby cities
- Increasing maintenance, monitoring, and cleanup work along the corridor

Overall, most community members voted for Alternative 1B: High Route - a design with a new pathway structure at street level, next to McLoughlin Boulevard. This path would connect to McLoughlin Boulevard near 10th Street and reconnect near the future Tumwata Village Development. Participants also voted for a pathway design through the Historic Arch Bridge columns, as shown in Alternatives 1B and 1C.

Following the virtual open house, the project team will work to evaluate several design alternatives before the preferred alternative is adopted. Public input collected at the December 2023 virtual open house event will help inform the City's decisions as it selects a preferred alternative. Additional traffic, environmental, and technical analysis will also be completed during the design process. The City will select the preferred alternative that is technically feasible and reflects the community's vision.

Tonight's update will provide the Commission with an overview of the results from the Virtual Open House. More information on the project can be found on the project website: <https://www.oregoncity.org/1853/McLoughlin-Blvd-Enhancements>



December 2023

Virtual Open House Summary

McLoughlin Boulevard Enhancements:
10th Street to tumwata village



Oregon City, Oregon
January 3, 2024

December 2023 Open House Summary

Introduction

The City of Oregon City (City) and the Oregon Department of Transportation (ODOT) are partnering to evaluate options for a shared-use pedestrian and bicycle path and streetscape enhancements on both sides of McLoughlin Boulevard between 10th Street and Tumwata village. This project is the last and most complex phase of Oregon City's McLoughlin Boulevard Enhancement Plan, which has been in progress for the past 20 years.

This project will enable the City to complete the Alternatives Identification and Evaluation phase to determine how to address this gap. Once a preferred alternative is identified, the City will proceed with a more detailed design and apply for grants to build all or portions of the alignment. HDR Engineering, Inc.'s (HDR's) services include strategic-communications support to inform Oregon City residents and the Clackamas County community about the proposed project.

The public outreach process encourages participation from local community members to learn about the project and provide feedback on the proposed design alternatives. Their feedback is critical in the City and ODOT's decision to select a preferred alternative.

This summary provides an overview of the virtual open house event held from December 6–22, 2023.

Virtual Open House Goals

The open house goals are as follows:

- Provide project information and engagement opportunities that are accessible, approachable, and inclusive
- Solicit public input on the initial set of alignment alternatives
- Create awareness about the project and its benefits and potential burdens or impacts
- Communicate how input and feedback shape project outcomes
- Create robust collaboration between agency partners and interested parties to facilitate the selection of a shared-use path preferred alternative

Virtual Open House Overview

From December 6–22, 2023, community members were invited to participate in a virtual open house hosted by HDR and posted on the City's project website. Users were invited to provide feedback on the proposed design alternatives and priorities for the McLoughlin Boulevard corridor.

The following topics were shared on the online platform:

- Project Overview
- Project Timeline
- Project Purpose and Need

- Corridor Vision
- Evaluation Criteria & Performance Measures
- Overview of Design Alternatives and Opportunity for Input
- Opportunity for Input on Shared-Use Path Priorities?

The webpage also included a general comment form where users could submit other feedback regarding the project. **See [Appendix A](#) for screenshots of the virtual open house.**

Overall, 169 users accessed the virtual open house, and 154 comments were received through the virtual open house, project website, and emails. Forty-seven percent of users (81 users) were identified using a device to access the virtual open house from Oregon City or Portland.

Comments were received regarding the following topics:

- Purpose and Need (13 comments)
- Corridor Vision (11 comments)
- Evaluation Criteria (7 comments)
- Input Opportunity: Design Alternatives (21 comments)
- Input Opportunity: Your Priorities (18 comments)
- Comment Form (2 comments)
- Emailed Comments (2 comments)
- Website Comment Form (60 comments)

The following themes were identified from the comment submissions:

- Improving traffic flow on McLoughlin Boulevard
- Upgrading access and safety for pedestrians and cyclists
- Enhancing safety for all users
- Building and improving connections to the future tumwata village development, downtown Oregon City, Willamette River, and nearby cities
- Increasing maintenance, monitoring, and cleanup work along the corridor

Overall, the majority of community members voted for Alternative 1B: High Route, a design with a new pathway structure at street level next to McLoughlin Boulevard. This path would connect to McLoughlin Boulevard near 10th Street and reconnect near the future tumwata village development. Participants also voted for a pathway design through the Historic Arch Bridge columns, as shown in Alternatives 1B and 1C. Please see the **[Open House: Results and Comment Themes](#)** for a complete summary of these results.

Notifications and Materials

The project team publicized the virtual open house using printed and digital notifications, described below. **See [Appendix B](#) for samples of these materials.**

Fact Sheet: The fact sheet included information about the project, benefits and needs, anticipated timelines, and public engagement opportunities.

Direct Mail: Project staff designed a postcard to notify neighboring residents about the informational session. The postcard was mailed to approximately 345 residents on November 27, 2023. City staff printed and distributed 300 additional postcards to downtown Oregon City businesses and residents.

Web Page: The project website (bit.ly/McLoughlinBlvd3) was updated with new graphics, maps, and approved content. The City also shared the virtual open house link on the website via a website banner.

Email: City staff sent three email notifications about the event to the City's notification list subscribers. This list includes local Oregon City and Clackamas County community groups.

Social Media: Oregon City staff shared the open house link and a City-produced project video on Facebook and Twitter/X. The posts directed visitors to the website to learn more about the project and the virtual open house event.

Digital Advertising: The City purchased a digital ad campaign on Oregon City News (oregoncitynews.com), including 30,000 impressions to publicize the virtual open house. Ads were produced in several formats to accommodate mobile, desktop, and tablet devices.

Project Topics

The following project topics were shared at the virtual open house:

- **Project Overview:** This slide included general information about the project, including background details about the McLoughlin Boulevard Enhancement Plan, the identified study area, and project benefits.
- **Project Timeline:** A general project schedule was shared on this slide, including relevant public engagement, planning, and design milestones. Community members were informed about the public engagement process and participation opportunities. This slide detailed the alternative development phase and the timeline for selecting a preferred alternative.
- **Project Purpose and Need:** The Purpose and Need Statement describes the transportation problems in the corridor and provides context for decision makers as they consider the best design options. Community members were invited to share their thoughts regarding this statement.
- **Corridor Vision:** The Corridor Vision includes several statements regarding the proposed Willamette Falls Path extension and streetscape enhancements. Community members were invited to share their thoughts regarding this project topic.
- **Evaluation Criteria & Performance Measures:** This slide informed visitors about the selected evaluation criteria and performance measures. The evaluation criteria were developed based on the project's Purpose and Need Statement and the goals of Oregon City's Transportation System Plan. The project team developed a set of performance measures to assess and differentiate between the design alternatives. These measures will provide a framework for selecting a preferred alternative.

- **Input Opportunity:**

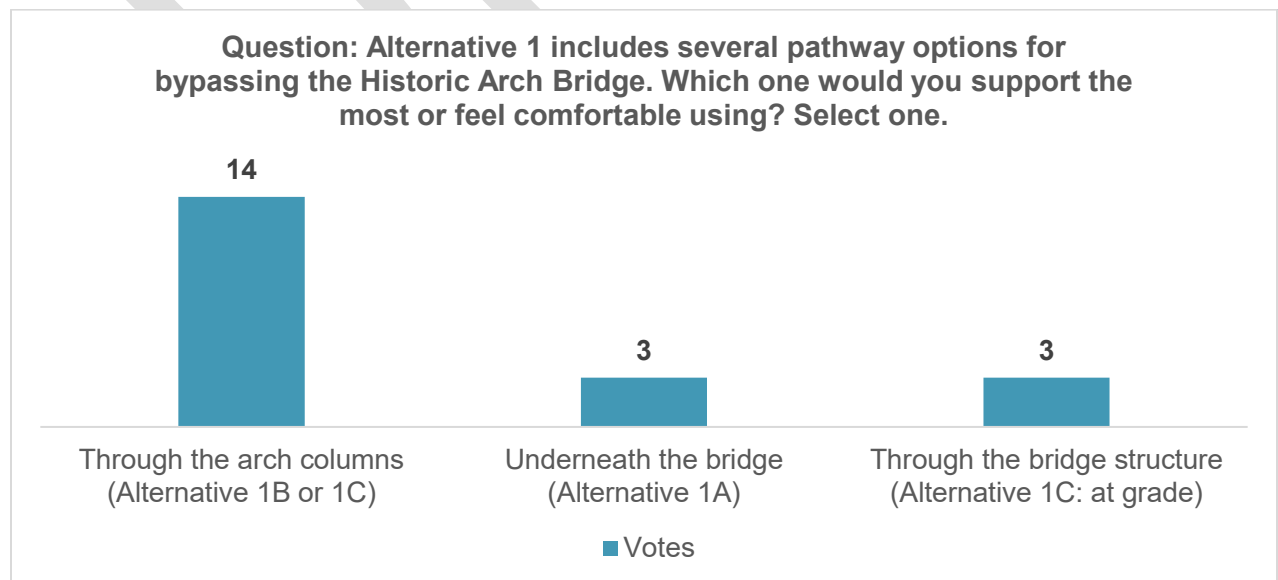
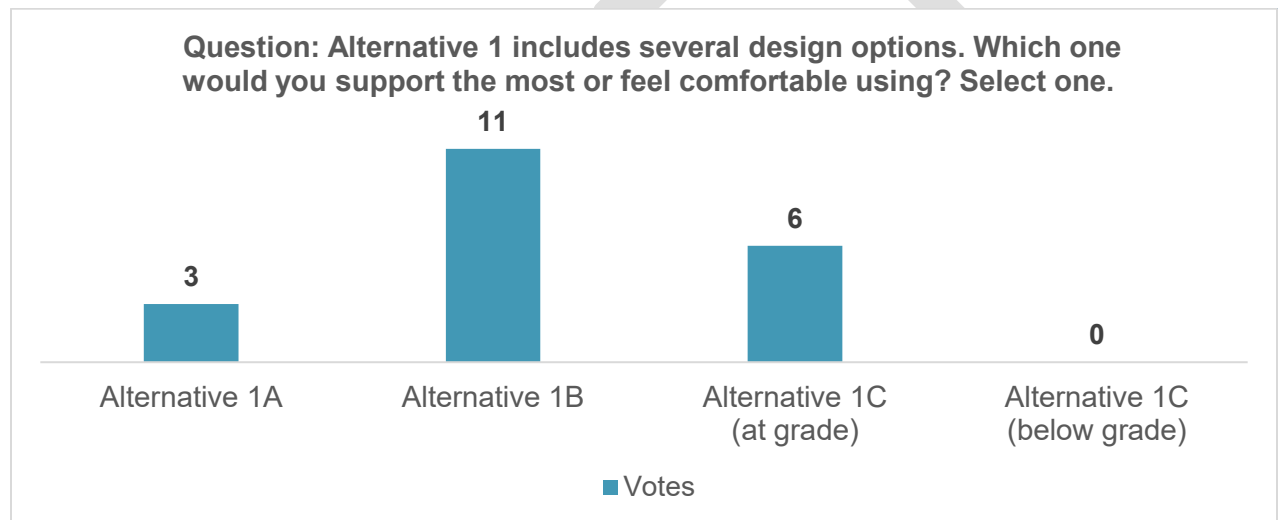
- **Design Alternatives:** Visitors were invited to provide input on several design alternatives as part of the project.
- **Your Priorities:** The City collected feedback from community members about community transportation priorities along McLoughlin Boulevard.

Open House: Results and Comment Themes

The project team received several comments during the virtual open house event. **See [Appendix C](#) for a complete list of comments received.**

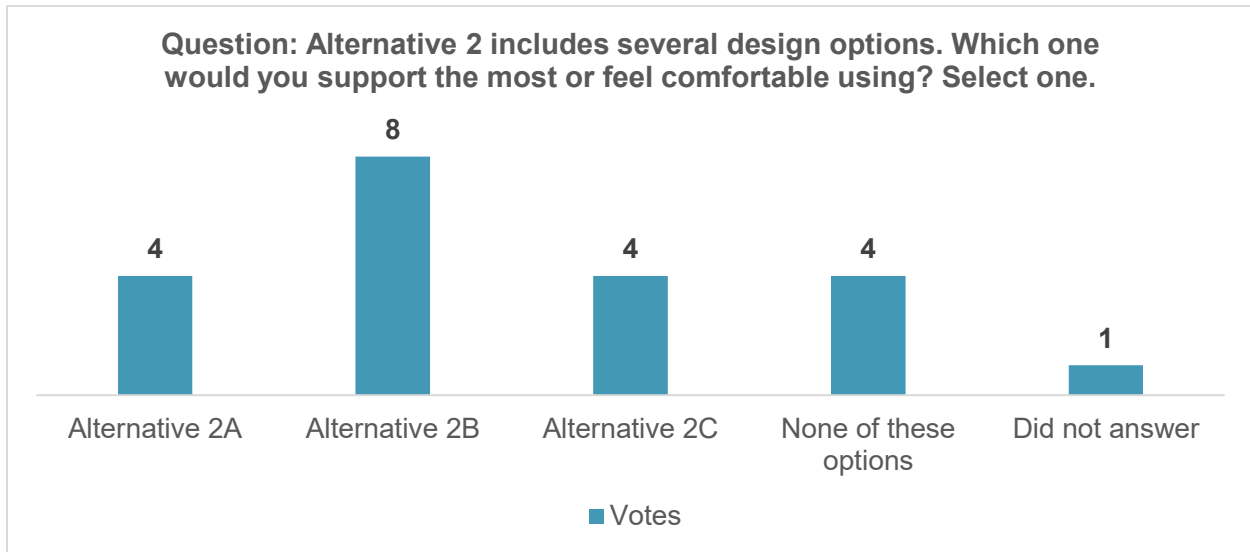
The following graphs summarize the feedback received regarding the project's design alternatives.

Input Opportunity: Alternative 1



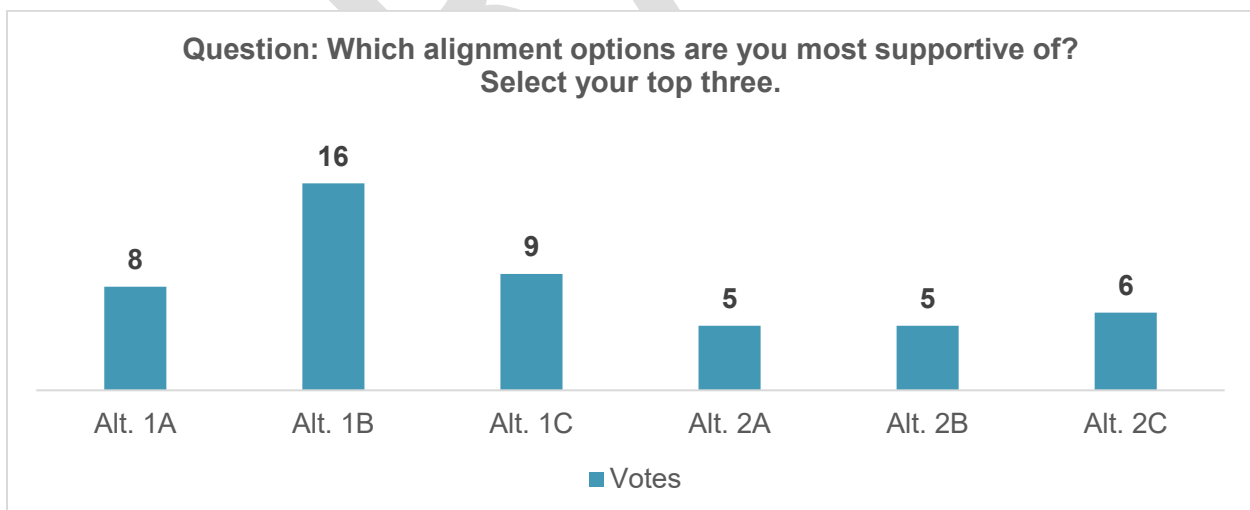
When asked which alignment they would support within Alternative 1, most participants selected Alternative 1B. Participants also preferred a pathway design through the arch columns, as shown in Alternatives 1B and 1C (14 votes), over the other two proposed alternatives (6 total votes).

Input Opportunity: Alternative 2



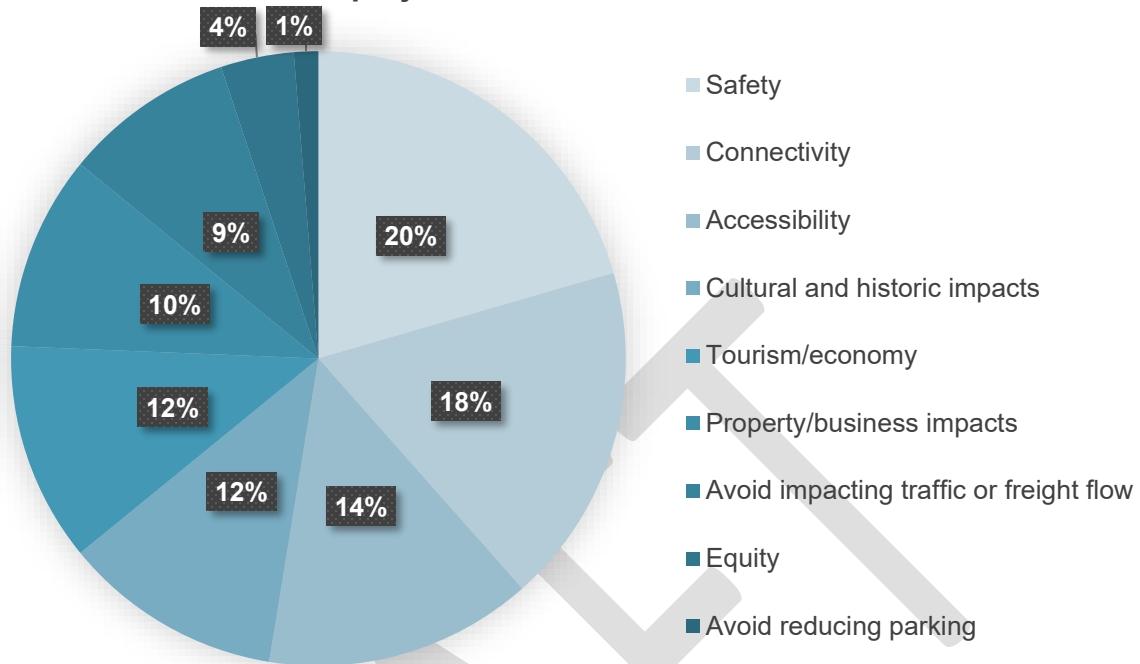
When asked which alignment they would support within Alternative 2, most participants selected Alternative 2B (8 votes).

Input Opportunity: Design Alternatives



When asked which alignment options they would support, community members favored Alternative 1B (16 votes), followed by Alternative 1C (9 votes) and Alternative 1A (8 votes). The three designs within Alternative 2 (2A, 2B, and 2C) were ranked as the least supported designs compared to the other alternatives.

Question: What are the most critical issues you believe the project should address?



Participants identified safety (16 votes), connectivity (14 votes), and accessibility (11 votes) as the top issues that the project should address.

Community members also shared the following concerns regarding safety for pedestrians and cyclists on McLoughlin Boulevard:

- Inattentive drivers
- Uncomfortable proximity to high-speed vehicle traffic from the sidewalk
- Marginal lighting in some areas along the corridor
- Decreased maintenance, monitoring, and cleanup work along the corridor
- Lack of connectivity between the river and downtown businesses
- Homeless populations camping on the trail and sidewalk
- Narrow sidewalks without railings and curb ramps

Of the alternatives shown, the following elements were identified as attractive options from a safety, security, and aesthetics perspective:

- A path that is visible or at street level
- At- or above-grade design alternatives that do not narrow the roadway
- A separate facility from McLoughlin Boulevard
- Physical barriers from traffic
- Connections to the river and future tumwata village

Community members suggested several future access amenities that they would like the City to consider, as the shared-use path is linked to existing and future upstream and downstream river access:

- A pedestrian bridge over McLoughlin Boulevard that allows people to access the downtown area without using a crosswalk
- Working with the tribe to access the historic locks between the upper and lower Willamette Falls
- Connections to future transportation projects like the Oregon City–West Linn Pedestrian Bridge and Public Riverwalk Project
- Accessibility to other areas without barriers or disconnects
- Commuter ferry along the Willamette River
- Floating pavilion at the tumwata village area (using the ramps proposed in Alternative 1A)
- Parking structure within downtown Oregon City
- Improved access to downtown Oregon City through the existing viaduct and Americans with Disabilities Act (ADA) ramps near the existing courthouse
- Benches and improved lighting
- Safe pathways to ride to Canby and Willamette

Participants shared the following thoughts regarding other sections of McLoughlin Boulevard:

- Interest in a walking path and pedestrian access across the Clackamas River by Clackamette Park
- Create a safe bike/pedestrian route that connects the McLoughlin Boulevard pathway to the Clackamas River Trail
- Remove the left-turn option at Main Street from Oregon Route 99E (OR99E) heading south
- Complete the links along the corridor to accommodate transit
- Request for a higher level of commitment from the City to maintain the corridor (e.g., garbage removal, railings, lighting repairs, and vegetation management)
- Transform the design of OR99E to preserve the historical and cultural aspects of downtown Oregon City
- Raise the bike lanes south of the OR99E bridge over the Clackamas River

Next Steps

Following the virtual open house, the project team will work to evaluate several design alternatives before the preferred alternative is adopted. Public input collected at the December 2023 virtual open house event will help inform the City's decisions as it selects a preferred alternative. Additional traffic, environmental, and technical analysis will also be completed during the design process. The City will select the preferred alternative that is technically feasible and reflects the community's vision.

Appendix A: December 2023 Virtual Open House

Virtual Open House



McLOUGHLIN BLVD
ENHANCEMENTS

10th Street to tumwata village

Project Overview

Project Timeline

Project Purpose and Need

Corridor Vision

Evaluation Criteria & Performance Measures

Input Opportunity: Design Alternatives

Input Opportunity: Your priorities?

Translate This Site

Select Language

PROJECT OVERVIEW



The City of Oregon City (City) and the Oregon Department of Transportation (ODOT) want you to help us shape the future of McLoughlin Boulevard.

We are engaging in the third phase of the McLoughlin Boulevard Enhancement Plan, which will evaluate several design options for a shared use path on McLoughlin Boulevard (also known as OR99C) between 10th Street and tumwata village. These improvements will provide safe access and improved facilities for people traveling on McLoughlin Boulevard, connecting communities to downtown Oregon City, Main Street, and the Willamette River.

Your Feedback Matters

Virtual Open House



McLOUGHLIN BLVD
ENHANCEMENTS

10th Street to tumwata village

Project Overview

Project Timeline

Project Purpose and Need

Corridor Vision

Evaluation Criteria & Performance Measures

Input Opportunity: Design Alternatives

Input Opportunity: Your priorities?

Translate This Site

Select Language

PROJECT TIMELINE

The project team will work to identify and evaluate several design alternatives before the preferred alternative is adopted. Public input collected at the open houses will help inform the City's decisions as it selects a preferred alternative. Additional traffic, environmental, and technical analysis will also be completed during the alternative development process. The City will select the preferred alternative that is technically feasible and reflects the community's vision.

	2023												2024											
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
PUBLIC ENGAGEMENT AND HEARINGS																								
Online Open House																								
Oregon City Commission Briefings																								
Planning Commission Public Hearing																								
City Commission Public Hearing																								
PRELIMINARY PLANNING AND DESIGN																								
FINAL ADOPTED DESIGN STUDY																								

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Virtual Open House



OREGON CITY

McLOUGHLIN BLVD ENHANCEMENTS
10th Street to tumwata village

- Project Overview
- Project Timeline
- Project Purpose and Need**
- Corridor Vision
- Evaluation Criteria & Performance Measures
- Input Opportunity: Design Alternatives
- Input Opportunity: Your priorities?

Translate This Site

Select Language




COMMENT

PROJECT PURPOSE AND NEED

A Purpose and Need Statement describes the transportation problems in the corridor and provides context for decision-makers as they consider the best design options. This statement was developed by City and ODOT technical staff and refined by the City Commission on November 7, 2023.

Purpose



- Create a shared-use path and streetscape that enhances safety for all transportation modes.
- Bridges the missing link for pedestrian and cyclists on McLoughlin Boulevard between 10th Street and Railroad Avenue through well-considered design.

Need



- There is a gap in safe, comfortable, and accessible facilities for people of all ages and abilities who are walking and biking on McLoughlin Boulevard.
- Oregon City's waterfront is currently disjointed and not seen as a continuous amenity.

Virtual Open House



OREGON CITY

McLOUGHLIN BLVD ENHANCEMENTS
10th Street to tumwata village

- Project Overview
- Project Timeline
- Project Purpose and Need
- Corridor Vision**
- Evaluation Criteria & Performance Measures
- Input Opportunity: Design Alternatives
- Input Opportunity: Your priorities?

Translate This Site

Select Language




COMMENT

CORRIDOR VISION



The proposed Willamette Falls Path extension and streetscape enhancements contribute to the sense of place and community identity as an urban corridor and community gateway.



The path provides a regional link accessible to users of all ages and abilities, filling a key active transportation gap and providing a continuous link to existing and planned open spaces along the Willamette and Clackamas Rivers, including the tumwata village development, and connections to other transportation links such as a future recreational/commuter river ferry and the Oregon City-West Linn pedestrian-bicycle bridge.



The chosen design will promote safety through context sensitive design that discourages speeding and improves the walking and biking experience along the corridor.



The proposed path is representative of the local needs and priorities of the Oregon City community and has been developed as an implementable and fundable alternative.

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Virtual Open House



McLOUGHLIN BLVD ENHANCEMENTS
10th Street to tumwata village

- Project Overview
- Project Timeline
- Project Purpose and Need
- Corridor Vision
- Evaluation Criteria & Performance Measures**
- Input Opportunity: Design Alternatives
- Input Opportunity: Your priorities?

Translate This Site
Select Language

EVALUATION CRITERIA & PERFORMANCE MEASURES

Evaluation criteria have been developed based on the project's Purpose and Need Statement and the goals of Oregon City's [Transportation System Plan](#).

The project team developed a set of performance measures to assess and differentiate between the design alternatives. The performance measures provide a framework for selecting a preferred alternative.



Evaluation Criteria

Click on each tab below to learn more about the evaluation criteria.

User Experience

Input Opportunity

Please share any thoughts regarding the Evaluation Criteria. Are we missing anything? (optional)

Virtual Open House



McLOUGHLIN BLVD ENHANCEMENTS
10th Street to tumwata village

- Project Overview
- Project Timeline
- Project Purpose and Need
- Corridor Vision
- Evaluation Criteria & Performance Measures
- Input Opportunity: Design Alternatives**
- Input Opportunity: Your priorities?

Translate This Site
Select Language

INPUT OPPORTUNITY: EXPLORE THE DESIGN ALTERNATIVES

Community input is an essential component to the evaluation of alternatives. The City is listening to your voice to plan safe, reliable, and effective transportation solutions. We encourage you to provide input on the alternatives presented and stay tuned for additional opportunities for feedback as the project progresses.

As you review the following alternatives, think about how you would use the path. Would it be different from your friends or family members? Is there a particular route that excites you or might give you pause for safety?



Virtual Open House



McLOUGHLIN BLVD
ENHANCEMENTS

10th Street to tumwata village

Project Overview

Project Timeline

Project Purpose and Need

Corridor Vision

Evaluation Criteria & Performance Measures

Input Opportunity:
Design Alternatives

Input Opportunity:
Your priorities?

INPUT OPPORTUNITY:
WHAT ARE YOUR PRIORITIES?

The City wants to hear from you to help assess the most effective options for community transportation needs along McLoughlin Boulevard.

1. What are the most critical issues you believe the project should address? (check all that apply)

☐ Safety

☐ Cultural and historic impacts

☐ Tourism / economy

☐ Equity

☐ Property / business impacts

☐ Construction impacts

☐ Accessibility

☐ Connectivity

☐ Avoid impacting traffic or freight flow

☐ Other

2. Do you feel comfortable biking or walking on McLoughlin Boulevard to get around today? If not, can you share specific

3. Of the alternatives shown, which elements are most attractive to you from a safety, security, and aesthetics

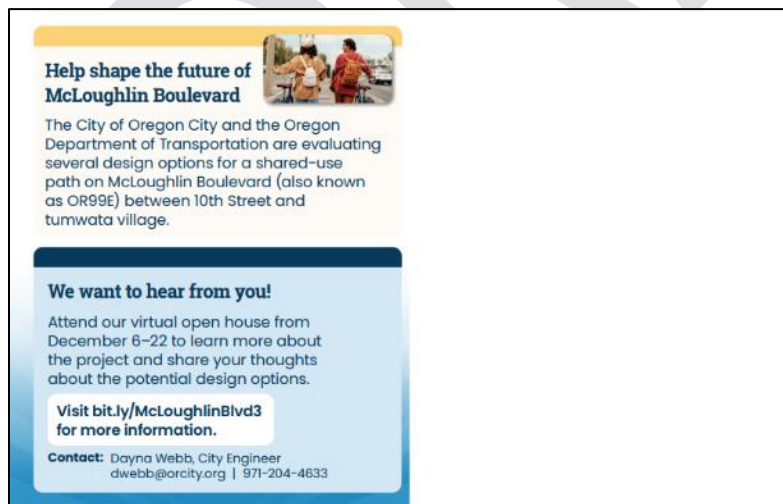
Translate This Site

Select Language

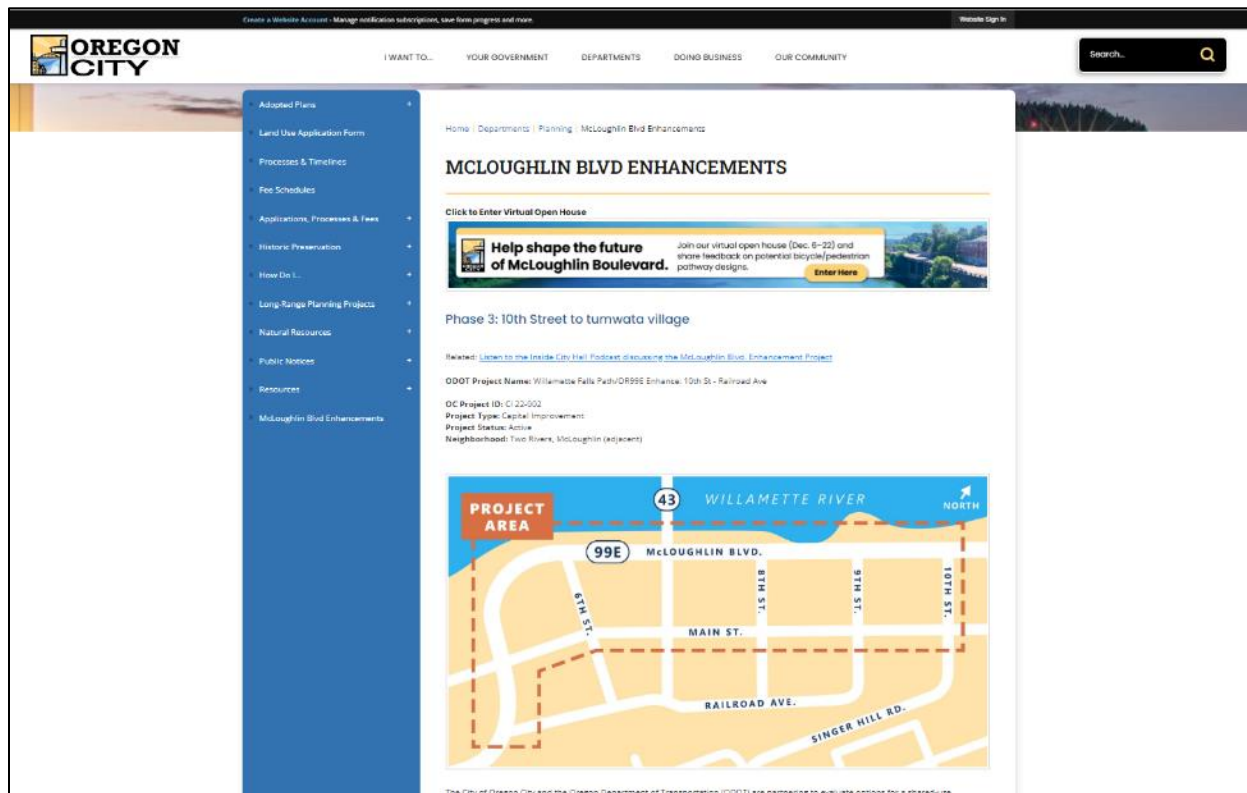
<https://mcloughlin-blvd-enhancements.odot.state.or.us/feedback>

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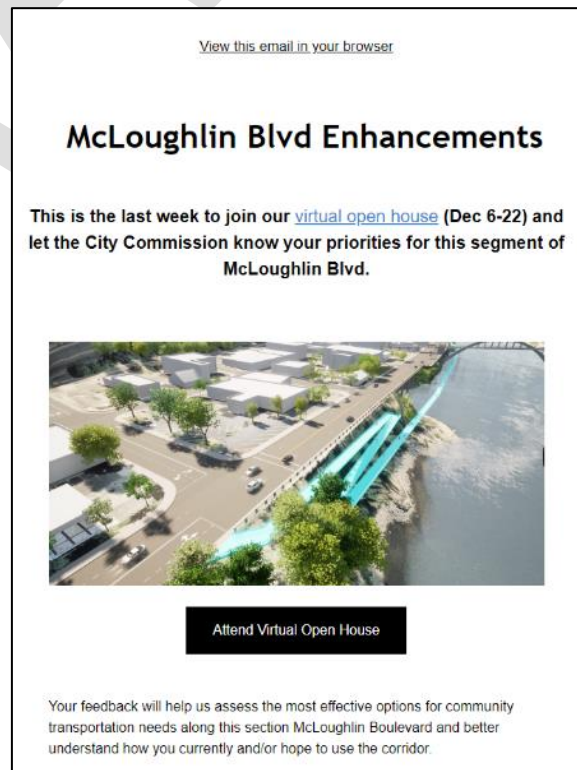
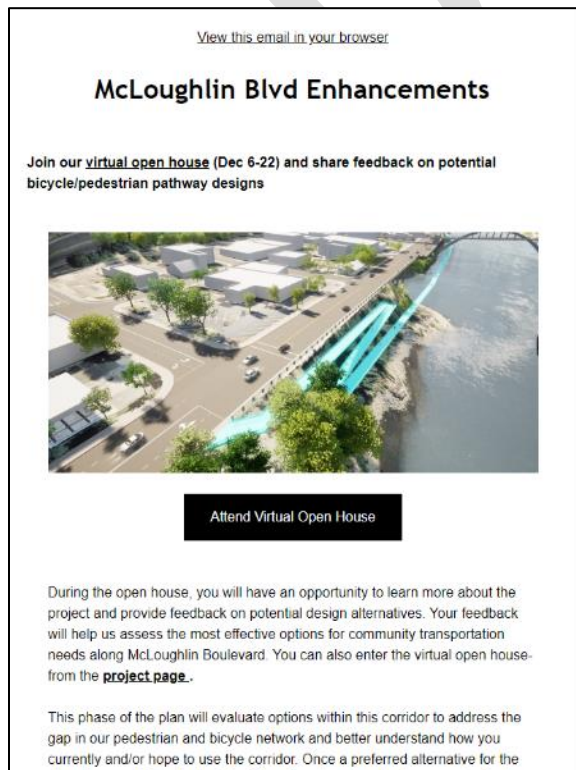
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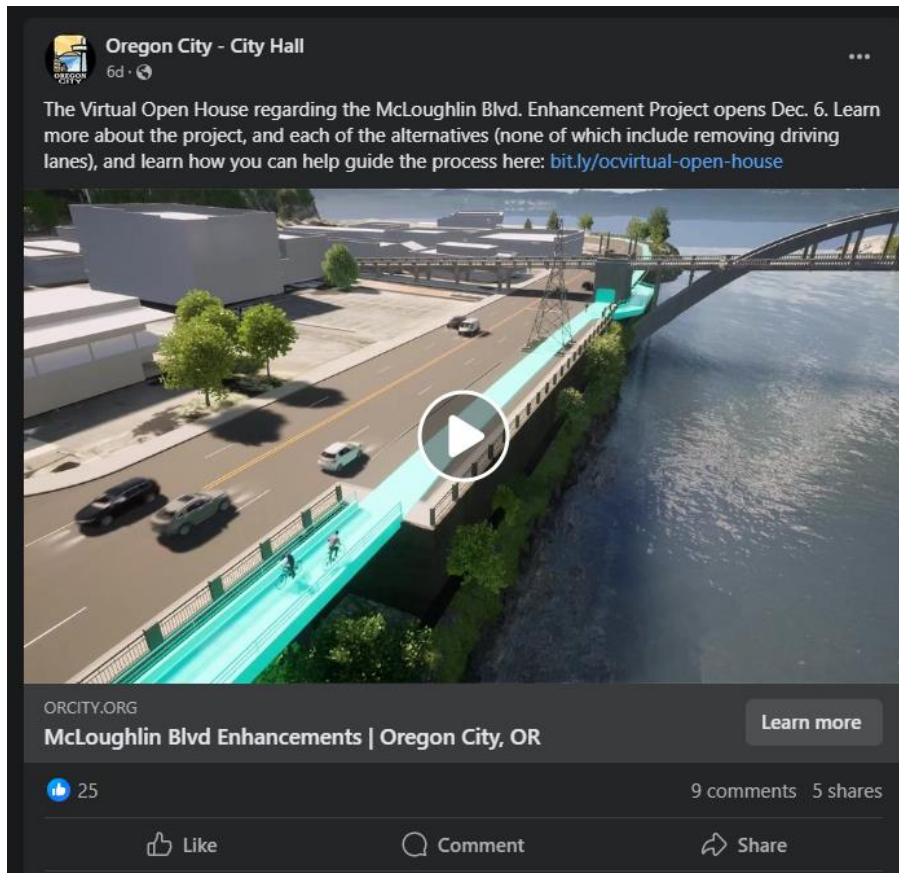
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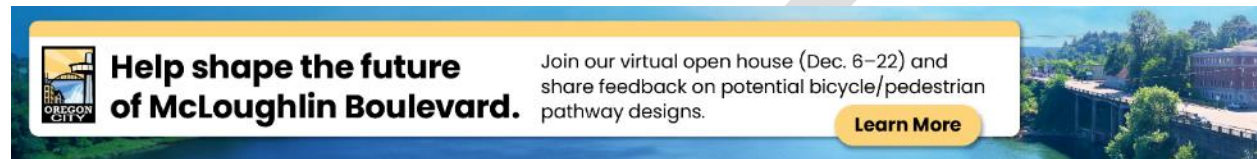
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Map showing the location of McLoughlin Blvd. (99E) near the Willamette River, with street names: 6TH ST., MAIN ST., 15TH ST., 16TH ST., 17TH ST.

Appendix C: Virtual Open House Comments

Question: Please share any thoughts regarding the Purpose and Need Statement. Are we missing anything?	
Submission Date	Comment
12/6/2023	Everything identified is true. I currently avoid this area as a pedestrian due to the proximity to the roadway which is made worse by speed and volume
12/6/2023	The Study Area on slide 2 states the focus area is from 10th to tumwata village, however in the purpose and need it states creating connection from 10th to Railroad Ave. What is the focus area for this project?
12/6/2023	Everything stated is good, but I wonder about relation between this and access to the rest of downtown and the elevator. Connectivity here is key. There may be no solution, but it would be ideal for there to be some clear preferred connection between the 99E waterfront area and the downtown Main St area. Right now, the 10th street cross of 99E is not great, and other crossings South of that are worse. Typo: "both upstream and downtown of the Willamette River" the phrase "downtown of the river" is nonsense. Maybe someone was thinking of downtown but not "of the river" or they were thinking of "downstream".
12/6/2023	It is the connection to tumwatta village village
12/7/2023	Despite the focus on bikes and walking, our weather and overall location of most people that live near to downtown oregon city means that we first have to use cars. Please do not slow or congest traffic more. Consider ways more parking could help people then access the waterfront.
12/8/2023	I couldn't tell from the photo if this will be something entirely new added to the landscape, or will remove/replace existing infrastructure. Either way, I'm interested in what green infrastructure (or gray infrastructure retrofits) can be incorporated to provide better filtration of rainwater/stormwater, urban habitat, and mitigation of urban heat island effects here.
12/11/2023	Continue to emphasize that this project provides the missing link in a pathway amenity that extends all the way from the Clackamas River Trailhead to Tumwata Village.
12/13/2023	Could mention the need to support whatever redevelopment eventually happens with the current industrial remains on the site.
12/16/2023	The plan focuses on improvements for bicycle, pedestrian and ADA traffic but doesn't seem to include improvements for vehicle traffic on and around 99E. As the Blue Heron project advances, there will be need to address improvements for vehicle traffic. Can that be included in this project?
12/18/2023	I like the fact that there will be improvements for pedestrians and bikes!
12/19/2023	It would be wonderful to also allow another access to the river.
12/22/2023	This is very impressive!!! Every single detail has been considered for the environment, walkers, bikerswhile looking so esthetically pleasing to the eye Well done team

Question: Please share any thoughts regarding the Purpose and Need Statement. Are we missing anything?	
Submission Date	Comment
12/23/2023	Please also consider the aesthetics of your solution. If a solution is the safest option but it ruins the appeal of the downtown area then no one will use it.

Question: Please share any thoughts regarding the Corridor Vision. Did we capture the elements of a successful design?	
Submission Date	Comment
12/6/2023	This area is the key to a future path through Canby to Wilsonville and can connect to the Molalla forest road towards Molalla.
12/6/2023	This makes no mention of the Public Riverwalk project, will this connect to that project or is that project no moving forward?
12/6/2023	Nice!
12/6/2023	Yes
12/7/2023	Please do not slow the speed of traffic through this area. If you do, it will likely increase traffic at rush hour times reducing the livability in our area. Find other ways to route pedestrian traffic (which is very minor) around 99.
12/8/2023	Shade is important! I think it's really necessary that trees be a part of the planning process here especially as we'll be having hotter summers. When we want to build a space that makes access easier for folks, such as those with disabilities, or young or elderly folks, that we consider how weather conditions will affect the true accessibility of the corridor - and having trees provides a multitude of benefits (aesthetic, temperature, and more)
12/9/2023	a pedestrian/bicycle bridge already exists between OC and WL. the Arch bridge sidewalks are perfectly fine for both. I am very much against spending taxpayer money for another bridge that is not needed.
12/11/2023	Continue to emphasize linkages provided by this project.
12/12/2023	Connecting the community to the river is huge. Reengaging the waterfront and Willamette Falls (tumawata) will continue to make downtown OC a thriving place in the future
12/16/2023	I can't support a plan to eliminate vehicle traffic on the arch bridge.
12/19/2023	The connection between OC and West Linn should continue along the West Linn side of the river with a multi use path to Willamette (10th Street)

Question: Please share any thoughts regarding the Evaluation Criteria. Are we missing anything?	
Submission Date	Comment
12/6/2023	Will attempts be made to not disturb the ospreys nesting on top of the electrical tower located adjacent to the Arch Bridge on the OC side of the river?
12/6/2023	No

Question: Please share any thoughts regarding the Evaluation Criteria. Are we missing anything?	
12/7/2023	Development of the downtown area will suffer if in any way vehicular traffic or access is limited. Despite utopian dreams of everyone spending their days walking or biking around, the most frequently used mode of transportation to reach downtown OC is CARS. Even those of us who live in OC limits, cannot access the downtown area from our homes in bicycles or walking.
12/8/2023	"does not impact the river" could be better thought of as provides a net positive impact to the river/environmental impacts.
12/11/2023	User Experience: the design enhances and improves connection to the river. The alternative is both a means of transportation and a recreational facility on its own.
12/16/2023	The Evaluation Criteria and Performance Measures refer to the Oregon City Transportation System Plan. This plan is too large of a document to be able to provide any comments. Which citizens do you think will read the entire document? I recommend the evaluation criteria is more focused on the McLoughlin Blvd. enhancement plan.
12/19/2023	It is very important to create a linked system for alternative transportation that connects all communities.

Question: Alternative 1 includes several design options. Which one would you support the most or feel comfortable using?	
Design Alternative	Votes
Alternative 1B	11
Alternative 1C (At Grade)	6
Alternative 1A	3
Alternative 1C (Below Grade)	0

Question: Alternative 1 includes several pathway options for bypassing the Historic Arch Bridge. Which one would you support the most or feel comfortable using? Select one.	
Design Alternative	Votes
Through the arch columns (Alternative 1B or 1C)	14
Underneath the bridge (Alternative 1A)	3
Through the bridge structure (Alternative 1C: Hybrid Route – At Grade)	3

Question: Is there anything you want to add about the approaches to Alternative 1? (optional)	
Submission Date	Comment
12/6/2023	This path will be used more and be more attractive if seen from the road but separates pedestrians from traffic.
12/6/2023	The high Route at grade is additionally better for Public Safety. It improves visibility of those using this pedestrian and bike path.
12/6/2023	None of these alternatives seems to go all the way to Railroad Ave, therefore not achieving what is stated in the Purpose and Need Statement.

Question: Is there anything you want to add about the approaches to Alternative 1? (optional)	
Submission Date	Comment
12/6/2023	I feel 1A does not achieve the goal of efficient transit through the corridor with too much grade change and extra distance to traverse and would likely get bypassed by those striving for efficient commute. With the likely substantial cost of self supporting structure over riparian area I suspect the Hybrid route will emerge as much more cost effective than 1B and I feel likely more visually preferable. I feel staying on grade through the existing parking and arch bridge area is preferable with best option to avoid diversion structures over the river at obstacles.
12/6/2023	I like the 1C: Hybrid Route because it potentially creates a safe viewing area for people who wish to stop and view the river, bridge and falls area while allowing bicyclists and pedestrians to continue straight through. I don't like the below grade option because it's going to create a tunnel that is difficult to light, keep safe and drain well. If it is indeed practical to open up the bridge support to allow the route to pass through the structure, I think it will enhance people's appreciation of the arch bridge and not detract from its historic design.
12/6/2023	I would use any of these. However, the enthusiasm I would have and my interest in encouraging and encouraging others to use them basically goes with the distance from car and truck traffic. Quite simply, the closer to motor traffic, the worse the experience.
12/8/2023	Please make sure it is easy for cyclists to turn onto 10th Street. This is a necessary so cyclists can access downtown and biking up Singer Hill. Currently there is only a ramp on the northern side of the intersection, making cyclists moving southbound on the current river walk either crossing two busy intersections, or jumping the southern curb in order to remove one of the busy intersections.
12/11/2023	Although 1A would be wonderful since it gets people down to river level, I believe it would be way too costly to build and maintain and keep usable all year due to river level changes, and it also makes the path somewhat less desirable for non-handicapped users due to the added length needed to hit ADA slope requirements. By staying at McLoughlin Blvd elevation, it may also be possible to provide a route from the path up to the Arch Bridge. This should be considered.
12/12/2023	Visibility of pedestrians and people is key. A low route will not show river front activity from street level. This creates a place that does not have an "eyes on the street" type feeling. Low, dark and secluded from activity.
12/13/2023	1A would seem to replicate the experience of the river access on the east side of the Willamette in downtown Portland, which is a very enjoyable experience that is intimate with the river itself. It would also reduce the exposure to the traffic noise of 99E.
12/15/2023	I also quite like Alternative 1A: Low Route. The switchbacks could be tricky on a bike but it would be amazing to walk/bike at river level. I don't much like Alternative 1C: Hybrid Route - Below Grade. I want to walk/bike by the river for the view, which you wouldn't be able to see from an underground tunnel. I also find tunnels in urban/suburban areas often become hangouts for unhoused folks and if they aren't maintained will become unpleasant/dirty/wet quickly.
12/18/2023	The most direct and separated route is most preferable

Question: Alternative 2 includes several design options. Which one would you support the most or feel comfortable using? Select one.	
Design Alternative	Votes
Alternative 2B	8
Alternative 2A	4
Alternative 2C	4
None of these options	4
Did not answer	1

Question: Is there anything you want to add about the approaches to Alternative 2? (optional)	
Submission Date	Comment
12/6/2023	None of these alternatives goes all the way to Railroad Ave, therefore not achieving what is stated in the Purpose and Need Statement
12/6/2023	Please eliminate travel lanes on McLoughlin. The roadway is too fast at this location and is too difficult to cross for pedestrians.
12/6/2023	I feel 2A is not viable as further restriction of vehicle traffic seems untenable. 2B or 2C in the hybrid concept both seem to have merit, my understanding is the viaduct is inadequate regarding seismic design and it seems evaluation needs to consider what and when remediation entails.
12/6/2023	Although I would use it, being close to high-speed traffic is not enjoyable for anyone. So, all these are good for basic functionality and safety but will not encourage a nicer experience. With these options, I would use them sometimes but would encourage most people to cross to Main St at 14th, 12th, or 10th and then go to the elevator and then take the Promenade (which I hope will some day have nicer connection to the falls area).
12/6/2023	Question not clear. Keep the same amount of travel lanes, separate pedestrians from traffic and maintain visibility of pathways from the road
12/7/2023	McLoughlin Boulevard is in need of a reorganization regardless of any other design plans. I actively avoid driving the section up for discussion, because it's so unpleasant. Since it is a major commuting route I do understand that there needs be four travel lanes. I'd love to see something like the development on 99E in Milwaukie with planted islands and a couple more pedestrian activated lights with large visible painted crosswalks.
12/7/2023	2C seems to be the most conducive to updating the site while also minimizing negative effects on commercial through traffic, which I feel would exponentially adversely affect overall traffic if impacted negatively
12/8/2023	Seismic resilience is vital. If it's too much \$, then 2B. 2A is risky given the potential for I-205 diversion and tolling increasing ADT.
12/8/2023	I would prefer to keep the existing viaduct as is.
12/9/2023	it looks like all of the alternative 2 options would remove parking, which I would not support

Question: Is there anything you want to add about the approaches to Alternative 2? (optional)	
Submission Date	Comment
12/15/2023	I prefer 2B because it seems the most attainable. 2A seems unlikely to work in my opinion, I can't see how more space could be allocated to cyclists and pedestrians while leaving the travel lanes in tact. As a frequent cyclist/pedestrian I don't trust drivers, especially on a busy/fast-moving road like McLoughlin. I strongly prefer to have a path that is separated from the main roadway. I think 2C would result in the best results but I can't imagine what Oregon City would do with McLoughlin closed for construction for an extended period of time.
12/18/2023	Keep the 2 south bound lanes from 205 thru the tunnel and up to 2nd St. When heading north on 99 before 2nd St (just south of Stillhouse), where 99 turns into 2 lanes, make the right lane a Turn-Only onto 2nd. Make the northbound traffic one lane. Leave as one lane down thru the tunnel and all the way to 205. Widen all three lanes thru town, add the multi use path along the river edge.

Question: Which alignment options are you most supportive of? Please select your top three.	
Design Alternative	Votes
Alternative 1B	16
Alternative 1C	9
Alternative 1A	8
Alternative 2C	6
Alternative 2A	5
Alternative 2B	5

Question: What are the most critical issues you believe the project should address?	
Issue	Votes
Safety	16
Connectivity	14
Accessibility	11
Cultural and historic impacts	9
Tourism/economy	9
Property/business impacts	8
Avoid impacting traffic or freight flow	7
Equity	3
Avoid reducing parking	1

Question: Do you feel comfortable biking or walking on McLoughlin Boulevard to get around today? If not, can you share specific safety concerns?	
Submission Date	Comment
12/6/2023	To many people at the wheel of vehicles and not paying attention to the task of not harming someone through the driving of their vehicles.
12/6/2023	Yes.
12/6/2023	No
12/6/2023	I have tried several times to walk and bike in that area, and now I make sure to cross at 10th street or sooner when heading South. I feel unsafe and uncomfortable in this area of 99E. There are very narrow and turning sidewalks with no railings, high-speed traffic, and places with no ramps but requirements to get up or down from the sidewalk. I am reasonably comfortable from Jon Storm Park to 12th St and acceptable enough from 12th to 10th (though that section and crossing at 10th is quite uncomfortable, and *all* crossings of 99E feel somewhat uncomfortable, needing a defensive approach to dangerous traffic).
12/7/2023	No! I don't even like driving on McLoughlin. It's loud and it's not connected to either the downtown or the river. There currently isn't a reason for pedestrians to use McLoughlin.
12/7/2023	Feeling of safety marginal for following reasons: >uncomfortable proximity to vehicle traffic in places >marginal lighting some areas >general increasing deficiency in maintenance , monitoring and cleanup.
12/8/2023	No. Need to be separated from traffic. Will go out of my way to walk elsewhere.
12/9/2023	not really. there is poor connectivity between the river and the business sides. There are no businesses that I need to get to on the river side at this time.
12/10/2023	Except for the homeless camping on the trail/sidewalk.
12/15/2023	I both walk and bike on McLoughlin regularly and I think it is okay. I ride my bike on the path along the river, never on the road itself. I go out at off-times/mid-day weekdays so there aren't many people out but if I find myself out on a nice weekend day the path is too narrow for both cyclists and pedestrians. There are crosswalks to get back into downtown but you still have to be very careful crossing the road - cars do NOT look to see if there is someone in the crosswalk, it can be dangerous. There are some folks that seem to be living along the path. I empathize with the unhoused people but they tend to leave garbage, blankets lying around. I have to dodge it while riding my bike.
12/18/2023	It is comfortable in the area where there have already been improvement. This section however is very scary
12/19/2023	My husband and I walk and bike often in this part of OC, and I haven't ever felt safe. We go to Portland on the East side and there are wonderful off-road trails that are very safe and accessible for all uses. It would be wonderful if OC had as good of a system to bring tourists as well as create a usable alternative to driving.
12/23/2023	I feel safe enough when walking by myself but I feel nervous in certain areas walking with my children. We usually try to walk along main st. When possible. Having to walk in the west portion has always felt a bit treacherous

Question: Of the alternatives shown, which elements are most attractive to you from a safety, security, and aesthetics perspective?	
Submission Date	Comment
12/6/2023	just making it completely visible.
12/6/2023	The options that are at or above grade without narrowing roadway.
12/6/2023	Separated facility from McLoughlin Blvd.
12/6/2023	Clear, complete separation and protection of people from traffic; including noise, pollution and vibration impacts on people using the pathway.
12/6/2023	Anything that gets away from traffic is best, having physical protection when close to traffic is next best, and having just space next to traffic is barely acceptable. I worry slightly about vandalism/crime/delinquency in areas that are out of sight. I could imagine the 1A low route being combined with boat docks such that it encourages more people to use the facility to access the water and encourages people to bike to get to boats or fishing. That would seem the greatest win for all: combine 1A low route with width enough for people to do pole fishing and maybe some access points for boats, and perhaps docking spots could be rented for city income.
12/7/2023	I like the idea of something built entirely separate from 99E. I like the idea of having a connection to the river and someday tumwata village.
12/7/2023	Separation from vehicle traffic, hopefully implementation of design elements that will facilitate appropriate use and discourage misuse.
12/8/2023	High route is separated, but visible (low route might have safety risk for lone travelers).
12/9/2023	The low 1 looks really fun, but not as safe as the high 1. The swithcbacks looks too steep on low 1.
12/10/2023	Keeping the trail at grade for visual awareness but separate from traffic for safety.
12/15/2023	I favor the alternatives where the path is separated from the roadway for comfort and safety. I quite like 1A and 1B because of this. I love that 1A would get us down to the river level - it would be so peaceful to walk or bike down below far from the street.
12/18/2023	Separation from traffic, but not the low route. That one seems too far away and indirect. Less activity
12/19/2023	Anyway we could get closer to the river would benefit everyone. Also, having Main Street as a no car Street through downtown would be amazing!
12/23/2023	I have security concerns about the low route. It is shady and out of view of the road. It would also be colder down by water level. The routes at street level are most appealing

Question: This new community facility will link to existing and future upstream and downstream river access. What future access amenities should the city consider when designing this connection?	
Submission Date	Comment
12/6/2023	Need to look at a pedestrian bridge over McLoughlin Blvd that allows people to not have to use a cross walk light at Main Street and McLoughlin Blvd/Hwy-99E. this pedestrian bridge is critical in creating a loop without crossing McLoughlin Blvd.
12/6/2023	Opening up the historic locks between upper and lower Falls.
12/6/2023	Connection to future transportation projects i.e. Oregon City- West Linn Ped Bridge and Public Riverwalk project
12/6/2023	Easy, contiguous accessibility to other areas without barriers or disconnects.
12/6/2023	Potential pedestrian/bike bridge crossing, riverwalk, commuter ferry
12/7/2023	The city should consider a floating pavilion at the tumwata village end (using the ramp idea proposed in Alternative 1A). It would also be lovely to just have a safe to use viewpoint at the tumwata village end where 99E curves. The city needs to consider a parking structure. I've never had trouble parking, however there is a perceived assumption that there isn't enough parking so planning for that would be great.
12/7/2023	Easy access to the downtown area should be a high priority and I feel the best opportunity would be under the viaduct to a well designed ADA access near the existing courthouse. I feel a modified hybrid design would best achieve this by ramping down from the south end of the viaduct to a level at or near sufficient for access under the viaduct to the east side and ramp back up to grade at the north end of the viaduct. An enlarged area at the low point would be ideal to accommodate a possible future phase development to provide access down to river level. Ultimately providing river level access would be a key component of maximizing tourism opportunities but may be better accommodated in the Tumwata Village development and would not be needed in both locations.
12/9/2023	frog ferry
12/10/2023	Working with the Tribe for access to the Falls.
12/15/2023	It should have plenty of connections to get back into downtown so it is useful to travel into/out of destinations in downtown.
12/18/2023	Benches, lighting
12/19/2023	I would love to have a safe way to ride to Canby and to Willamette or farther.

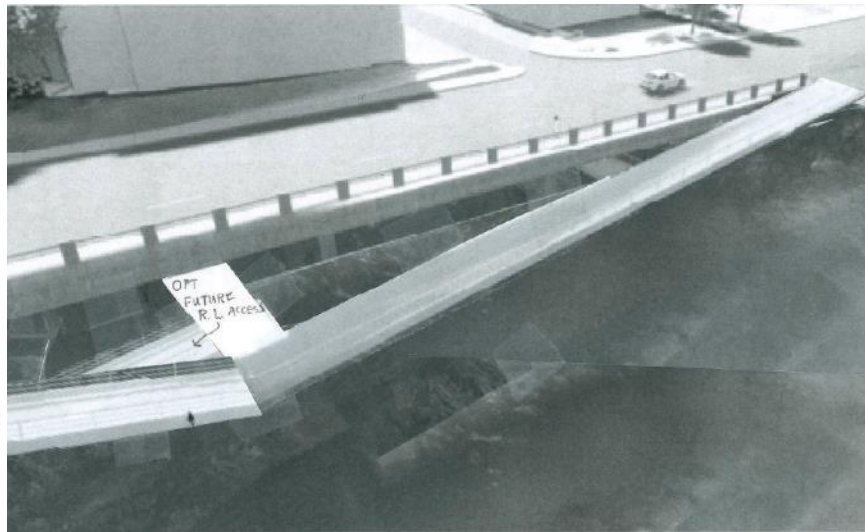
Question: Please share any additional thoughts regarding other sections of McLoughlin Boulevard.	
Submission Date	Comment
12/6/2023	The bike lanes South of the 99E bridge over Clackamas River are narrow dangerous paint next to 40MPH+ traffic. Those should be raised to the level of the sidewalk and a railing added for safety. The only safe option in that section is to bike on the sidewalk which sometimes results in uncomfortable cycle/pedestrian interaction. That said, the bridge itself is an overly narrow bottleneck with unfortunately narrow sidewalks, so that is another problem. I understand that otherwise, the Abernathy Bridge construction involves updating the bike infrastructure right around the bridge area.
12/7/2023	As commuters travel south on 99E the entire design should immediately change and feel different at 10th street (truthfully, 14th street would be even better). People need to feel like they are traveling through a beloved, historical town rather than skirting around the edge just to get from point A to point B.

Question: Please share any additional thoughts regarding other sections of McLoughlin Boulevard.	
Submission Date	Comment
12/7/2023	Completing links to accommodate easy transit through the entire corridor are obviously necessary but to achieve the “feel” of a cohesive welcoming urban area vs “linked destinations” the design needs to blend and a significantly higher level of commitment to maintaining repair and cleanliness of the entire corridor will be necessary. There have been numerous instances of garbage accumulation (noticeable pile at 11th st bump out as of yesterday 12/6 there since before Thanksgiving), lack of maintenance of railings, pruning back vegetation, maintaining lighting etc. all of which detract from a safe welcoming feeling. In the absence of obvious commitment to the “feeling” of a welcoming safe environment at all hours a “large sidewalk” is all that will be achieved and fall far short of the potential I feel is available.
12/9/2023	I am excited to get to see this project connect us to the river and to Tumwata Village.
12/10/2023	Remove the Left turn option at Main St from 99E headed south.
12/15/2023	There should be a safe connection to the Clackamas River Trail. The path on the side of McLoughlin should connect with a bike/pedestrian route under 205 where there is currently a construction site.
12/19/2023	It would be great to have a walking path/pedestrian bridge across the Clackamas by Claclamette Park.

Virtual Open House: General Comment Form & Emailed Comments	
Submission Date	Comment
12/6/2023	As part of this discussion, will you be able to consider the traffic on the Arch Bridge and the types of vehicles allowed to use it? Currently, the only restrictions that I have found for vehicles are based on weight and height. When the bridge was upgraded, the lanes were narrowed in order to protect the arches. Often there are large semi-trucks that turn onto the bridge from Main Street. They are too wide for the narrow lanes, and traffic has to stop on the other side of the bridge so that the over-sized vehicle can safely cross. Given that the Abernathy Bridge is just a couple of blocks north, it seems that these large vehicles should be directed to cross over it and not the Arch Bridge. The Arch Bridge should be for walkers, bike riders, and local traffic. Having been on the bridge when one of these over-sized vehicles is crossing, I often think that it is an accident waiting to happen. If that happened, there would not be an easy way to clear the bridge. It would be a horrible traffic jam. Please consider adding a vehicle width limitation to the bridge. THANKS!!
12/7/2023	Love that you are wanting to improve access to improve the vitality of the downtown area. However, it is rainy a lot and most people that live in the area can not bike to work. So whatever changes you make please do not decrease the flow or speed of traffic.

12/19/2023

Thank you for the opportunity to weigh in on the McLoughlin Blvd Enhancement project. I did respond in the online open house with some of my thoughts. One variation that did not appear in that more abbreviated version was an option with under-viaduct crossing to the east side. I did later discover a "high route" variation that did include that in other materials on the website. In the responses I submitted I expressed preference for a modified Hybrid route that would accommodate that. Attached is a rather crude cut and paste to try to illustrate that. The grades in that representation appear too steep but since the viaduct grade is raising traveling south to north I believe the walkway with moderate declining grade could drop to the necessary level in a reasonable horizontal distance and then progress back up to existing grade at the north end. If that presents too much elevation gain on the northern portion that transition could occur at an intermediate level with a spur ramp completing the descent to a low enough level to cross under the viaduct. I feel it would be ideal at that lower transition point to include an enlarged area for viewing the river that could also accommodate a future further development down to river level. Since the Tumwata designs are not yet complete and could provide perhaps better river level access it seems the McLoughlin project should only include provision to accommodate that in the future.



I have a general over-arching concern regarding the entire corridor and that is ongoing commitment to maintenance and cleanup and I noted that in my responses as well. What I have observed over the last few years that I have routinely traveled and walked that area can only be described as dismal. I emailed some concerns on a couple occasions a few years ago and was encouraged to make use of the OC app which I have done a few times and generally noticed response within a week or so. However, generally out of curiosity, I have been watching an accumulation of trash in the 11th street bump out that appeared around Thanksgiving and still remains these weeks later. An emphasis on how to achieve a safe welcoming environment is one topic that emerged in the online open house and achieving that entirely is crucial in my view for this development to be successful in realizing its potential. Without very careful attention that nuanced "perception" is easily squandered and very difficult to regain with a likely result of underutilization of appropriate use and over-utilization of inappropriate use.

Virtual Open House: General Comment Form & Emailed Comments	
Submission Date	Comment
12/21/2023	My preference is for option 1B, While I like the water side feature in 1A, the increased length and the slopes make this less convenient for casual use or to get from the 10th Street end to the mill site (or vice versa). And because the sunken grade reduces visibility from the street, it might feel less secure also.

McLoughlin Boulevard Enhancements: Website Comments	
Submission Date	What is important for decision-makers to understand about this section of McLoughlin Boulevard as they work to design a solution?
10/3/2023	It could be so beautiful! Our priority should be on pedestrians, bikes, and trees, not on cars. The parking spaces between McLoughlin and the river are nearly useless; I think they should be eliminated to make more space for walking/rolling/biking. Left turns from southbound McLoughlin to Railroad Ave are so dangerous and should not be allowed. Left turns from southbound McLoughlin to Main St. should be enough for people. Speed limits should be reduced to 25mph to make the section feel safer.
10/25/2023	We have lived in OC for most of our lives and prefer to walk or bike to downtown businesses. This section of downtown is not very bike friendly and has terrible traffic right down the core of our historic town. Main Street should be walking or biking only between 10th street and the bridge. This would allow businesses and restaurants to use the street to expand their customer area, and it would become a fabulous outdoor gathering place for everyone.
10/31/2023	Any solution that you would not let your kids use is not safe enough for anyone. Bike and pedestrian infrastructure should be protected and not be just paint.
10/31/2023	Pedestrians, cyclists and transit must be prioritized - these are the residents and visitors that will fund our economy far more than the people just driving through.
10/31/2023	Pedestrian safety, natural beauty, access.
11/1/2023	Due to the heavy traffic nature of 99, I think for usability/ safety reasons any bike path needs to be elevated from the traffic and on the same grade as the sidewalk. This avoids dangerous conditions for drivers/bikers. Additionally some sort intermediate between the peds/cyclist should be created to ensure safety . To do this would require a wider sidewalk. The water side sidewalk could be widened between 10th & 43 by cantilevering sidewalk extension over the water.
11/12/2023	I don't feel safe walking along McLoughlin between the railway overpass and the falls. Traffic is too close. Maybe come up with a way to separate walkers and Traffic? The highway seems loud and scary.
11/15/2023	Please don't make it less convenient for automobiles and better for bicycles. Either put a left hand turn light or a no left turn sign on 99E at railroad ave so cars are turning left before the tunnel are not backing up traffic
11/19/2023	Narrow lanes make it safer for those not vehicles.

McLoughlin Boulevard Enhancements: Website Comments	
Submission Date	What is important for decision-makers to understand about this section of McLoughlin Boulevard as they work to design a solution?
11/26/2023	Strive for design elements that promote ease of transit and are easily maintained and that readily accommodate appropriate use but ideally hinder mis-use. A shared use corridor the entire length of Oregon City that feels pleasant and safe at all hours would be a great asset to linking the various areas of interest as a whole. Falling even a little short of that may leave a sense of disconnected areas of interest with inhospitable links that become more attractive for mis-use.
11/29/2023	Congestion near the tunnel.
11/29/2023	Traffic flow - lots of cars go through this stretch on their way between the Canby area & OC/I205 interchange. Keeping vehicles moving while maintaining walkability and safety will be a challenge especially with constraints of Willamette River & railroad.
12/3/2023	Maximize public visibility of and access to the falls.
12/4/2023	To NOT decrease the lanes or flow of traffic. Its lovely to have a place to bike or walk that is safe but the majority of people need to be driving their car through these areas at least 2ce a day and dont want to be slowed down or caught in a traffic jam because lanes, access or speed is reduced.
12/4/2023	Think about young families in OC as we will be here for another 50+ years. Also, this is the first impression many will have on our town. We would like to see it as a beautiful and vibrant, and safe place where people want to visit regularly. This would attract new residents and visitors to OC and will be a backdrop for many community events. We need wide sidewalks - maybe bricks where the community can donate and dedicate a brick on the path so it's beautiful and gives us a sense of pride.
12/4/2023	Rush hour traffic thru town and easy access for peds and bikes to connect to river trail/ walkway. Without waiting forever to cross 99.maybe have one overpass access??
12/5/2023	There is already a lack of parking in downtown Oregon City at peak times like Friday and Saturday nights. If this project results in fewer parking spaces, that will make the situation worse. Also if the Tribes design Willamette Falls area enhancements without adequate parking, that will make things worse. Please try to either not remove any existong parking capacity. or actually find a way to add more parking with this project.
12/5/2023	We need a "people" connection to the river. Oregon City has a fabulous scenic river with so much historical provenance but little to no safe access to it...either physical or visual, what a shame! We need a walkable safe street scape that will facilitate all that. A wide walkable esplanade with viewing stations and easy safe access to it across 99E. a bridge over the road? We need beautiful plantings to soften the concrete and space enough to have some services, small cafe, seating, bike racks.
12/6/2023	This project will increase Oregon City residents and tourists access to the river, which will also increase resident and visitor support to the downtown region.
12/6/2023	Continuing access for bicycles, walkers, ADA through to viewpoint across from Stillhouse pub, which may already be part of the plan. This can be accomplished by pathways through Tumwata village.

McLoughlin Boulevard Enhancements: Website Comments	
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12/6/2023	This is a critical opportunity to accomplish many critical things, that is more than just improved access and views of the Willamette River. This is critical for Public Safety, creating adequate separation from the road and vehicles. This will encourage greater activity, where people are on their feet. and not sitting in a car. This goes hand and hand with improved health physically and mentally. This will become an attraction and bring victors to Oregon City and spending money.
12/7/2023	Safety for pedestrians. Efficient vehicle travel throughout the areas allowing a connection to the riverfront and invitation to stop in Oregon city.
12/7/2023	I love the idea of this project, I'm also concerned about the traffic congestion impact in this area.
12/8/2023	Parking and trail access to allow more people to enjoy the sights. Placing the walkway as far away from traffic and as close to the river as possible.
12/8/2023	Oregon City made a serious mistake when they failed to actively engage in the early period after the closure of the Blue Heron Mill. It is critical that the City now work closely in partnership with the site owner (Tribes of Grand Ronde) to make the redevelopment and restoration of the Blue Heron site a success.
12/8/2023	Stating the obvious, to increase emphasis -- this area is the most important community space for Oregon City. It includes core history of Oregon and Oregon City, and has the most potential to be THE representation of Oregon City and the history of Oregon state. The river, the falls, and McLoughlin Blvd need to combine into the story. Consider what drivers see on one level, then increase it for walkers.
12/8/2023	public transportation that functions within OC, pedestrian access to river and downtown for families to enjoy, businesses that families can enjoy, not just bars.
12/8/2023	The cost to taxpayers and businesses. The safety of walkers and the scenic and traditional beauty of the area. NO ABSTRACT, modernistic design!
12/8/2023	Impacts to existing downtown. Hopefully this will increase visitors to the area - infrastructure to deal with the additional visitors.
12/8/2023	Keep traffic moving. My wife and I walked from the park at I205 to the Mill. It was so load and awe full, any view was ruined from the traffic noise!
12/10/2023	Needs to be appealing and feel safe to get pedestrians to walk along McLoughlin with all the busy traffic.
12/12/2023	Don't reduce parking spots as parking is already a critical issue for the area. Parking issues can't be ignored. Safety is my next concern, especially with the plan for more homeless services around 15 and Main Street. Several friends who visited from Hillsboro and Canby have commented about how uncomfortable they were on main street from panhandling and people walking the streets with obvious mental health issues. Everyone needs to feel safe. Good lighting and visibility would be good.
12/12/2023	Bike and pedestrian use, Easy access for all abilities, traffic reduction, attractiveness.

McLoughlin Boulevard Enhancements: Website Comments	
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12/15/2023	It's important that this section of McLoughlin discourage speeding/reckless driving and provide a safe and enjoyable avenue to walk or bike. The pedestrian path should connect safely into downtown and ideally would also have a safe connection to the Clackamas River Trail. It is also important that the area is maintained, the existing path is great but is often cluttered with litter and things unhoused folks have left behind like blankets/sleeping bags.
12/16/2023	I just feel it is important to keep in mind the vehicle travel especially in the morning hours.
12/17/2023	Build it to withstand floods
12/17/2023	Please maintain a good traffic flow. This is a busy section of highway and should not be made any narrower or have any more stop lights.
12/18/2023	Safety for pedestrians and cyclists
12/18/2023	The High trail option b - with out the 8th street under hwy part appeals to me the most. This is the only option that the homeless can NOT hide. Keep the trail AWAY from the hwy with the separate path. The closeness to the river is the attraction. To have this entity even think that the trail will continue past main street to the tunnel on Railroad ave is dangerous. The trail through the tunnel to the fall overlook is not anything that a family with kids and grandma could do safely
12/20/2023	The access and the wonderful view.
12/21/2023	The high route provides more visibility. As a mom pushing a stroller on walks, that seems to be the safer option. I wonder if there's a way to diffuse traffic noise on the walkway (?). It's important to provide at least one point of access to the Main St, midway on that path, ideally at the arch bridge. People would be more apt to use the walkway if they could get on and off from the main strip of shops. Do NOT reroute through main st, which is already congested with limited parking.
12/21/2023	Keep the Willamette River for all the Native Americans historical rituals with recreation for all. Adding more parking would add more pillars and structural support items for the roadway over the Willamette River reducing the historical fishing and harvesting area.