

RESOLUTION NO. 2638

ACCEPTING THE MAIN STREETS ON HALSEY CROSS SECTION AND STREET DESIGN PLAN

THE TROUTDALE CITY COUNCIL FINDS AS FOLLOWS:

1. Troutdale City Council approved Resolution 2574 to enter into an intergovernmental agreement with the cities of Fairview and Wood Village to receive a Transportation and Growth Management Grant to develop a ten percent streetscape design plan for Halsey Street.
2. The Main Streets on Halsey Cross Section and Street Design Plan builds on work conducted under previous phases to transform Halsey Street into a safe, vibrant, and attractive street that supports adjacent land uses and provides opportunities for transportation choices serving neighborhoods and businesses.
3. A Community Advisory Committee made up of Troutdale residents, property, and business owners was convened to provide feedback on the plan, and a community survey and online open house were conducted as part of the project.
4. The Planning Commission conducted a work session on the Main Streets on Halsey Cross Section and Street Design Plan on September 11, 2024, and allowed parties to provide input.
5. The Main Street on Halsey Cross Section and Street Design Plan is a ten (10) percent conceptual design plan that will be refined through the final design process, which will provide more detail on some aspects of the Plan, including right-of-way impacts, impacts to adjacent properties, street lighting, and utility needs, intersection operations and design, and bus stop placement and design, each of which could impact the design and cost.
6. As an accepted plan, it will provide direction and support to Multnomah County to revise the County's Minor Arterial street cross section for NE Halsey Street within the three cities and pursue funding opportunities for the preferred community right-of-way standards and improvements.
7. The Main Streets on Halsey Cross Section and Street Design Plan is included as Attachment A to this Resolution.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF TROUTDALE

Section 1. Based on the staff report to the City Council dated October 8, 2024, the community engagement through the plan-making process, and final recommendations within the plan document, the City Council hereby accepts the Main Streets on Halsey

Cross Section and Street Design Plan to guide future transportation planning decisions through the Plan's vision and implementation.

Section 2. This Resolution shall be effective immediately upon adoption.

YEAS: 5

NAYS: 2 Glantz, Lauer

ABSTAINED: 0



Randy Lauer, Mayor

Date: October 9, 2024



Sarah Skroch, City Recorder

Adopted: October 8, 2024

CROSS SECTION AND STREET DESIGN PLAN

TITLE: Cross Section and Street Design Plan

PROJECT: Main Streets on Halsey Cross Section and Street Design Plan

PROJECT #: 23021.043

DATE: July 2024



ACKNOWLEDGEMENTS

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I. INTRODUCTION

Project Background

Since 2017, the cities of Fairview, Wood Village, and Troutdale (three cities) have been working with Multnomah County to create a continuous shared vision for NE Halsey Street running from NE 201st Avenue to SW 257th Drive. The *Main Streets on Halsey* project is a multi-jurisdiction, multi-phase project seeking to transform the three-mile stretch of NE Halsey Street into a "main street". Thanks to public input, city officials now envision a unified main street marked by pedestrian and bicycle-friendly features, public gathering spaces, new housing, bustling shops, restaurants, pubs, and coffee shops.

The first two phases of the *Main Streets on Halsey* project established the vision and principles for the corridor and identified community preferences. Through these efforts there is a sense of what the communities need and what the market will bear, and now it's time to create detailed design plans for the new NE Halsey Street. This next phase of the *Main Streets on Halsey* project engaged the community to determine how the corridor looks and functions to create new cross sections and street design plans for the project corridor.

Project Purpose

The *Main Streets on Halsey Cross Section and Street Design Plan* (Plan) builds on work conducted under previous phases of the *Main Streets on Halsey* project to transform the three-mile stretch of NE Halsey Street from a busy, nondescript, car-dominated arterial into a vibrant, attractive, pedestrian and bicycle-friendly "main street". The Plan recommends revisions to Multnomah County's Minor Arterial Street cross section and provides ten percent (10%) design plans for the project corridor. The Plan includes new cross sections and street design plans that reflect the unique charter of each community while providing continuity along the project corridor.

Project Objectives

The following project objectives were refined throughout the planning process based on input from the project team.

- Create a cohesive Halsey streetscape and pedestrian environment that supports existing small businesses, attracts new businesses, and creates new jobs.
- Design Halsey Street to unite the three cities while also allowing each city to be distinguished in the ways they build community and drive economic development.
- Make Halsey Street safer, more accessible, and more visually attractive.
- Make public transit, walking, and biking in the Halsey Street corridor more appealing and safer.
- Improve the environment by reducing pollution, planting street trees, and using cost-efficient, sustainable landscape treatments.
- Enhance bikeability and walkability by slowing vehicular traffic, improving intersections, and discouraging through traffic by trucks.
- Engage with local business owners and the public to broaden commitment and ongoing involvement in the corridor.

The Plan identifies improvements to NE Halsey Street that improve safety for people who walk, bike, and roll along the corridor, as well as people who use the corridor to access local transit service, schools, parks, churches, and local businesses. The improvements will not limit vehicle access along the corridor; however, the nature of the improvements will slow vehicle traffic and discourage through-traffic from using the corridor, particularly heavy vehicles.



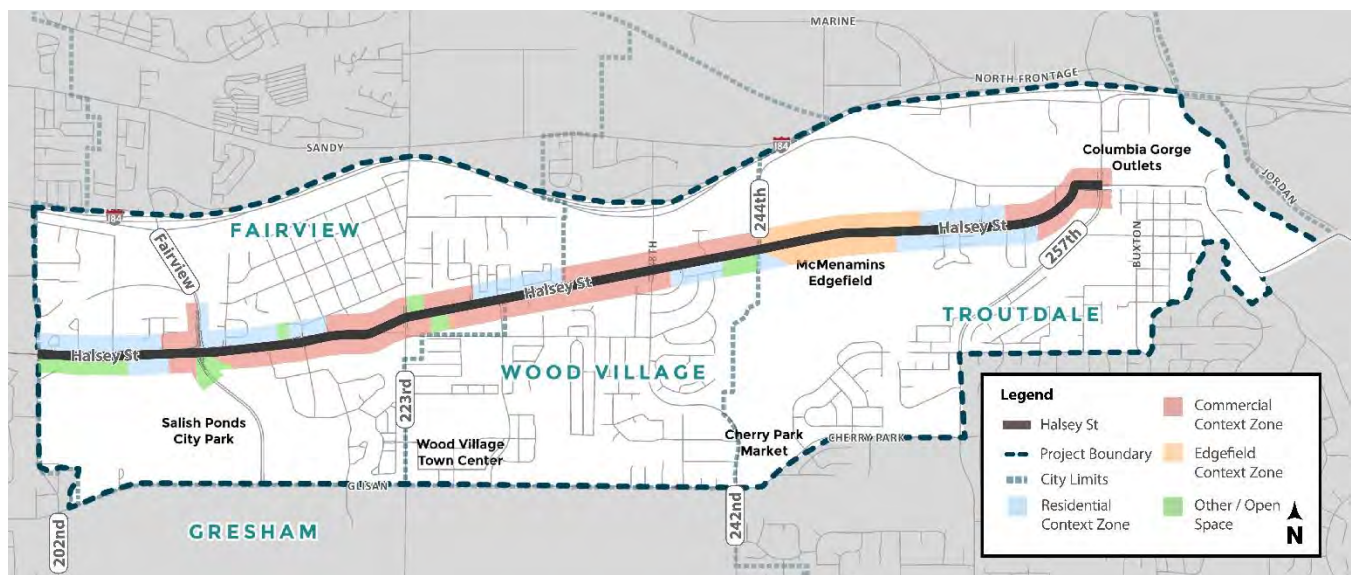
Project Area

The project area includes the segment of NE Halsey Street from NE 201st Avenue to SW 257th Drive, which includes segments within the cities of Fairview, Wood Village, and Troutdale. This segment of NE Halsey Street is owned and maintained by Multnomah County, which coordinates with the three cities on the design and construction of the street's multimodal features. This segment of NE Halsey Street primarily consists of three travel lanes with on-street bike lanes and sidewalks on both sides, except the segment adjacent to the McMenamins Edgefield property which consists of two travel lanes and narrow shoulders. Several major facilities connect this segment of NE Halsey Street to the surrounding area, including:

- **Fairview Parkway** – a five-lane, access-controlled roadway that connects NE Halsey Street to I-84 to the north and NE Glisan Street to the south. The City of Fairview recently updated their Transportation System Plan (TSP) to incorporate a multilane roundabout at the NE Fairview Parkway/NE Halsey Street intersection. Therefore, this intersection is included in the Plan as a roundabout.
- **NE 223rd Avenue** – a two to three-lane roadway that connects NE Halsey Street to NE Sandy Boulevard, NE Marine Drive, and several industrial uses to the north and NE Glisan Street, SE Stark Street, and NW Burnside Road to the South. The City of Fairview recently evaluated potential alternatives to improve conditions at the intersection. The preferred alternative, which includes protected intersection treatments, is shown as a potential alternative in the Plan.
- **NE 238th Drive** – a five-lane roadway that connects NE Halsey Street to I-84 and NE Sandy Boulevard to the north and NE Glisan Street, NE Stark Street, and NW Burnside Street to the south. The northwest corner of the intersection was recently redeveloped with mixed-use development. The development included frontage improvements along NE Halsey Street including a new bus-pull out and on-street parking area that will be impacted by the Plan.
- **NE 257th Drive** – a five-lane roadway that connects NE Halsey Street to I-84 and NW Marine Drive to the north and SE Stark Street to the south. The City of Troutdale recently updated its TSP to include potential improvements at the intersection to improve connections between opportunity sites along NE Halsey Street and downtown Troutdale.

Figure 1 illustrates the project area and highlights the extents of NE Halsey Street within the three cities.

Figure 1. Project Area



Land Use

Land uses along NE Halsey Street primarily consist of residential, commercial, and other/open space. The residential uses include single-family and multi-family residential homes with direct access to NE Halsey Street or access via local street connections. The commercial uses include general commercial, shopping centers, retail/commercial centers, mixed-use residential/commercial, and lodging, including McMenemy's Edgefield, a destination resort. Other land uses include institutions (e.g., schools, churches, public utilities), industrial (e.g., light industrial, manufacturing), and open space (e.g., parks).

The existing transportation facilities and land use contexts along NE Halsey Street are described in more detail below. As indicated below, they were used to develop streetscape and roadway design alternatives that reflect the unique character of the various segments of NE Halsey Street.

Context Zones

The project area is divided into context zones, or areas with distinct land use characteristics and associated transportation needs. The context zones reflect the underlying zoning of the three cities as identified in their zoning maps and include residential, commercial, other/open space, and Edgefield as indicated below.

- **Residential:** the residential context zone includes low, medium, and high-density residential, which allows for single-family and multi-family development, including townhomes and manufactured homes; mixed-use residential/commercial is included in the commercial zones given that the commercial uses tend to be at street level. Within the residential context zone homes are generally set back from the curb and accessed by a private driveway or local street connections. Therefore, there is less of a need to gain access from the curb.
- **Commercial:** the commercial context zone includes corridor, village, neighborhood, community, and general commercial, which allows for a mix of retail and commercial uses, including ground floor retail; the storefront and town center districts are included in the commercial zones. Within the commercial context zone, businesses are generally built to the back of the sidewalk and accessed from the curb or by private driveway to off-street parking lots. Therefore, there is a greater need to gain access from the curb.
- **Other/Open Space zones:** the other/open space context zone includes industrial and manufacturing, which are generally located off NE Halsey Street, and parks, which are in multiple locations along the corridor. The other/open space context shares similar characteristics with the residential and/or commercial context zones, in terms of access based on the nature and use of adjacent properties.
- **Edgefield:** the Edgefield context zone was developed later in the project to address the unique needs along the segment of NE Halsey Street adjacent to the McMenemy's Edgefield property. While the Edgefield property is located within a commercial zone, the availability of off-street parking creates less of a need to gain access from the curb.

The context zones are shown in the linear design plan presented later in this report (See Figure 23-25).

II. PLAN DEVELOPMENT PROCESS

The Main Streets on Halsey Cross Section and Street Design Plan was developed over a 22-month period between September 2022 and July 2024. Throughout this period, the project team engaged with stakeholders from the three cities, Multnomah County, Metro, ODOT, as well as transportation service providers, and the public to develop the linear design plan presented later in this report. The following provides a summary of the plan development process. Subsequent sections summarize information on existing conditions along the corridor.

Review of Prior Planning Efforts

The project team reviewed the plans and policies of the three cities and Multnomah County to develop an understanding of the needs and guiding principles for the corridor. Among the prior planning efforts reviewed were the two prior phases of the *Main Streets on Halsey* project as summarized below.

Main Streets on Halsey Strategic Economic Action Plan

The *Main Streets on Halsey Strategic Economic Action Plan* outlines an economic development strategy for NE Halsey Street within the cities of Fairview, Wood Village, and Troutdale. The three cities worked with Multnomah County, Metro, local community members, and stakeholders to create recommendations for encouraging new investments along the study area and for creating a safer corridor.

The plan identifies the vision and guiding principles for the corridor and outlines seven major components of the strategic economic action plan. The plan also identifies opportunities for land use changes and improvements to the transportation system, presents the results of a market analysis considering two distinct market areas (the three cities and the three cities with Gresham), and highlights potential challenges and opportunities. The plan was crucial to consider for developing this plan as it outlines the underlying principles of the future cross section. The plan calls for coordination of transportation and land use planning to achieve a more diverse and balanced mix of uses, filling gaps in the active transportation network to support walkable transportation centers, reducing transportation costs for households, and minimizing travel time and distance for employees.

The plan lists a number of transportation improvement opportunities along the corridor, such as intersection improvements, striping and landscape enhancements, bicycle-specific safety improvements, and constructing new and improving existing pedestrian crossings. Figure 2 below presents the map of potential roadway improvement proposed by the *Main Streets on Halsey Strategic Economic Action Plan* (page 48 of the document). These roadway improvements were incorporated into the linear design plan presented later in this report.

Figure 2: Proposed Roadway Improvements (Main Street on Halsey Strategic Economic Action Plan)



Main Streets on Halsey Site Readiness and Code Amendment Project

The three cities worked together in 2020 and 2021 to adopt amendments to their development codes to implement the vision of the *Main Streets on Halsey* project. The purpose of the amendments was to create a consistent set of standards across the three cities to encourage pedestrian-oriented, high-quality site and building design. Currently, the cities of Fairview and Wood Village have adopted the amendments, which establish the following:

- **Storefront District:** The code amendments introduce a concept of “Storefront District” in each city, which would provide a concentration of commercial and retail uses in pedestrian-friendly areas. These districts include restaurant, retail, and entertainment uses, while standalone residential developments are prohibited.
- **Building Height and Bulk:** In order to promote vertical mixed-use development, the amendments allow for taller buildings in certain locations along the corridor. Where adopted, the maximum building height was increased, with an additional height of 10-20 feet allowed by providing ground floor commercial space, small scale commercial space, affordable housing, or additional design elements.
- **Building Orientation:** The code amendments include a new building orientation standard that requires most building facades to be located within 10 feet from the street, limits parking lots along NE Halsey Street, and requires main building entrances to orient the street.
- **Off-Street Parking:** To provide flexibility for developers, the code amendments introduce the concept of “parking credits” to developments that provide certain features or amenities. However, the recently adopted Climate-Friendly and Equitable Communities (CFEC) rules supersede the parking requirements. Per Oregon Administrative Rule (OAR) 660-012-0440, parking mandates are no longer allowed within 0.5-miles of a frequent transit corridor.

- **Design Standards:** The code amendments provide additional building design standards that promote high quality, pedestrian-oriented environments along NE Halsey Street, including minimum ground floor height and windows, weather protection, lighting, plazas and corner features.

Review of Best Practices

A Streetscape Design Toolkit was developed early in the planning process to serve as a project resource and to spark creative ideas for developing planning, design, and implementation standards to facilitate the orderly redevelopment of NE Halsey Street as a well-connected, inviting, safe and sustainable multi-modal facility. The Toolkit is broken into seven sections: Traffic Calming Features, Intersection Treatments, Pedestrian Treatments, Pedestrian Amenities, Bicycle Facilities, Civic Identity and Wayfinding, and Green Street Strategies. Each of these sections provide descriptions and photos of physical elements that, when used together, can make NE Halsey Street into a “main street”.

Stakeholder Meetings

Development of the *Main Streets on Halsey Cross Section and Street Design Plan* was overseen by staff from the three cities, Multnomah County, and ODOT, along with representatives from other local agencies, transportation service providers, and the community. Two formal committees participated in the planning process, including a Technical Advisory Committee and a Project Advisory Committee.

- The Technical Advisory Committee (TAC) consisted of representatives from city, county, region, and state agencies as well as local transportation and emergency service providers. The TAC provided technical guidance and coordination throughout the project to ensure the outcome is consistent with local and state planning efforts. TAC members reviewed and commented on technical memoranda and reports and participated in three committee meetings and public events. A list of TAC members is included in the Acknowledgements.
- The Project Advisory Committee (PAC) consisted of local residents and property owners, local business owners and operators, and local organizations, such as the Halsey Community Collaborative Committee (HC3). The PAC also included representatives from local school districts, local advocacy groups, and the planning commissions and city councils of the three cities. The PAC served as the voice of the community and the caretakers of the project goals and objectives. Much like the TAC, PAC members reviewed and commented on technical memoranda and reports and participated in committee meetings and public events. A list of PAC members is included in the Acknowledgements.

Public Outreach

The project team engaged with the public at key points throughout the planning process to better understand how people use the corridor today, what some of their challenges are, and to collect input on potential changes to the transportation system. The project team participated in tabling events in each of the three cities and held three online surveys. The project team spoke to approximately 250 people at various events and there were over 500 responses to the online surveys in English, Spanish, and Russian. The following provides a summary of key themes from the survey and the in-person events.



Survey Themes

Below are the overarching comment themes from all outreach activities.

- Most people drive throughout the area, but many also walk in addition to driving.
- Parks, greenspaces, and the open feeling of the area are important features.
- Most respondents travel through the area for shopping, to visit Edgefield, or because they live in the area. Halsey is also a direct connection to Interstate 84 (I-84).
- Overall safety was the highest priority for people who drive, bike, walk, roll, and travel through the area. This included worries about increased crime.
- Several respondents were concerned about spending tax dollars on projects they don't feel are necessary or focusing on the wrong areas.

The following comments were collected through verbal and virtual comments or survey responses regarding the design elements. The first survey confirmed what had been said in previous outreach efforts, and the second and third surveys asked for feedback on design elements.

- People were excited by the separation of bikes and pedestrians from the roadway, enhanced pedestrian crossings, and more landscaping and trees along the corridor. **This was a consistent theme for all surveys, as well as previous surveys completed during other projects.**
- Many respondents were happy to see that street parking and turn lanes were included in the plans.
- There was a desire for additional lighting, especially at crossings and at night.
- A few people mentioned protected bus shelters, bus pull outs, and continuous sidewalks/paths at Edgefield.
- There were concerns about tree and plant maintenance, and traffic calming and safety. **This was a consistent theme throughout the planning process.**
- Some people felt that the bike infrastructure will not be used much, and the plan will make it more difficult to drive along Halsey Street.
- There were mixed responses to the four bike lane options, but a painted, buffered bike lane was the most preferred in residential areas, while a sidewalk level bike lane was the most preferred for commercial areas.
- Bicyclists' top three improvements were increased lighting, improved crossings, and tied for third were improved pavement quality and separation from traffic by some type of physical barrier.
- Sidewalks separated from bike lanes by a planted strip was most preferred in commercial and residential areas.
- Pedestrian's top three improvements were increased lighting, better quality/wider sidewalks, and more greenery/landscaping.
- Of the three proposed options at Edgefield, the paved shared use path was overwhelmingly the most preferred.

In-Person Events

The project team conducted in-person events to promote the surveys and raise awareness of the project at several existing events in Troutdale, Wood Village, and Fairview as well as several events focused on reaching Spanish-speakers, Russian-speakers, youth and businesses. These outreach events included:

- **Troutdale's First Friday Art Walk (June 2, 2023):** Staff attended the event and spoke with at least 40 people, promoted the survey and handed out flyers which contained a QR code linking to the survey.
- **Wood Village Nite Out (July 21, 2023):** Staff and Emerging Leaders had a table to talk about the project and promote the survey in English and Spanish. Spanish interpretation was available for Spanish speakers. The project team spoke



with at least 50 people, some of whom took the survey immediately using electronic devices and handed out flyers that promoted the website.

- **Fairview on the Green (July 29, 2023):** City of Fairview staff asked over 100 people to select their top landscaping and bike or sidewalk options by placing a stick in corresponding jars.
- **Top Pick Landscaping Option (56 votes):** Trees / Shrubs / Groundcover in Planters with Paving in Between.
- **Top Pick Sidewalk/Bike Lane Option (86 votes):** Sidewalk Level Bike Lane - Abutting Sidewalk.
- **Troutdale Library Event (July 19, 2023):** Project staff attended a small children's Russian music event at the Troutdale Library. They spoke with three Russian speakers about the project and had them take the survey.
- **PlayEast Lunch Outreach (August 2023):** The project team partnered with PlayEast to collect information from children in the free summer lunch program which focused on Spanish-speaking youth. Staff asked about eight youth and their caregivers to place dots on desired features.
- **Troutdale Windy Wonderland (December 2, 2023):** The project team held a tabling event to highlight proposed Halsey improvements, promote the online survey, and gather feedback from approximately 40 people, who were generally enthusiastic about the planned improvements.

Image 1: Fairview on the Green



Image 2: Troutdale Windy Wonderland



III. EXISTING CONDITIONS

NE Halsey Street connects the three cities, provides access to their town centers, and connects residential neighborhoods to retail and commercial areas and other activity centers along the corridor. NE Halsey Street is also a gateway to the Columbia River Gorge and offers many of its own attractions that generate traffic. This section summarizes existing conditions along NE Halsey Street within the public right-of-way and identifies key issues that were considered in developing the linear design plan for the project corridor. The information provided in this section is based on prior phases of the *Main Streets on Halsey* project as well as recent field observations and discussions with staff from the three cities and Multnomah County.

Roadway Characteristics

NE Halsey Street is a Multnomah County facility. Therefore, Multnomah County is responsible for determining its functional classification and defining its major design elements and multimodal features. Multnomah County coordinates with the three cities to ensure that the roadway is planned, operated, maintained, and improved to safely meet public needs. This section summarizes the street design standards of Multnomah County and the three cities that apply to NE Halsey Street. This section also summarizes information on existing roadway characteristics, including motor vehicle, pedestrian, bicycle, and transit facilities, as well as intersection operations and traffic safety.

Motor Vehicle Facilities

NE Halsey Street features a three-lane cross section between NE 201st Avenue and NE 244th Avenue and between SW Edgefield Meadows Avenue (East) and SW 257th Drive. A two-lane cross section exists between 244th Avenue and SW Edgefield Meadows Avenue, which includes the segment adjacent to the McMenamins Edgefield property. The travel lanes and center turn lanes appear to be in poor condition in some areas and good condition in others. The Pavement Conditions Index (PCI) rating within Fairview ranges from 47 to 81, with the segment from 213th to 223rd at 47 and from 223rd to Wood Village at 70. The travel lanes are approximately 11 to 13-feet wide, consistent with current Multnomah County standards. NE Halsey Street has a posted speed limit of 35 mph from NE 201st Avenue to NE 244th Avenue, 40 mph from NE 244th Avenue to SW Edgefield Meadows Avenue, and 20 mph from SW Edgefield Meadows Avenue to SW 257th Drive.

On-Street parking is allowed along two short segments of NE Halsey Street west of NE 238th Drive and along several long segments between NE 238th Drive and NE 244th Avenue. The parking is separated from the adjacent travel lane by the on-street bike lanes, it appears to be in good condition and is approximately 8 to 9-feet wide, consistent with current Multnomah County standards.

Pedestrian Facilities

Sidewalks are provided on both sides of NE Halsey Street from NE 201st Avenue to NE 244th Avenue and from SW Edgefield Meadows Avenue (east) to SW 257th Drive. There are no sidewalks along the segment from NE 244th Avenue to SW Lancaster Court and intermittent sidewalks from SW Lancaster Court to SW Edgefield Meadows Avenue (east). Many of the sidewalks are curb-tight, while others have planting strips that separate them from the adjacent travel lanes. The sidewalks appear to be in good condition and approximately 6-feet wide consistent with current Multnomah County standards.

Marked crosswalks are located at all signalized intersections, many of which have countdown signal heads that can be activated by pedestrians pressing an audible push button. There are also marked crosswalks at several minor street and mid-block crossing locations, many of which have raised median islands with pedestrian refuges and Rectangular Rapid Flashing Beacons (RRFBs). The images below show examples of pedestrian facilities in a residential and commercial context along NE Halsey Street.



Image 3: Sidewalk Buffered by a Planting Strip and Parking Lane in Troutdale (Residential Context)



Image 4: Sidewalk with Tree Wells Near Commercial Plaza in Wood Village (Commercial Context)



Bike Facilities

On-street bike lanes are present along both sides of NE Halsey Street for the entire length of the corridor, including the segment adjacent to the McMenemy's Edgefield property. The bike lanes are located adjacent to the travel lanes and often between travel lanes and on-street parking. Many of the bike lanes have dashed white lane striping through potential conflict zones (right-turn lanes, on-street parking lanes, bus-pullouts, etc.). The bike lanes appear to be in good condition and approximately 6-feet wide consistent with current Multnomah County standards.

Image 5: Curb-Tight Sidewalk with a Bike Lane



Image 6: Segment Without a Sidewalk in Troutdale



Transit Facilities and Services

TriMet operates local transit service along NE Halsey. TriMet Route 77 (Broadway/Halsey) connects the Portland City Center with Fairview, Wood Village, and Troutdale, via NE Halsey Street from 201st Avenue to 257th Drive. Service is provided Monday through Friday from 6:00 AM to 12:00 AM on 30-minute headways. Limited service is provided on Saturday and Sunday. TriMet Route 21 (Sandy Blvd/223rd) connects Fairview with Parkrose and Gresham via NE Halsey Street from 223rd Avenue to 238th Drive. Service operates Monday through Friday on approximately 40-minute headways with limited service on Saturday and Sunday. TriMet has proposed upgrading Line 77 to Frequent Service as part of their next Annual

Service Plan. This change would take effect either fall 2023 or spring 2024. Frequent Service would mean 15-min headways (or better) “most of the day, every day”. TriMet is also proposing routing some trips on Line 77 to serve Troutdale-Reynolds Industrial Park.¹

TriMet Route 77 and Route 21 serve stops on both sides of NE Halsey Street. Most stops have a sign pole with basic stop information, while others have shelters and benches, some of which are unique and reflect the character of adjacent land uses. Most stops are located near major intersections with marked (and signalized) crosswalks while others are located mid-block. Several of the stops in Fairview and Wood Village include bus pull-outs that separate stop activity from through traffic. The images below provide examples of TriMet facilities and services along NE Halsey Street.

Image 7: TriMet Stop in Fairview



Image 8: TriMet Stop in Wood Village



Intersection Operations

There are five signalized intersections along NE Halsey Street within the study area. The following summarizes key characteristics of the intersections and provides information from recent traffic studies about current and projected future intersection operations, as available.

- **NE 201st Avenue/NE Halsey Street** – This is a 4-legged intersection with separate left-turn lanes on each approach and a separate right-turn lane on the westbound approach. The traffic signal includes permitted left-turn phasing at each approach². *No recent traffic operations information is available for the intersection.*
- **Fairview Parkway/NE Halsey Street** – This is a 4-legged intersection with separate left-turn lanes on each approach and a separate right-turn lane on the eastbound approach. There is also an additional westbound through lane on the east and west legs of the intersection. The traffic signal includes protected left-turn phasing at each approach and is pedestrian activated with pushbuttons and countdown signal heads. *The intersection currently meets Multnomah County performance standards which allow for relatively high levels of delay. In addition, the Fairview TSP includes a project to reconfigure this intersection as a multilane roundabout.*
- **NE Village-7th Street/NE Halsey Street** – This is a 4-legged intersection with separate left-turn lanes on each approach and a separate right-turn lane on the eastbound approach. The traffic signal includes protected left-turn phasing at each approach and can be pedestrian activated with pushbuttons and countdown signal heads. *No recent traffic operations information is available for the intersection.*

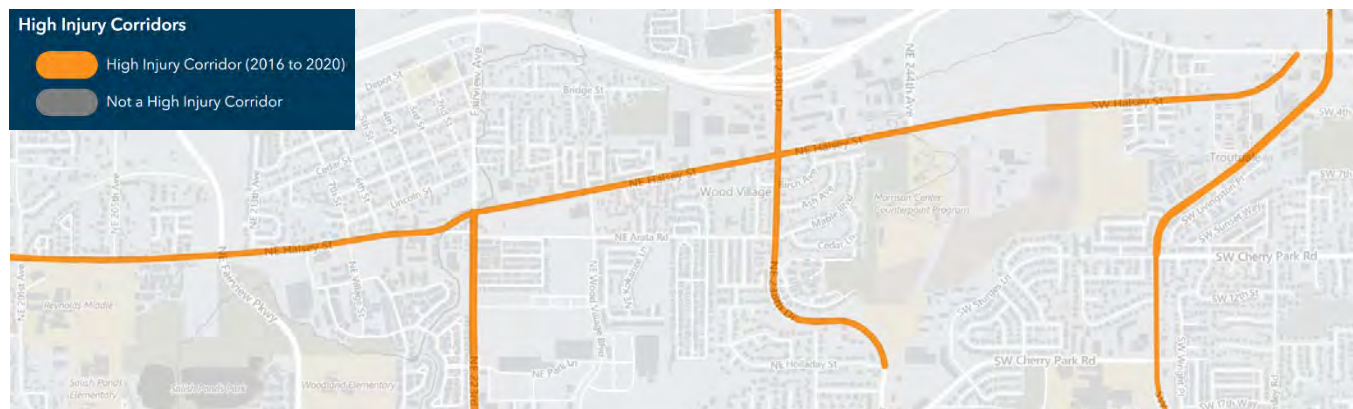
¹ <https://trimet.org/betterbus/servicechanges-fy24.htm>

² Permitted left-turn phasing requires left-turning motorists to yield to oncoming traffic whereas protected left-turn phasing provides a dedicated signal phase allowing left-turning motorists to proceed without needing to yield to oncoming traffic.

- **NE 223rd Avenue/NE Halsey Street** – This is a 4-legged intersection with separate left-turn lanes on each approach and a separate right-turn lane on the eastbound, westbound, and northbound approaches. The traffic signal includes protected left-turn phasing at each approach and can be pedestrian activated with pushbuttons and countdown signal heads. *The intersection currently meets Multnomah County performance standards.*
- **NE 238th Drive/NE Halsey Street** – This is a 4-legged intersection with separate left-turn lanes on each approach and a separate right-turn lane on the westbound approach. The traffic signal includes protected left-turn phasing at each approach and can be pedestrian activated with pushbuttons and countdown signal heads. *The intersection currently meets Multnomah County performance standards.*
- **NW Graham Road-SW 257th Drive/NE Halsey Street** – This is a 4-legged intersection with separate left-turn lanes on each approach and a separate right-turn lane on the eastbound and westbound approaches. The traffic signal includes protected left-turn phasing at each approach and can be pedestrian activated with pushbuttons and countdown pedestrian signal heads. *The intersection currently meets Multnomah County performance standards.*

Traffic Safety

NE Halsey Street is identified as a high injury corridor in the 2023 Regional Transportation Plan (RTP). Per the RTP, high injury corridors are major travel routes with high occurrences of fatal and severe injury crashes. They are also where people tend to travel the most, where they run to catch the bus, cross the street to get to schools and shops, ride their bikes or drive. Furthermore, Halsey Street is in a RTP equity focus area – areas with high concentrations of people of color, people with low incomes and low English. High injury corridors are identified in the RTP to help prioritize near-term investments. The RTP seeks to advance projects on high injury corridors to reduce the likelihood and severity of crashes for all modes, including projects that fill gaps for biking and walking or that provide connections to transit, schools, jobs, and 2040 Regional and Town Centers. Metro maintains an interactive map of the high injury corridors as shown below.³



Historical crash data was obtained from the Oregon Department of Transportation (ODOT) crash data portal for the five-year period from January 1, 2017 through December 31, 2021. The data includes the total number and severity of crashes that occurred along the project corridor over the five-year period. Based on the data, 228 crashes were reported along the project corridor over the five-year period, including one fatal, six severe injury, 126 moderate/minor injury, and 95 property damage only. Further review of the data shows that four crashes involved pedestrians and three involved bikes – all the pedestrian and bicycle-related crashes resulted in a minor to moderate injury.

³ Metro 2016-2020 High Injury Corridors: <https://experience.arcgis.com/experience/6b5ae16aad814e6e81546bcc4ffdf964>

Natural Resources

Several remnant natural resources and recreational opportunities along the project corridor provide residents and visitors connections to nature and outdoor activities. These include (listed from west to east):

- The east end of the Gresham Fairview Trail
- Sports fields at Reynolds Middle School
- Salish Pond City Trail crosses under Fairview Parkway and the power lines
- Fairview Creek has sections of open channel adjacent to the street, and crosses under west of 223rd
- Marilyn's Park, a pocket park on Fairview Creek
- A wetland just west of the Ukrainian Bible Church
- A strip of mature forest provides an informal trail connection from Halsey Street to Fairview Woods Wetland Park
- Donald L. Robertson Park has a playground, basketball, sports fields, and nature trails
- Arata Creek has sections of open channel adjacent to the street, and crosses under at 244th
- McMnamins Edgefield has open farmlands and woodlands adjacent to Halsey Street and hosts outdoor concerts, golf, food, drink, and overnight accommodations

Urban Design Elements

Halsey Street is enhanced by the following architectural landmarks and urban outdoor spaces:

- "The Fork", a large sculpture on the corner of 223rd and Halsey at the Fairview Food Plaza
- The Byway retail center at 238th and Halsey is marked by a tall wood tower, reminiscent of a fire lookout. It also features an open corner plaza around the tower. This commercial and residential development is one of the first to be completed under the Main Streets on Halsey vision.
- McMnamins Edgefield and its surrounding facilities are on the National Register of Historic Places.
- Troutdale Station Food Carts, accessed from 257th, a block south of Halsey
- The Troutdale gateway arch spans the Historic Columbia River Highway just east of the project corridor, marking the entry to downtown Troutdale

The images below illustrate two of the many natural resources and urban design elements along the project corridor, including the Arata Creek crossing and the Fairview Fork.

Image 9: Arata Creek Crossing Under NE Halsey Street Near Donald L Robertson City Park



Image 10: Fairview Fork – The World's Largest Fork Near the Fairview Food Plaza



Adjacent Land Uses

A wide variety of land uses occur along NE Halsey Street, with relatively even distribution throughout the study corridor. General uses include:

- Residential, including single- and multi-family homes
- Commercial, including retail, dining, offices, and lodging
- Light industrial
- Public services, parks, and infrastructure
- Schools
- Churches
- Vacant/undeveloped lots
- Farming
- Destination Resort

Notable individual users of the NE Halsey Street frontage are listed below (from west to east) Some of these, such as the schools and Edgefield, can generate a high level of pedestrian and bicycle activity.

- Reynolds Middle School
- Target
- VA Outpatient Clinic
- City of Fairview water reservoirs
- Fairview Food Plaza
- Multnomah Learning Academy
- PG&E substation
- Ukrainian Bible Church
- Fairview Oaks and Fairview Woods Apartments
- Wood Village City Hall
- McMenamins Edgefield

Image 11: McMenamins Edgefield



Image 12: The Byway



Key Issues

Key issues to consider in developing a cross section for NE Halsey Street are discussed throughout this plan and summarized below:

- NE Halsey Street is a Multnomah County facility classified as a minor arterial. Multnomah County is responsible for defining its major design elements and multimodal features. Multnomah County's Design and Construction Manual provides street design standards for the roadway that provide some flexibility in its design. These design standards were considered in developing this plan. Multnomah County will likely update its Road Rules and Design and Construction Manual in the next few years. Therefore, these standards will be under review.
- NE Halsey Street has mostly been developed to Multnomah County's street design standards with consistent motor vehicle, pedestrian, bicycle, and transit facilities along most of the corridor – there are gaps in the sidewalk network between NE 244th Street and SW Edgefield Meadows Drive. However, the facilities do not provide a comfortable environment for people walking, biking, or taking transit. In addition, the facilities tend to encourage high traffic volumes and travel speeds along the corridor, especially from through and heavy vehicle traffic.
- NE Halsey Street has many existing and well-established natural features and urban design elements that encourage crossing activity at key locations along the corridor. These features and elements were considered and emphasized when developing this plan, especially when identifying enhanced crossing locations.
- The three cities have been actively planning for the redevelopment of NE Halsey Street for several years. As a result, the community has been engaged on several occasions on the form and function of NE Halsey Street. Their past input was considered and incorporated into the planning process.
- Recommendations from prior planning efforts, such as previous phases of the Main Streets on Halsey project, were considered in developing the plan, including the typical cross section, enhanced crossing locations, and intersection treatments.
- Unless a significant source of funding is identified to implement the plan, it will likely be implemented in a piecemeal manner, or as development occurs. Therefore, it was important to consider how the design features would be integrated with the existing cross section.

Cross Section Design Objectives

Cross section design objectives were developed for the project corridor based on the overall project goals and objectives as well as a discussion with the project team on desired outcomes. These objectives were used to guide the development of alternative cross sections and to select a preferred cross section for each segment of the project corridor. These objectives were refined based on input from the project team, the project advisory committees, and the public through the public involvement process.

- Provide transportation facilities and services that engage with adjacent land uses and natural features along the corridor, such as schools, parks, creeks, and creek crossings.
- Provide pedestrian and bicycle facilities that are continuous, comfortable, and engage with adjacent land uses. Facilities should be separated from motor vehicle traffic and be of sufficient width and condition to promote multimodal trips.
- Provide safe and convenient pedestrian and bicycle crossings that enhance access to adjacent land uses. Crossings should be conveniently spaced and reflect the traffic volumes, travel speeds and context of the surrounding area. Crossings should not interfere with driveway operations.
- Create pedestrian spaces and plazas at appropriate places along the corridor.



- Provide planting strips, bioswales, tree wells, and/or other facilities that accommodate street trees and other plantings. Facilities should separate motor vehicle traffic from other traffic where feasible
- Provide transit facilities that enhance access to local transit service. Facilities should engage with adjacent land uses and provide safe, comfortable, and convenient pedestrian access to transit.
- Provide amenities that reflect the context of the surrounding area and the needs of adjacent land uses, such as benches, trash cans, café tables, signage, streetlights, banners, etc.
- Continue to allow for safe motor vehicle traffic and provide facilities that accommodate heavy truck traffic for deliveries to adjacent land uses.
- Help to unify the corridor by reinforcing the proposed branding program of Halsey Parkway through the three cities.

IV. THE PLAN

The streetscape and roadway design plan are presented below. The Plan includes cross sections for the different context zones along the corridor (residential, commercial, Edgefield), intersection treatments at three major intersections (NE 223rd Avenue, NE 238th Drive, SW 257th Drive), and enhanced crossings at multiple locations. Based on direction provided by the project team, the Plan includes both near-term and long-term solutions.

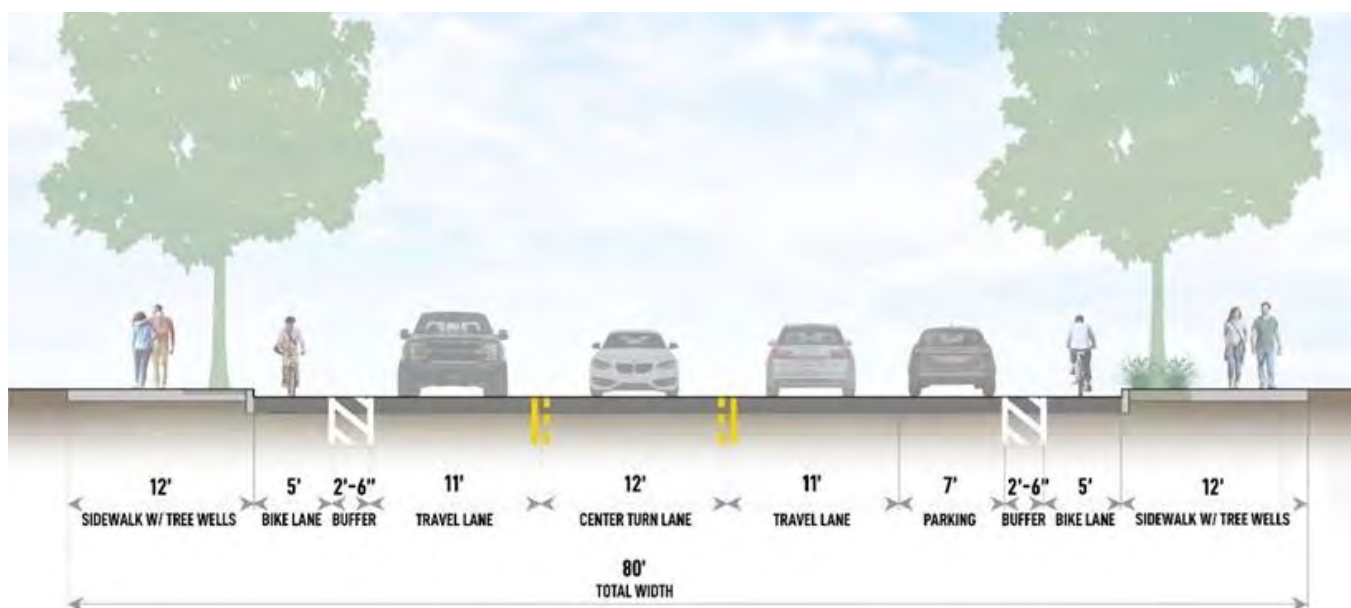
Near-Term Solutions

This section summarizes the near-term solutions for the NE Halsey Street corridor that could be achieved primarily through signing and striping modifications. These solutions should be considered as interim measures until the planned cross sections, intersection treatments, and enhanced crossings can be constructed. These are low-cost solutions that can potentially improve comfort and safety of various users as well as encourage slower driving speeds, which is a major concern along NE Halsey Street.

Near-Term Cross Sections

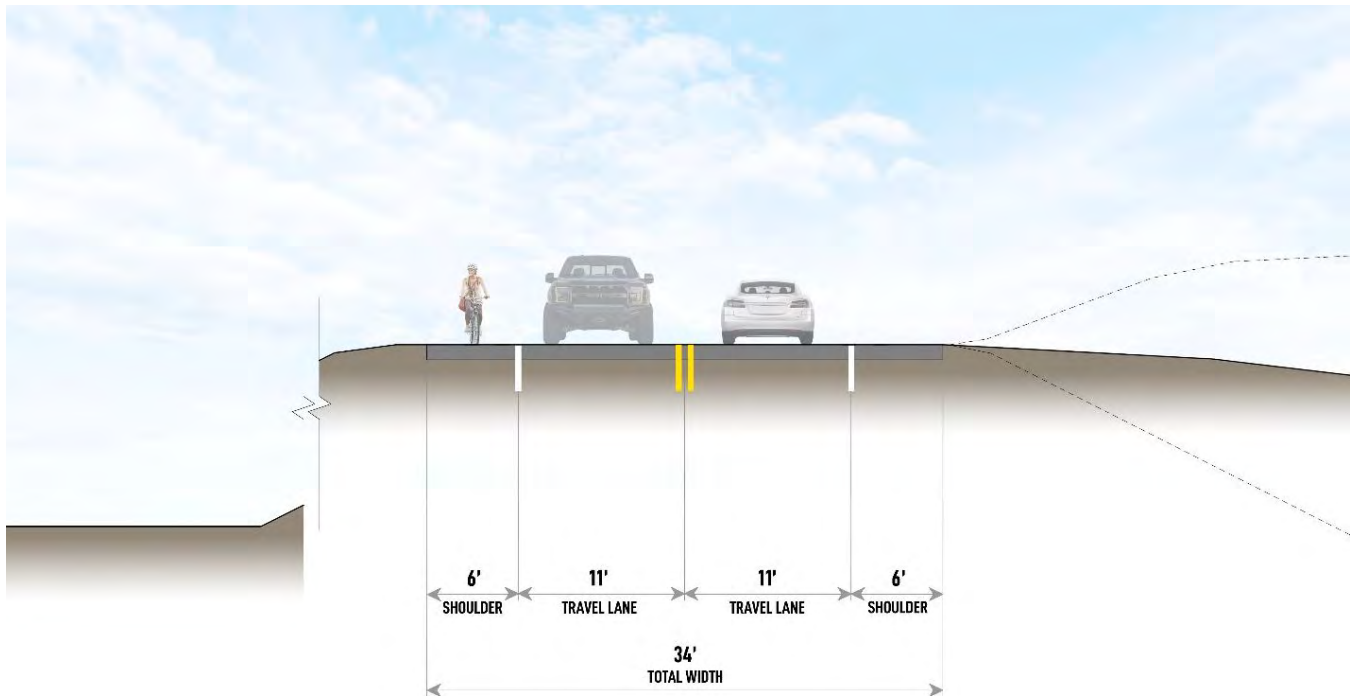
The near-term cross section for most of the NE Halsey street corridor reduces the width of the center turn lanes and travel lanes to dedicate more width to the bicycle lanes, allowing for painted buffers with each on-street bike lane. The sidewalks and planting strips remain unchanged, and the overall roadway width remains the same. Most of the corridor currently has 12-foot travel lanes and 13-foot center turn lanes, and some segments have even wider travel lanes. The near-term cross section proposes to restripe the travel lanes as 11 feet, the center turn lane as 12 feet, and the bike lanes as 5 feet, in which case the remaining 2 to 6-feet can be dedicated to the bike lane buffer. At locations where the bike lane buffer is at least 3 feet, diagonal chevron striping should be provided within the buffer as well. In locations where parking is provided, the bike lane should be located on the inside of the parking lane and a door zone buffer should be provided, as feasible. Figure 3 illustrates an example of the near-term cross section within a commercial context zone with on-street parking on one side.

Figure 3. Near-Term Cross Section



Along the Edgefield section, the existing travel lanes are 11 feet wide, while the shoulder bike lanes are 4 feet wide. The near-term cross section includes widening the shoulder bike lanes to 6-feet along the entire Edgefield segment. This wider shoulder bike lane can also be used by people walking, as there is no existing sidewalk on this segment. In addition, the resulting width of the roadway would be consistent with the long-term solution for the Edgefield context zone as described below. Figure 4 illustrates the near-term cross section along the Edgefield segment.

Figure 4. Near-Term Cross Section – Edgefield Segment



Additionally, the near-term solution includes speed feedback signs at multiple locations along the corridor, as speeding is one of the major corridor concerns. According to the Oregon Department of Transportation, speed feedback signs provide 10% reduction in crashes of all types and severities.

Near-Term Intersection Treatments

Figures 5, 6, and 7 illustrate the near-term intersection treatments at three major intersections along NE Halsey Street. As shown, most of the treatments involve signing and striping modifications, while other potential treatments involve changes to the traffic signal equipment. The signing and striping modifications include:

- High visibility crosswalks on all legs. The presented crosswalks use perpendicular bar or ladder style markings, but they can be replaced with longitudinal bar or continental style markings.
- Advanced stop bars within all approaching lanes.
- Green bike lane conflict striping at driveways, bus pullouts, and at the beginning of right-turn lanes.
- Green bike lanes on all intersection approaches.
- Shared lane pavement markings within shared bike/right-turn lanes (SW 257th Drive only).

Other potential near-term treatments include:

- Improved lighting, as necessary to meet or exceed City and/or County standards.
- Countdown pedestrian signal heads, as necessary to meet requirements.⁴
- Leading pedestrian intervals, as feasible with existing signal controllers.⁵
- No right-turn on red, as feasible without significantly impacting traffic operations.

Figure 5. Near-term Intersection Treatments – NE 223rd Avenue



⁴ Countdown pedestrian signal heads display the number of seconds to safely cross the street.

⁵ Leading pedestrian intervals, or LPI, gives pedestrians a head start before motorists get a green light at an intersection.

Figure 6. Near-term Intersection Treatments – NE 238th Drive

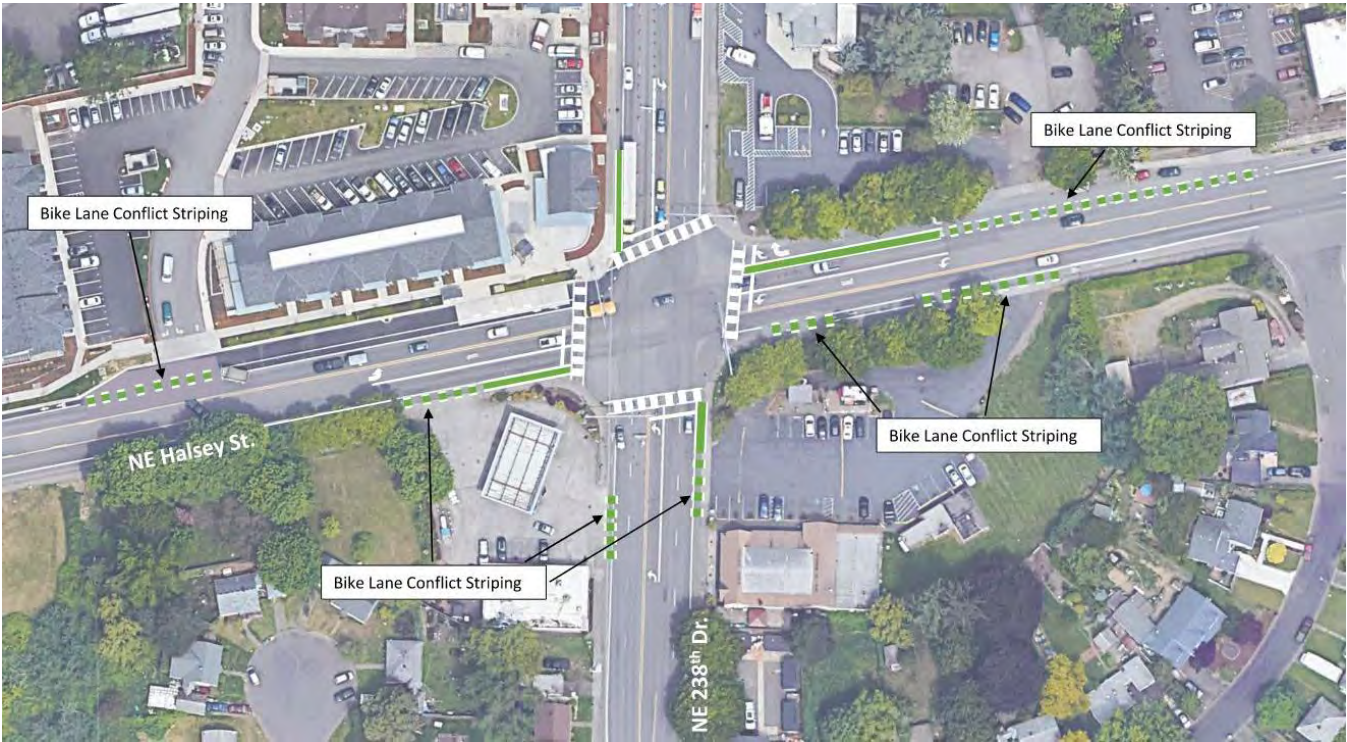


Figure 7. Near-term Intersection Treatments – SW 257th Drive



Near-Term Enhanced Crossing Locations

The enhanced crossings section below presents a detailed overview of enhanced crossings along the corridor, including their locations and treatments. Certain crossings can be constructed on a near-term basis, as the only portion of these crossings that would require rebuilding as the complete cross section is constructed are the pedestrian ramps along the sidewalks. The pedestrian refuge islands at these crossings will remain in the same location in the near term, as in the long term. Figure 8 below presents the near-term enhanced crossing locations.

As funds become available, the following crossings can be constructed in the near term:

- In front of Reynold Middle School, east of NE 201st Avenue
- West of NE 227th Avenue, in front of the MLA Public Charter School
- West of NE 230th Court
- West of NE 238th Drive, near Flair Apartments

Additionally, the following existing crossings can also be improved in the near term:

- East of NE 206th Avenue – redesign existing refuge islands
- East of NE 213th Avenue – redesign existing refuge islands
- Intersection with W Historic Columbia River Highway – install RRFB's and advance warning signs

Figure 8. Near-Term Enhanced Crossing Locations



Long-Term Solutions

This section summarizes the long-term streetscape and roadways design solutions for the NE Halsey Street corridor. These long-term solutions include typical cross sections, intersection treatments, and enhanced crossings along the corridor.

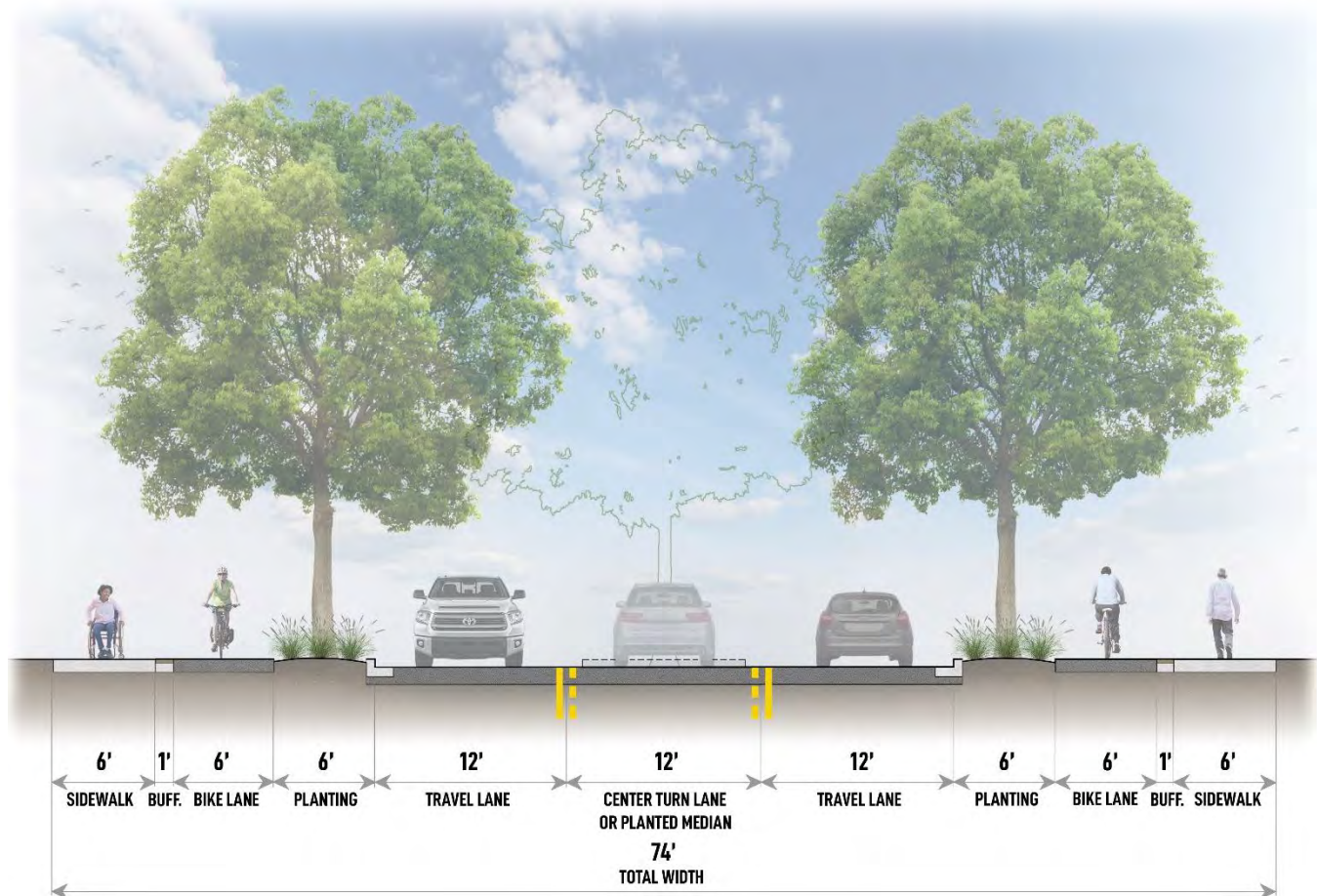
Typical Cross Sections

The typical cross sections for the residential, commercial, and Edgefield context zones are presented below. In order to provide continuity along the entire corridor, the layouts of the cross sections are very similar. Each context zone includes landscape strips, sidewalk-level separated bike lanes, buffers, and sidewalks. The elements that provide distinction for each context zone include presence of parking, type and width of planting strips, and width of sidewalks.

Residential Cross Section

The typical cross section for the residential context zone is shown in Figure 9. This cross section includes two 12-foot travel lanes (inclusive of two 1-foot gutters) and a 12-foot center turn lane or planted median. The cross section also includes 6-foot sidewalks, 6-foot bike lanes, and 6-foot planting strips on both sides. There is also a 1-foot buffer between the sidewalks and bike lanes to provide clear separation between the facilities and improve the comfort of people walking and biking. The total width of the cross section is 74-feet, which is wider than Multnomah County's current preferred cross section width (70-feet), but narrower than the County's current preferred right-of-way width (90-feet).⁶

Figure 9. Residential Context Zone



Cross section notes:

1. Planted medians will only occur where there are no driveways or intersections.
2. Planting strips are continuous except for short, paved sections adjacent to on-street parking or in-lane bus stops.
3. Planting strips may be reduced or eliminated in constrained environments.
4. Stormwater facilities may be used in place of the planting strips in some areas.
5. Where on-street parking is provided, planting strips would be 8' long at each tree, with special paving in the strip between the planters.

⁶ Right-of-way within the residential areas currently varies from 80 to 90 feet depending on the location.

On-street parking may be provided on at least one side of the roadway where right-of-way allows; however, on-street parking is generally not desirable within the residential context zone. Figure 10 illustrates a plan view of the typical cross section, including an enhanced pedestrian crossing and in-lane bus stop.

Figure 10. Residential Context Zone Enlargement



LEGEND

-  STREET LIGHTING
-  RECTANGULAR RAPID FLASHING BEACON

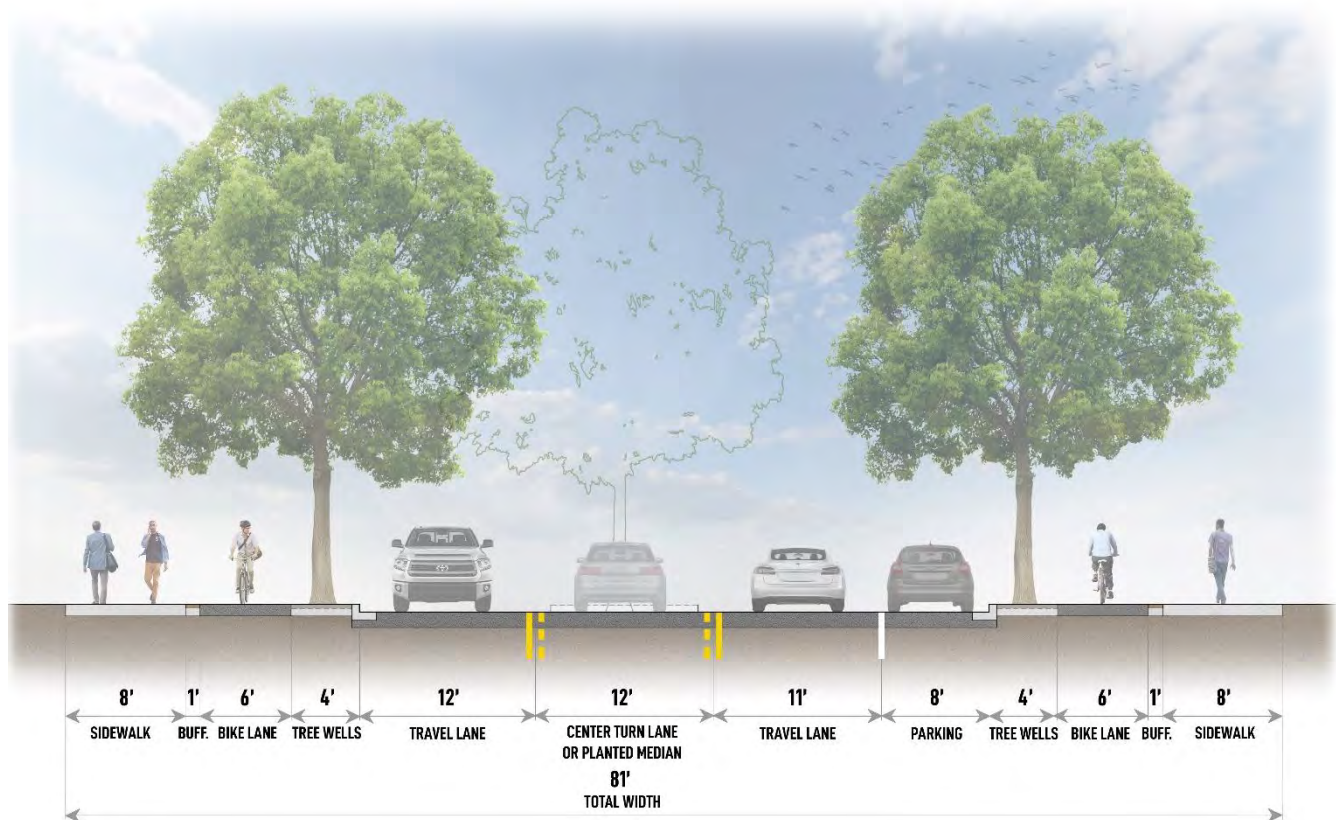
KEY NOTES

- | | | |
|---------------------------------------|---------------------------|--------------------------------|
| 1 BUS STOP | 5 BIKE LANE | 9 PROPOSED STREET TREES |
| 2 ENHANCED PEDESTRIAN CROSSING | 6 PLANTING | |
| 3 SIDEWALK | 7 CENTER TURN LANE | |
| 4 BUFFER - SPECIAL PAVING | 8 TRAVEL LANE | |

Commercial Cross Section

The typical cross section for the commercial context zone is shown in Figure 11. This cross section includes one 12-foot curbside travel lane (inclusive of a 1-foot gutter), one 11-foot parking adjacent travel lane, a 12-foot center turn lane or planted median, and an 8-foot parking lane on one side (inclusive of a 1-foot gutter). The cross section also includes 8-foot sidewalks, 6-foot bike lanes, and 4-foot tree wells on both sides. There is also a 1-foot buffer between the sidewalks and bike lanes to provide clear separation between the facilities and improve the comfort of people walking and biking. The total width of the cross section is 81-feet, which is wider than Multnomah County's current preferred cross section width (70-feet – excluding on-street parking), but narrower than the County's current preferred right-of-way width (90-feet).⁷

Figure 11. Commercial Context Zone (Type A)



Cross section notes:

1. Planted medians will only occur where there are no driveways or intersections.
2. Tree wells are 4' x 6' with special paving between.
3. Tree wells will include tree grates to maximize space for transitioning to the roadway.
4. On-street parking and/or tree wells may be eliminated in constrained environments.
5. Where on-street parking is not provided, both curbside lanes should be 12-feet (inclusive of 1-foot gutters).

⁷ Right-of-way within the commercial areas currently varies from 80 to 90 feet depending on the location.

Figure 12 illustrates a plan view of the preferred cross section, including an enhanced pedestrian crossing and on-street parking on one side.

Figure 12. Commercial Context Zone Enlargement (Type A)



LEGEND

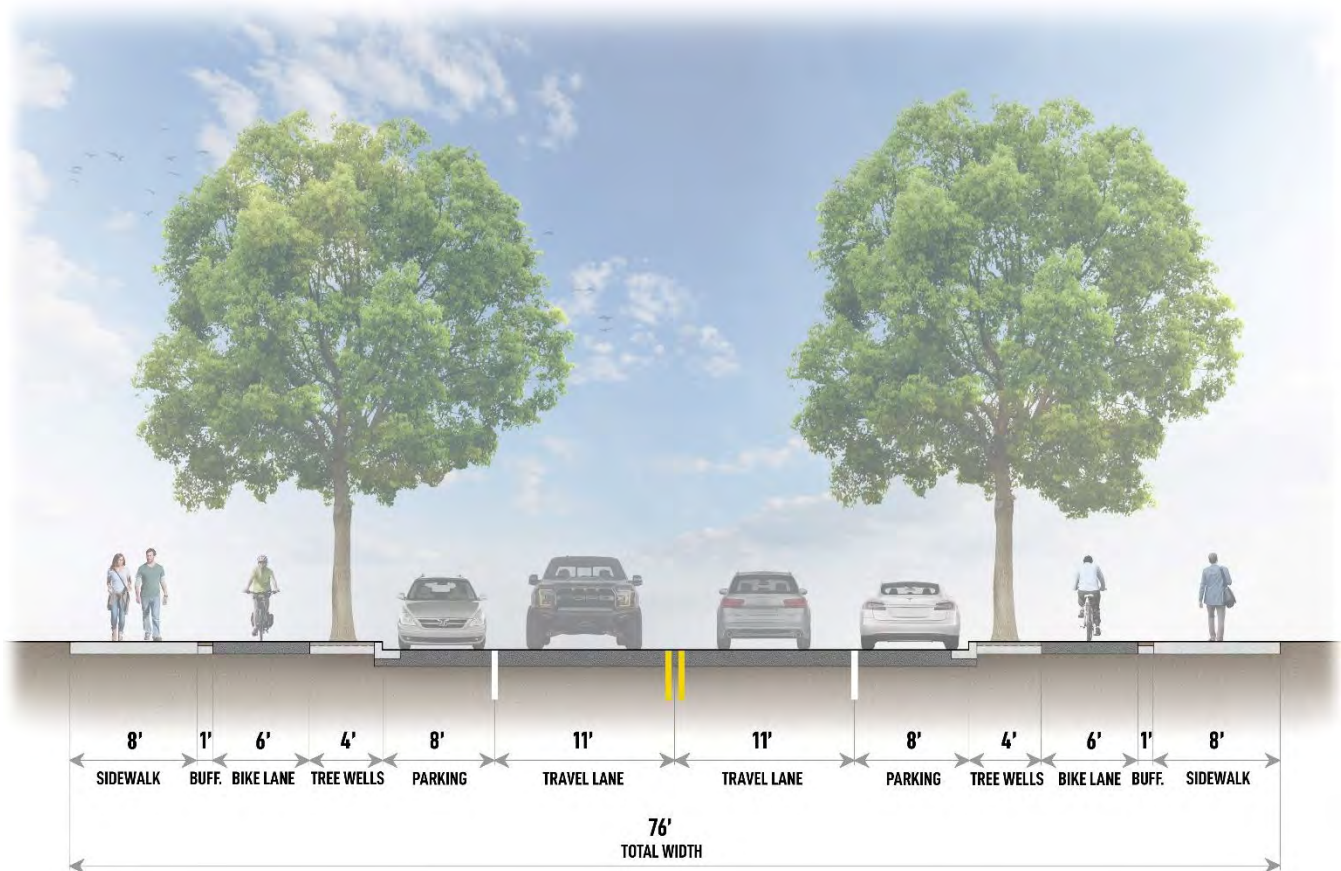
- STREET LIGHTING
- RECTANGULAR RAPID FLASHING BEACON
- TRASH RECEPTACLE
- BENCH

KEY NOTES

- | | | |
|---------------------------------------|---------------------------|---|
| 1 ENHANCED PEDESTRIAN CROSSING | 5 BIKE LANE | 9 PROPOSED STREET TREES W/ TREE GRATES |
| 2 BIKE RACK | 6 FURNISHING ZONE | 10 PARKING |
| 3 SIDEWALK | 7 CENTER TURN LANE | |
| 4 BUFFER - SPECIAL PAVING | 8 TRAVEL LANE | |

On-street parking may also be provided on both sides of the roadway within the commercial context zone; however, it would likely require eliminating the center turn lane and reconfiguring the roadway with a two-lane cross section. An example of a two-lane cross section with on-street parking on both sides is shown in Figure 13. This cross section layout is shown in the linear design plan along a portion of the corridor in Fairview, between NE Village Street and NE 223rd Avenue, but could also be applied elsewhere.

Figure 13. Commercial Context Zone (Type B)



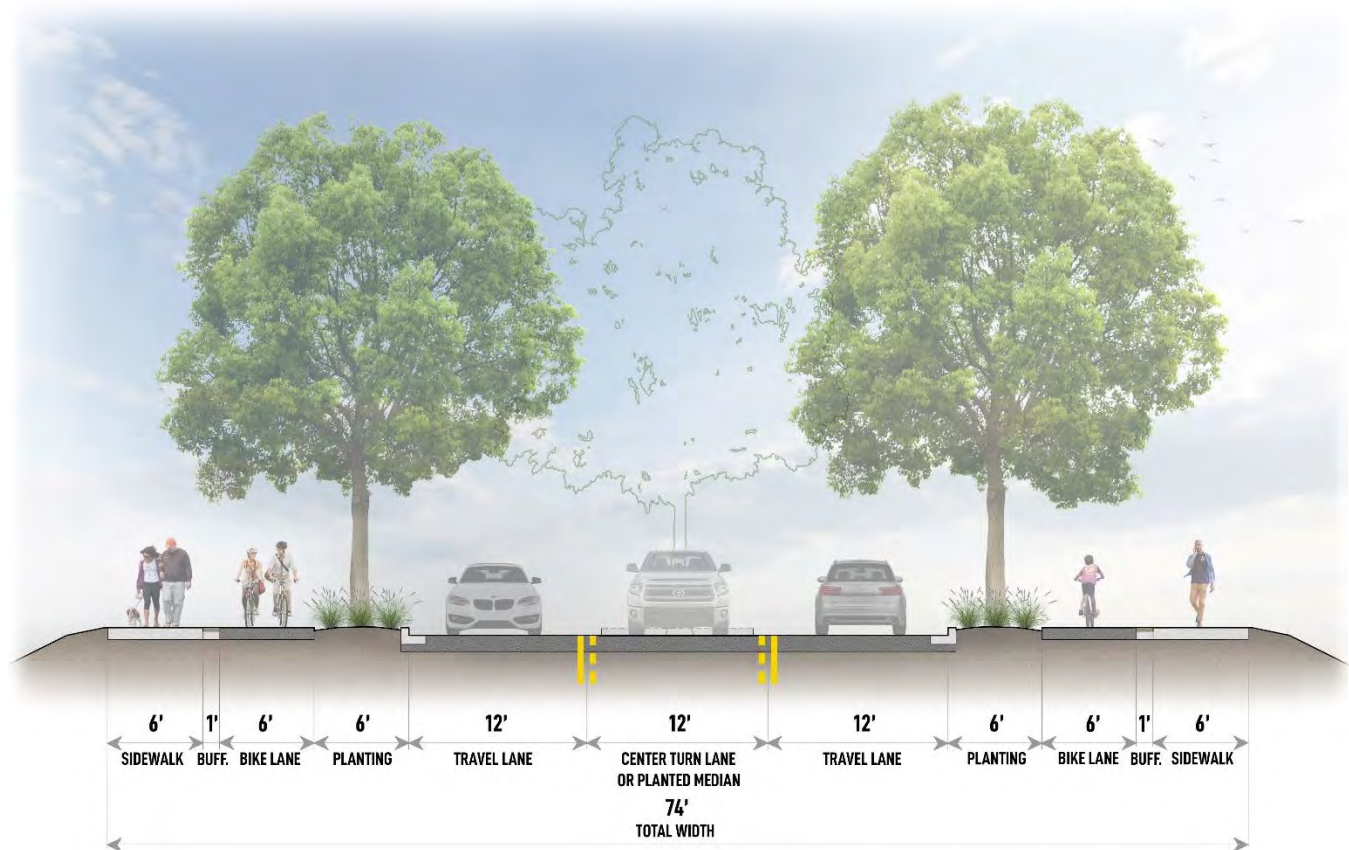
Cross section notes:

1. Tree wells are 4' x 6' with special paving between.
2. Tree wells will include tree grates to maximize space for transitioning to the roadway.
3. On-street parking and/or tree wells may be eliminated in constrained environments.

Edgefield Cross Section

The typical cross section for the Edgefield context zone is shown in Figure 14. This cross section includes two 12-foot travel lanes (inclusive of two 1-foot gutters) and a 12-foot center turn lane or planted median. The cross section also includes 6-foot sidewalks, 6-foot bike lanes, and 6-foot tree wells on both sides. There is also a 1-foot buffer between the sidewalks and bike lanes to provide clear separation between the facilities and improve the comfort of people walking and biking. The total width of the cross section is 74-feet, which is wider than Multnomah County's current preferred cross section width (70-feet), but narrower than the County's current preferred right-of-way width (90-feet).

Figure 14. Edgefield Context Zone

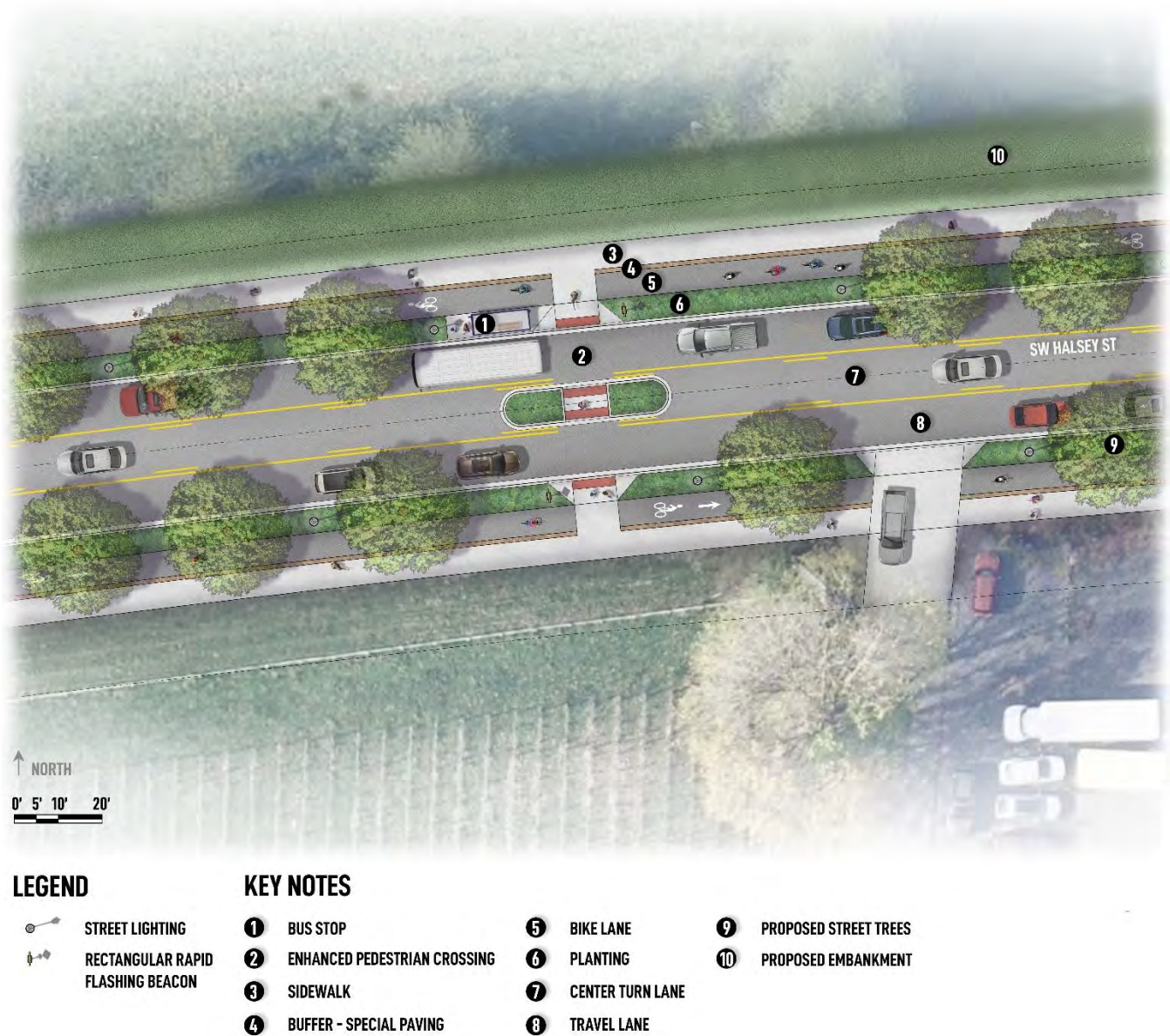


Cross section notes:

1. Planted medians will only occur where there are no driveways or intersections.
2. Planting strips are continuous except for short, paved sections adjacent to in-lane bus stops.
3. Planting strips may be reduced or eliminated in constrained environments.
4. Stormwater facilities may be used in place of the planting strips in some areas.

On-street parking may be provided on at least one side of the roadway where right-of-way allows; however, on-street parking is generally not desirable within the Edgefield context zone. Figure 15 illustrates a plan view of the preferred cross section, including an enhanced pedestrian crossing and in-lane bus stop.

Figure 15. Edgefield Context Zone Enlargement



Intersection Treatments

The intersection treatments for the NE 223rd Avenue, NE 238th Drive, and SW 257th Drive intersections are presented below. These treatments are intended to improve multimodal access and circulation along the corridor without significantly impacting the capacity of the intersections or limiting the potential for large truck turning movements. In order to provide continuity along the corridor, the types of treatments included at each intersection are similar.

NE Halsey Street/NE 223rd Avenue

The intersection treatments at the NE Halsey Street/NE 223rd Avenue intersection are illustrated in Figure 16. The treatments include several enhanced features, including:

- Improved lighting, as necessary to meet City and/or County standards.
- Improved signal equipment, including: countdown pedestrian signal heads, as necessary to meet MUTCD requirements; leading pedestrian intervals, as feasible with existing signal controllers; and no right-turn on red, as feasible without significantly impacting traffic operations.
- Improved signing and striping, including: high visibility crosswalk signs and pavement markings on all legs, advanced stop bars within all approaching lanes, green bicycle crossing striping on all legs
- Limited or restricted access to land uses in the southwest corner of the intersection

Figure 16. NE 223rd Avenue & NE Halsey Street Intersection Treatments



KEY NOTES

- | | |
|---------------------------|--|
| ① PARKING | ⑤ FURNISHING ZONE |
| ② SIDEWALK | ⑥ TRAVEL LANE |
| ③ BUFFER - SPECIAL PAVING | ⑦ PROPOSED STREET TREES W/ TREE GRATES |
| ④ BIKE LANE | ⑧ BUS STOP |

Final design of the NE Halsey Street/NE 223rd Avenue intersection should consider potential impacts to adjacent properties, including access. It should also consider the potential for protected intersection and other enhanced treatments, as feasible. Finally, it should consider the needs of large trucks when designing the approach lanes and corner radii. Figure 17 below presents a draft concept developed as part of a separate project.

Figure 17. NE 223rd Avenue & NE Halsey Street Protected Intersection Concept

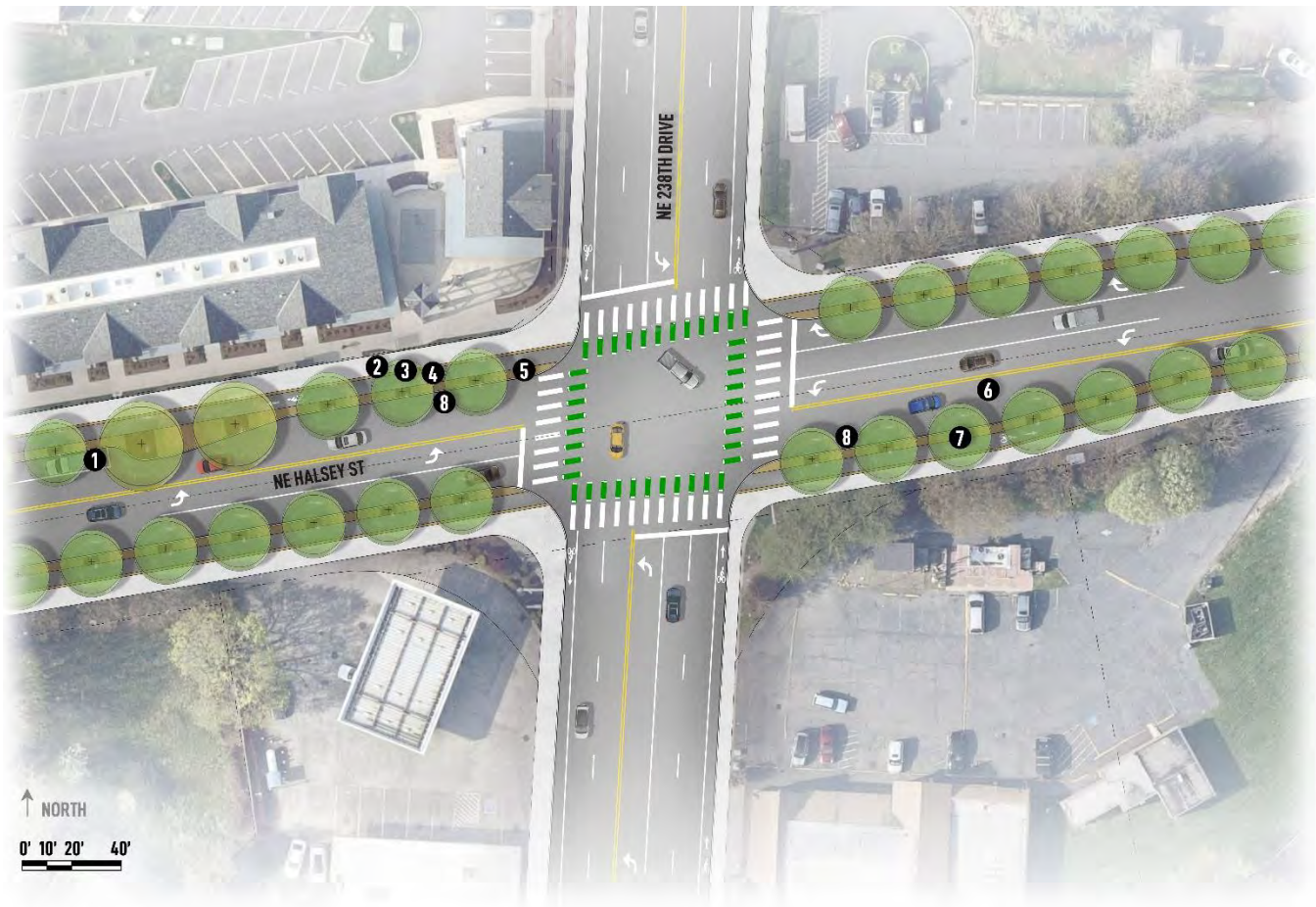


NE Halsey Street/NE 238th Drive

The intersection treatments at the NE Halsey Street/NE 238th Drive intersection are illustrated in Figure 18. The treatments include several enhanced features, including:

- Improved lighting, as necessary to meet City and/or County standards.
- Improved signal equipment, including: countdown pedestrian signal heads, as necessary to meet MUTCD requirements; leading pedestrian intervals, as feasible with existing signal controllers; and no right-turn on red, as feasible without significantly impacting traffic operations.
- Improved signing and striping: high visibility crosswalk signs and pavement markings on all legs, advanced stop bars within all approaching lanes, green bicycle crossing striping on all legs

Figure 18. NE 238th Drive & NE Halsey Street Intersection Treatments



KEY NOTES

- | | |
|---------------------------|--|
| ① PARKING | ⑤ FURNISHING ZONE |
| ② SIDEWALK | ⑥ TRAVEL LANE |
| ③ BUFFER - SPECIAL PAVING | ⑦ PROPOSED STREET TREES W/ TREE GRATES |
| ④ BIKE LANE | ⑧ BUS STOP |

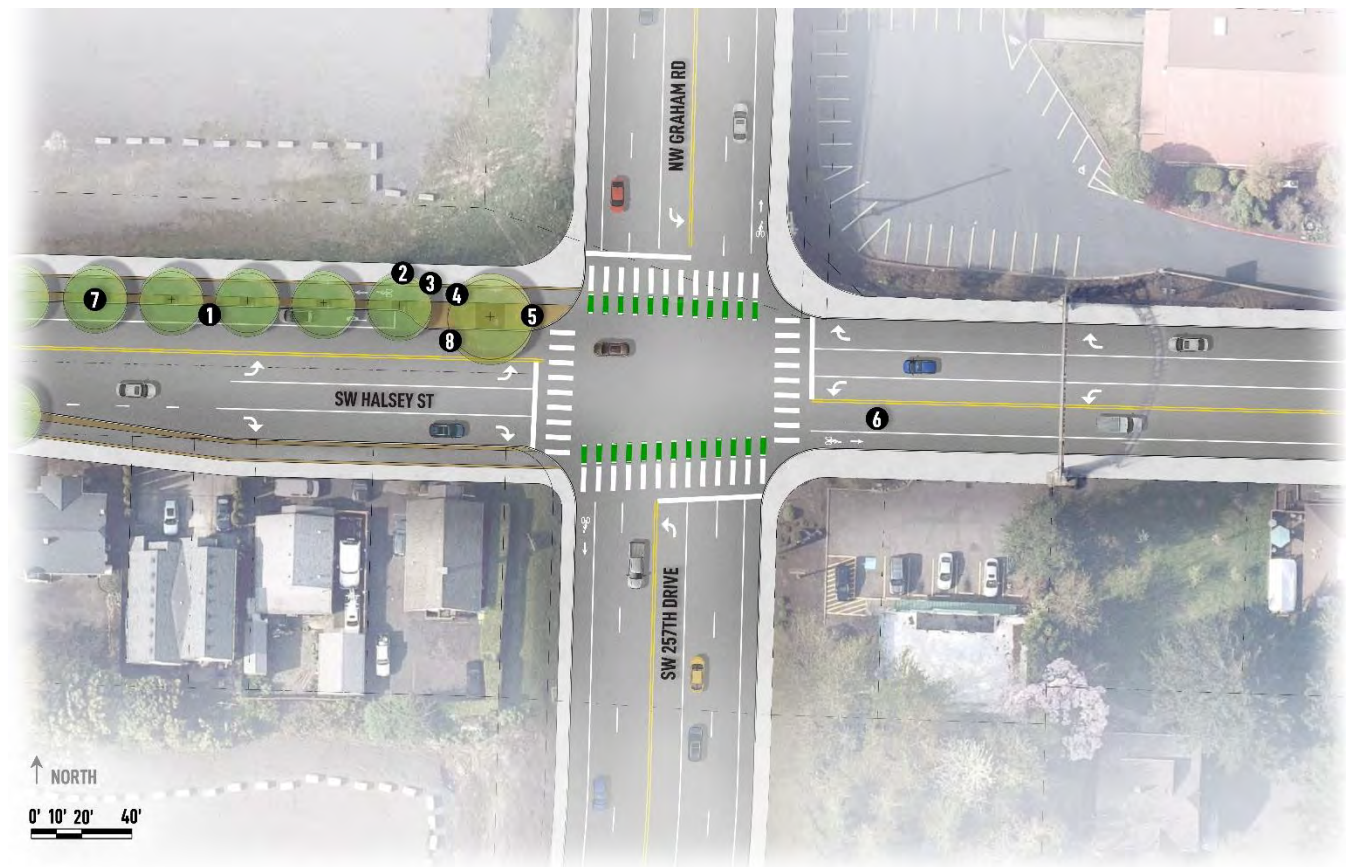
Final design of the NE Halsey Street/NE 238th Drive intersection should consider potential impacts to adjacent properties, including access. It should also consider the potential for protected intersection and other enhanced treatments, as feasible. Finally, it should consider the needs of large trucks when designing the approach lanes and corner radii.

NE Halsey Street/SW 257th Drive

The intersection treatments at the NE Halsey Street/SW 257th Drive intersection are illustrated in Figure 19. The treatments include several enhanced features, including:

- Improved lighting at all intersection corners
- Improved signal equipment, including: countdown pedestrian signal heads, as necessary to meet MUTCD requirements; leading pedestrian intervals, as feasible with existing signal controllers; and no right-turn on red, as feasible without significantly impacting traffic operations.
- Improved signing and striping: high visibility crosswalk signs and pavement markings on all legs, advanced stop bars within all approaching lanes, green bicycle crossing striping on all legs.

Figure 19. SW 257th Drive & SW Halsey Street Intersection Treatments



KEY NOTES

- | | |
|---------------------------|--|
| ① PARKING | ⑤ FURNISHING ZONE |
| ② SIDEWALK | ⑥ TRAVEL LANE |
| ③ BUFFER - SPECIAL PAVING | ⑦ PROPOSED STREET TREES W/ TREE GRATES |
| ④ BIKE LANE | ⑧ BUS STOPS |

Final design of the NE Halsey Street/SW 257th Drive intersection should consider potential impacts to adjacent properties, including access. It should also consider the potential for protected intersection and other enhanced treatments, as feasible. Finally, it should consider the needs of large trucks when designing the approach lanes and corner radii, as well as the potential for northbound U-turns.

Enhanced Crossings

NE Halsey Street currently has numerous enhanced crossings at major intersections and midblock locations within the study corridor; however, there are several long stretches between intersections with no designated crossings. These are an inconvenience for residents and other pedestrians who go out of their way to use the designated crossings, and a potential safety hazard when they choose to cross the street between designated crossings.

Crossing Treatments

The typical components of an enhanced crossing increase user safety and comfort by reducing the crossing distance and by providing appropriate signage, striping, and beacons. Figure 20 illustrates the following components included in the linear design plan at all mid-block crossings along NE Halsey Street:

- Continental style crosswalk markings
- Advanced stop bars with “Stop Here for Pedestrians” signage
- Crosswalk signage
- Rectangular Rapid Flashing Beacons (RRFBs) with audible pushbuttons

Additionally, 3-lane segments include pedestrian refuge islands, as shown in Figure 20, and locations with on-street parking include curb extensions, as shown in Figure 21.

Figure 20. Typical Enhanced Pedestrian Crossing with a Refuge Island



Image Source: Google Maps Streetview

Figure 21. Example Pedestrian Crossing with a Refuge Island and Curb Extensions (Portland, Oregon)



Image Source: Google Maps Streetview

Crossing Locations

The linear design plan identifies 13 new enhanced crossing locations along the corridor, which brings the total number of enhanced crossings to 18 (excluding signalized and unsignalized intersections). This results in an average spacing of 620 feet between mid-block and protected intersection crossings. The ODOT Highway Design Manual recommends a target spacing of 500 to 1,000-feet along commercial and residential corridors. Additionally, the plan recommends relocating or enhancing six of the existing crossings, which are outlined below. All existing and future crossing locations are presented in Figure 22.

New enhanced crossings include (from west to east):

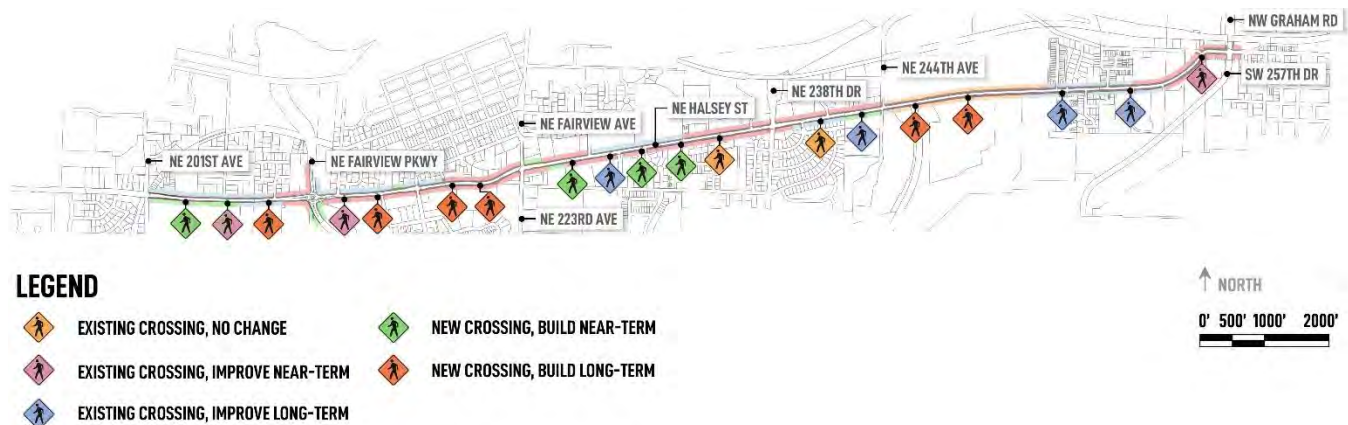
- In front of Reynold Middle School, east of NE 201st Avenue
- West of NE 208th Place, at the existing bus stop
- West of NE Market Drive, at the existing bus stop
- East of NE Village Street, west of the Stomping Grounds Coffee House driveway
- West of NE 223rd Avenue, west of the Scrubby's Express Lube and Car Wash driveway
- West of NE 227th Avenue, in front of the MLA Public Charter School
- West of NE 230th Court
- West of NE 238th Drive, near Flair Apartments
- West of NE 238th Drive, near Best Western
- West of 240th Avenue, at the existing bus stop
- East of 244th Avenue, near westmost Edgefield driveway
- Between 244th Avenue and SW Lancaster Court, near the Edgefield bus stop

- West of SW Halsey Loop (East), at the existing bus stop

Upgraded existing enhanced crossings include (from west to east):

- East of NE 205th Avenue – redesign existing refuge islands
- East of NE 213th Avenue – redesign existing refuge islands
- West of NE Wood Village Boulevard – construct curb extension on the south side
- West of NE 244th Avenue – construct curb extension on the south side
- West of SW Edgefield Meadows Avenue – relocate crossing and construct refuge islands
- Intersection with W Historic Columbia River Highway – install RRFB's and advance warnings

Figure 22. Existing and Proposed Mid-Block Crossing Locations



Linear Design Plan

This linear design plan for the NE Halsey Street corridor is presented in Figures 23-25. The linear design plan reflects the typical cross sections, intersection treatments, and enhanced crossings, and shows how they come together to improve access and circulation along the corridor for people walking, biking, and accessing transit. Subsequent sections of this report provide guidance on the design and implementation of the linear design plan.

Gresham

Fairview

NE Halsey St

NE 196th Ave

NE Wasco St

NE 201st Ave

Key Map

SEE BELOW LEFT

Fairview

NE 205th Ave

NE 208th Pl

NE Halsey St

5

Redesign existing
refuge islands

Residential Context
Zone Enlargement

Relocate
bus stop

SEE BELOW LEFT

Fairview

NE 213th Ave

NE Market Dr

NE Village St

NE Halsey St

7

Redesign existing
refuge islands

Add parking if the adjacent
land uses redevelop

Relocate
bus stop

SEE PLAN 2

LINEAR DESIGN PLAN 1

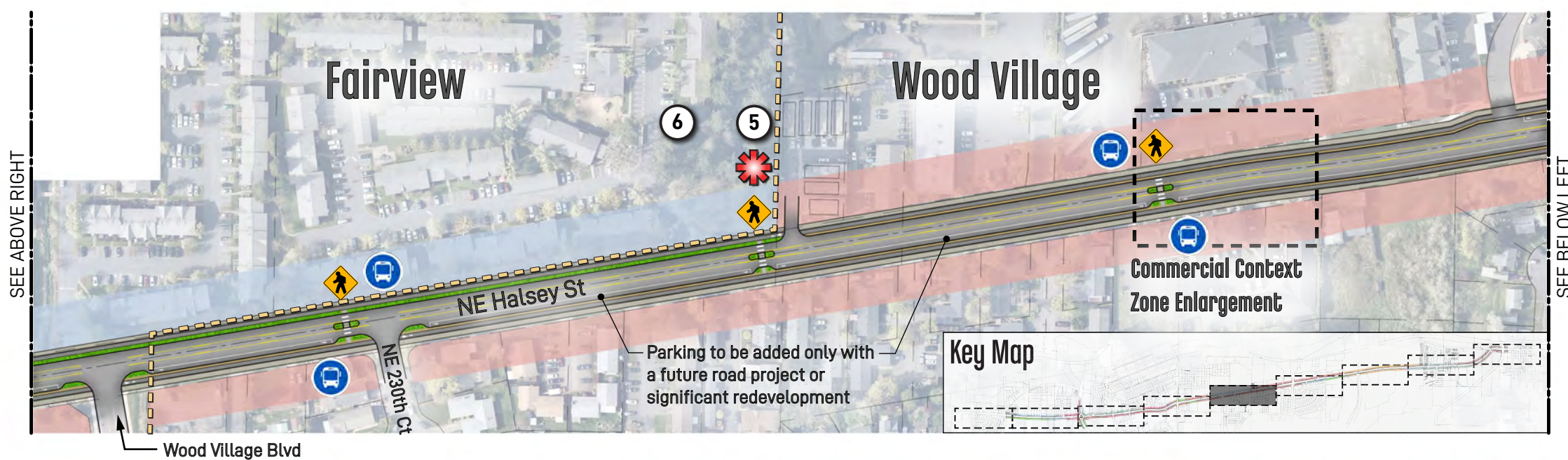
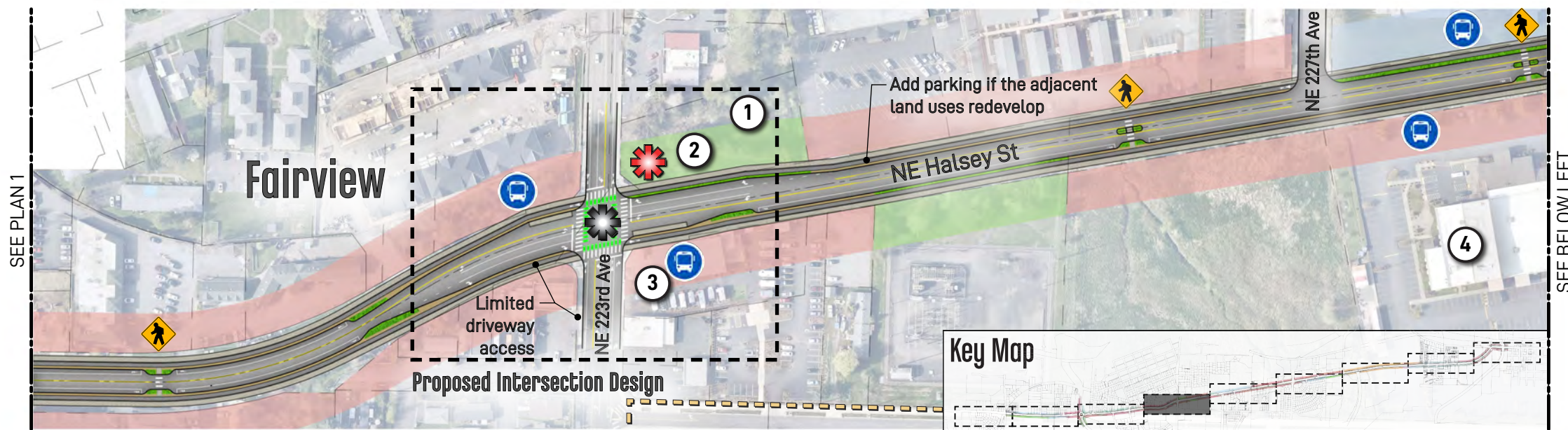
Legend

- City Limits
- Residential Context Zone
- Commercial Context Zone
- Edgefield Context Zone
- Other / Open Space
- Enhanced Pedestrian Crossing
- Proposed Intersection Improvements
- Special Opportunity Area
- Bus Stops

Key Notes

- 1 Reynolds Learning Academy
- 2 Reynolds SD Park & Ride
- 3 Connection to Gresham-Fairview Trail, and Potential Trailhead Improvements
- 4 Gresham Fairview Trail
- 5 Renolds SD Baseball Diamond
- 6 Potential Connection to Salish Ponds City Trail
- 7 VA Outpatient Clinic

0' 200' ↑



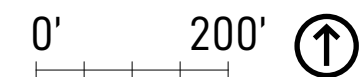
LINEAR DESIGN PLAN 2

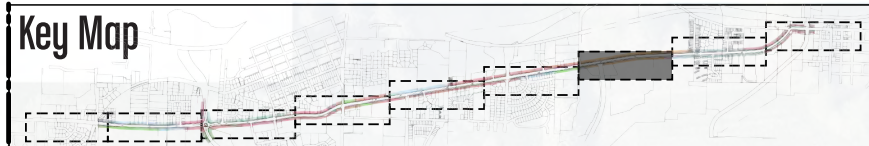
Legend

- City Limits
- Residential Context Zone
- Commercial Context Zone
- Edgefield Context Zone
- Other / Open Space
- Enhanced Pedestrian Crossing
- Proposed Intersection Improvements
- Special Opportunity Area
- Bus Stops

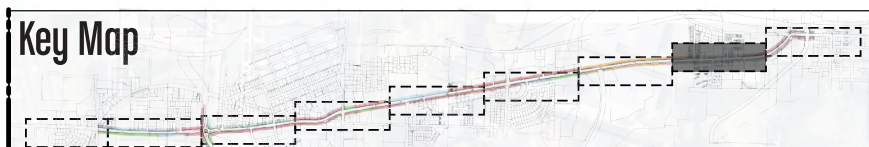
Key Notes

- 1 Fairview Creek
- 2 Marilyn's Park - Opportunity to Highlight Fairview Creek
- 3 Fairview Food Plaza and "The Fork"
- 4 Ukrainian Bible Church
- 5 Access to Fairview Woods Wetland Park
- 6 Mt. Hood Community College Head Start - Fairview
- 7 The Byway Retail / Dining
- 8 Wood Village City Hall and Civic Center
- 9 Donald L. Robertson City Park
- 10 Reynolds School District
- 11 Arata Creek
- 12 Opportunity to Highlight Arata Creek

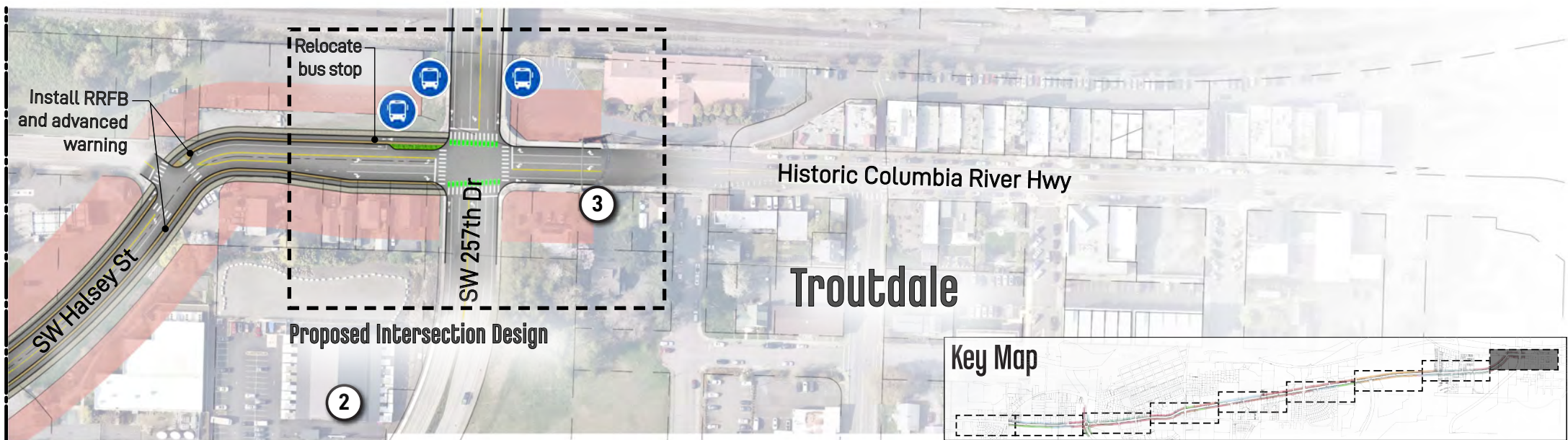




SEE PLAN 2



SEE ABOVE RIGHT



LINEAR DESIGN PLAN 3

Legend

- City Limits
- Residential Context Zone
- Commercial Context Zone
- Edgefield Context Zone
- Other / Open Space
- Enhanced Pedestrian Crossing
- Special Opportunity Area
- Bus Stops

Key Notes

- 1 McMenamins Edgefield
- 2 Troutdale Station Food Carts
- 3 Troutdale Gateway Sign



V. DESIGN IMPLEMENTATION

This section identifies elements of distinction and continuity, discusses corridor branding, and provides design direction for various elements of the street design plan.

Elements of Distinction and Continuity

When selecting standards in future design stages for visible items like light poles, furnishings, and planting, the following categories provide an intentional divide that emphasizes the unique character of each city, while also tying the corridor together visually as a cohesive whole.

Elements of Distinction

These elements express the individual character of each city and provide visual cues to people as they move from one city to the next.

- Gateway features
- Public art
- Street tree and plant palette, in the planting strips and planted medians
- Tree grates
- Storm grates
- Event-specific banners on the light poles
- Paver color and pattern, or other materials, in the buffer separating the sidewalk from the bike lane
- Bridges and culverts
- Hanging flower baskets (but having these should be agreed to as an Element of Continuity)

Elements of Continuity

These elements visually unite the corridor.

- Halsey Corridor Branding elements, including wayfinding features
- Light poles with banner brackets
- Seasonal or year-round banners (between events) on the light poles, derived from the corridor branding
- Benches
- Drinking fountains
- Bike racks
- Trash receptacles
- Paving: roadway, sidewalks, bike lanes, and crosswalks
- Building signage standards
- Bus stops
- Landscape maintenance (all by one entity)
- Move utilities underground, over time

Corridor Branding

The three cities engaged with Arnett Muldrow, a creative planning firm with specialized expertise in “Place Branding”. Arnett Muldrow was charged with developing a recognizable brand for NE Halsey Street as it passes through the three cities. This brand will be used to help market the corridor to residents and visitors to the region who may come through on their way to and from the Columbia River Gorge, Mt. Hood, and Central Oregon. This brand will be used to promote economic development, shopping, dining, entertainment, and redevelopment opportunities along NE Halsey Street.

The brand is built on some of the attributes for the landscape and culture currently found in this part of East Multnomah County. Key words used to describe the area include Nature, Recreation, Gather, and Discovery. In many ways, this reach of NE Halsey Street is a bridge that links the urbanity of the Portland Metropolitan Area with the rural and natural environments of the Columbia River Gorge and Cascades. The branding effort is ongoing, with the brand name still to be finalized by the three cities. Several of the branding name options that are being considered are illustrated below.



The street design plan presented in this report reflects this branding direction for NE Halsey Street. It is desired that the branding be incorporated into the streetscape, signage, and visual environment of the NE Halsey Street corridor.

Design Directions

Planting

Streetscape planting can create a strong visual character for the corridor with changing interest across the seasons, while also increasing safety, providing environmental benefits, and raising property values. Planting areas can also be used to manage stormwater, as described below.

Street Trees

As the biggest objects in the streetscape, street trees are one of the main elements that define the visual character of the corridor. They also shade the surrounding paving, intercept stormwater before it hits the ground, filter air pollutants, and absorb carbon dioxide. The trunks lined up along each curb and in planted medians also tend to calm traffic speeds, increasing safety for all road users.



There are a variety of existing street trees along the corridor. These trees should be preserved where possible. Any new trees should be selected carefully for the available space and growing conditions, with an emphasis on tough, drought tolerant species that can handle reflected heat, high winds, and ice storms. Where space allows, wide-branching species should be selected to maximize shade on the sidewalk and bike lane. A variety of species should be used in small groups, rather than a monoculture that would be at risk of a mass failure from an unknown future disease.

In the Commercial Context Zone, street trees will be planted with tree grates to maximize space for transitioning to the roadway (e.g., on-street parking, loading/unloading, bus stops). In the Residential and Edgefield Context Zones, street trees will be planted in the planting strips. Street trees should also be included in planted medians, as applicable.

Planting Strips

Located between vehicle traffic and the bike lanes/sidewalks, the planting strips in Residential and Edgefield Context Zones provide a welcome buffer and enhance the bicycle and pedestrian experience. In addition to the street trees, planting strips can host shrubs, groundcovers, and ornamental grasses. Plants should generally be less than 30" height to not block visibility. All species should be tough and drought-tolerant, and there should be a diversity of colors, textures, forms, flowers, and evergreen vs. deciduous leaves.

Planted Medians

Where the center turn lane is not needed for turning into a driveway or cross street, it should instead be a raised planted median with street trees and plantings like the planting strips. The refuge islands at enhanced pedestrian crossings are like planted medians, except they should not include trees. The added vegetation in medians will contribute to the vibrant character of the corridor, and the extra row of tree trunks will visually narrow the roadway, which will further calm traffic and increase safety.

Maintenance

Careful plant selection, quality planting soil, and adequate soil volume for trees will minimize maintenance costs over time. Plants and trees should be chosen that do not drop fruit, large leaves, or other significant debris. Broadleaf evergreen trees such as live oaks will drop far fewer leaves per year than the typical deciduous street trees, as well as providing a green presence throughout the winter. The mature sizes of all plants need to be considered, as well as their placement relative to paving edges, to minimize or eliminate the need for annual trimming. All new street trees will need to be limbed up as they grow to preserve the required vertical clearance over the road, bike lane, and sidewalk. Additional information on landscape maintenance is included in Attachment A.

Stormwater Facilities

Stormwater planters and rain gardens manage both the volume and water quality of the runoff. These facilities may be located in the planting strips or in the wider curb extension at some intersections and enhanced pedestrian crossings. Runoff from the roadway, sidewalk, and bike lane directly enters these facilities through curb cuts, and then infiltrates through the soil. There will typically be an overflow drain in each facility that connects to the storm sewer.

Vegetated stormwater facilities are planted with native or adapted wetland plants that thrive in wet conditions and are also drought tolerant. Since they are close to the roadway, most plants should be no more than three feet tall, so they do not block visibility of pedestrians or cross traffic. Occasional maintenance will be required to remove trash that washes into the facilities, remove weeds, and top off the mulch.

While stormwater trees are increasingly being implemented in other places like Minneapolis, Vancouver BC, and Sweden, they are not currently an established stormwater BMP in this area so they would likely need to be considered a pilot program. Larger stormwater facilities can be an opportunity for more expressive planting and other materials, and can be a highly visible venue for public art.

Off-Street Facilities Materials

There are two off-street facilities for which building material options should be considered:

- **Bike lane:** Two primary materials that could be considered for construction of the separated bicycle facility, include asphalt and concrete.
 - The main benefit of constructing the bike lane out of asphalt is that it will reduce the cost of the bike lanes by approximately 30%. Additionally, constructing the bike lane out of a different material than the sidewalk would provide a clear distinction between the space that is dedicated to people biking and the space dedicated to people walking. At intersections, the mixing zone for people biking and walking can be constructed out of concrete, which would provide an additional cue to people biking that they need to yield to people walking.
 - The benefits of constructing the bike lane out of concrete are aesthetic reasons and the ability to use colored concrete. Colored concrete creates a welcoming environment for people biking and can provide visual cues to people driving that they need to yield to cyclists.
- **The Buffer between bike lane and sidewalk:** there are many materials that can be used for providing a visual and tactile separation between the bike lane and sidewalk. It should be a material of contrast color and texture so that people with visual impairments could use it for navigating the sidewalk. This buffer space should not be simply painted.

Driveways

There are many driveways along NE Halsey Street, which provide access to a combination of single-family, multi-family residential and commercial uses. The linear design plan provides limited access management recommendations; however, the plan provides guidance for typical treatments at driveways. These treatments are intended to increase driver's awareness of people walking and biking, while accommodating private vehicles and delivery trucks.

The linear design plan recommends maintaining the level of the sidewalk and the bike lane consistent across driveways. The width of the landscape buffer (6-feet in residential zones and 4-feet in commercial zones) can be utilized for constructing driveway aprons. If additional width is needed, the bike lane can also be used for providing appropriate driveway apron grades. The following provides guidance for minor and major driveways along the corridor.

- **Minor driveways:** These driveways serve single-family homes or small multi-family developments. They typically experience a relatively small volume of vehicular traffic – less than 20 trips a day. At these types of locations, bicycle conflict striping is optional. Figure 26 illustrates an example treatment at a minor driveway in Vancouver BC.
- **Major driveways:** These driveways serve commercial uses or large multi-family developments. They typically experience a relatively large volume of vehicular traffic – more than 20 trips a day. At these locations, the plan recommends providing bicycle conflict striping or utilizing colored concrete as shown in Figure 27. If colored concrete is utilized for the bike lane, it should be green color for consistency with other treatments along the corridor. The design should also consider providing yield pavement markings for vehicles at major driveways to warn them about pedestrian and bicycle movements.

Figure 26. Example Treatment at Minor Driveways (Vancouver BC)

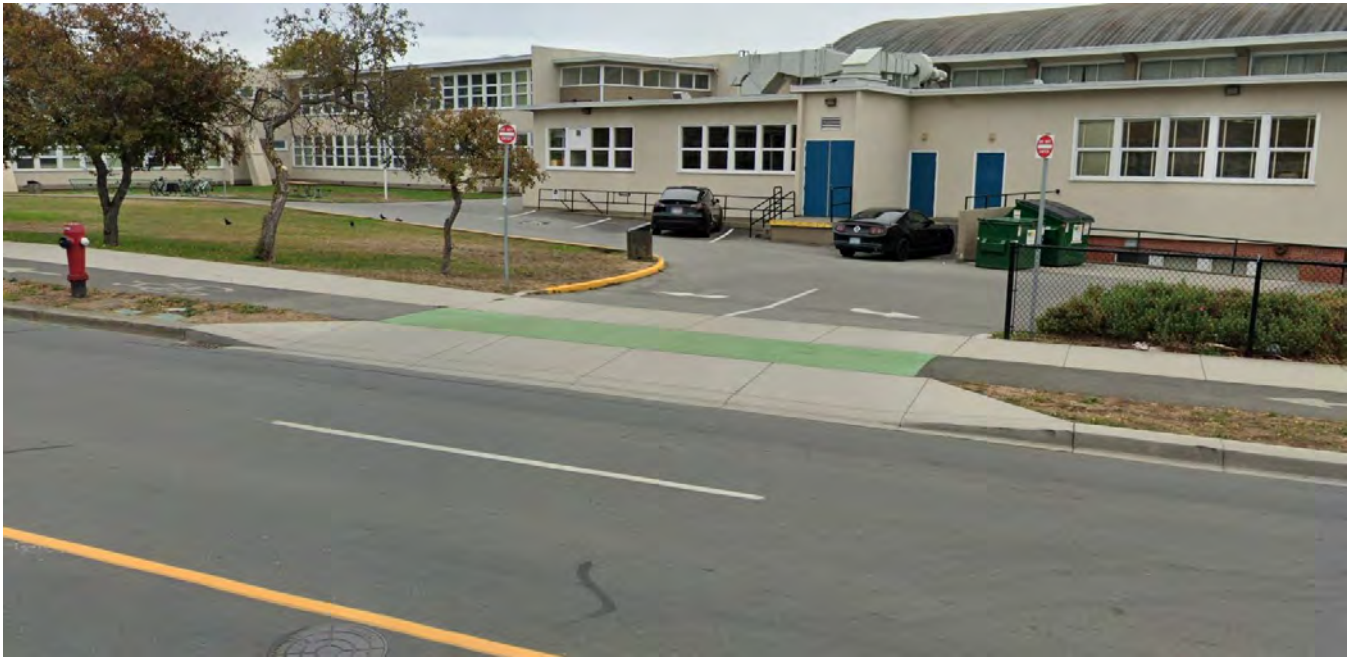


Image Source: Google Maps Streetview

Figure 27. Example Treatment at Major Driveways (Clackamas, Oregon)

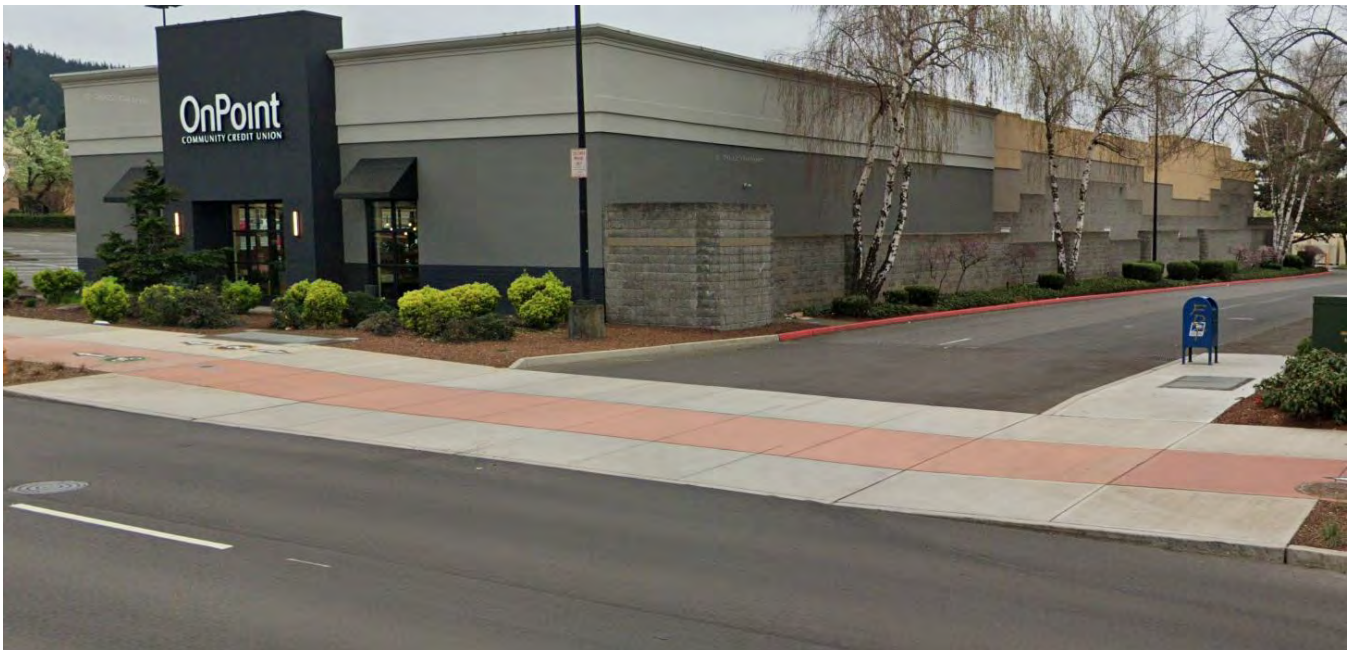
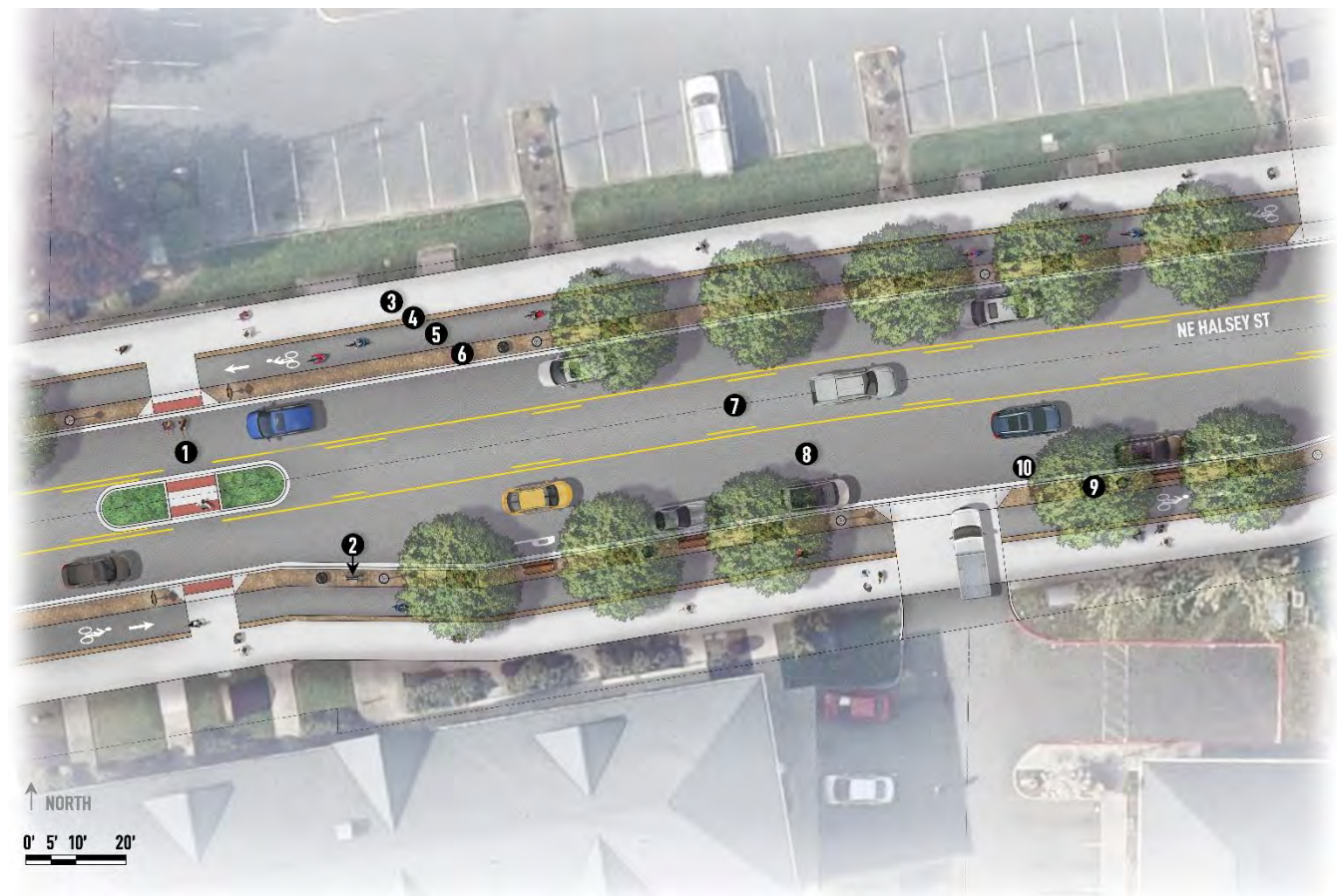


Image Source: Google Maps Streetview

On-Street Parking

On-street parking is proposed along most commercial corridor segments on at least one side of the street. In a few segments, parking is proposed on both sides of the street, dependent on the context of the adjacent properties and the available right-of-way. The linear design plan proposes to keep on-street parking 8-feet wide along the 3-lane cross section of the corridor and 8-feet wide along the 2-lane cross section. At bus-stop and mid-block crossing locations the plan proposes to introduce curb extensions for the width of the parking lane to improve pedestrian user experience and safety. Figure 28 illustrates a typical on-street parking layout along the corridor.

Figure 28. Typical Corridor On-Street Parking Layout (West of NE Halsey St and NE 238th Drive)



LEGEND

- STREET LIGHTING
- RECTANGULAR RAPID FLASHING BEACON
- TRASH RECEPTACLE
- BENCH

KEY NOTES

- | | | |
|---------------------------------------|---------------------------|---|
| 1 ENHANCED PEDESTRIAN CROSSING | 5 BIKE LANE | 9 PROPOSED STREET TREES W/ TREE GRATES |
| 2 BIKE RACK | 6 FURNISHING ZONE | 10 PARKING |
| 3 SIDEWALK | 7 CENTER TURN LANE | |
| 4 BUFFER - SPECIAL PAVING | 8 TRAVEL LANE | |

On-street parking may be used by local delivery trucks for loading and unloading activity. Given the planned width of the on-street parking (8-feet), loading and unloading activity could impact the adjacent travel lane, and in some situations, it could impact the center turn lane or opposing travel lane. Each of the three cities should consider policies and strategies for addressing loading and unloading activity within their communities and establish designated loading zones that minimize potential impacts, as applicable.

Transit Stops

Transit stops are located at multiple points along the corridor. Some stops are recommended to be relocated while some are recommended to be enhanced to accommodate the typical cross section. Per direction from TriMet, bus stops should be in-lane at most locations, except for major signalized intersections, where existing pull-outs should remain. The benefit of maintaining in-lane stops along most of the corridor is to minimize transit delays caused by the bus needing to merge back into traffic after a stop.

Figure 29 shows an example of proposed treatment for in-lane bus stops. At such locations, the plan recommends jogging or narrowing the bike lane to four or five feet to increase the pedestrian waiting area. The width of the landscape buffer (four feet in commercial and six feet in residential zones) should be used for providing bus loading and unloading area. The design should utilize pavement markings and signs to require bicyclists to stop for pedestrians.

At bus pullouts at intersections, the plan suggests concrete or painting the roadway with red paint, like shown in Figure 30. Where right-of-way allows, the waiting area should be increased to 10 or 12 feet and the bike lane should be moved to the back of the waiting area.

Bus shelters should be installed at all bus stops, where the right-of-way is available. Bus shelters provide wind, rain, and sun cover and significantly increase the user experience. Additional lighting should also be provided at all bus stops for improved security, as lighting is one of the major corridor concerns expressed by the community.

Figure 29. Example Proposed Typical Bus Stop Treatment (Vancouver BC)



Image Source: Times Colonist

Figure 30. Example Bus Pullout Treatment (Portland, Oregon)



Image Source: Google Maps Streetview

Major Street Intersections

There are four major street intersections along the NE Halsey Street corridor, including NE Fairview Parkway, NE 223rd Avenue, NE 238th Drive, and SW 257th Drive. While the NE Fairview Parkway intersection is expected to be reconfigured as a multi-lane roundabout, all other major street intersections are expected to remain as traffic signals. As indicated above, the linear design plan includes enhanced features at each intersection and identifies the potential for additional features, such as protected intersection treatments. The following provides additional details on bike lanes at the major intersections.

Figure 31 below illustrates an example of how sidewalk-level bike lanes could be handled at major street intersections. As illustrated, the bike lanes are to be lowered down to the roadway level and the bike crossings are to be located near the pedestrian crossings. This treatment would best improve visibility of people walking and biking. Additionally, pavement markings and signs should require bicyclists to yield to pedestrians at intersections.

Figure 31. Example Major Intersection Treatment (Cambridge, Massachusetts)



Image Source: Google Maps Streetview

Minor Street Intersections

There are approximately 16 unsignalized, minor street intersections along the NE Halsey Street corridor. Some of the intersections have four legs, but most have three. These intersections experience a higher volume of vehicular traffic than major driveways, therefore it is even more important to properly delineate space for people biking and walking to minimize conflicts with vehicles. The plan includes two options for minor-street approach treatments:

Raised Crosswalks

One of the major concerns along NE Halsey Street is increased vehicular speeds. Traffic calming can be provided by introducing vertical features, like raised crosswalks. They are designed to be flush with the sidewalk, thus providing approximately a gradual 6-inch rise. Where possible, the plan suggests introducing raised crosswalks across low volume residential cross streets for people walking and biking. Raised crosswalks allow people to cross the street at the same level as the sidewalk and the elevated bike lane. They make crossings more comfortable for non-motorized users, especially people using wheelchairs or other mobility devices. Figure 32 presents an example of a raised crosswalk that allows people walking and biking to cross the street at continuous level.

Figure 32. Example Raised Crosswalk



Photo Source: The City of Boston

Conflict Striping

Another design option for minor street intersections is to bring the bicycle lane and the sidewalk down to the roadway level. It is a less expensive design option, but it provides fewer benefits in terms of traffic calming and the user experience of people walking and biking. Figure 33 illustrates an example from NE Halsey Street, west of the study corridor.

Figure 33. Minor Street Conflict Striping Example (Portland, Oregon)



Photo Source: Google Maps

VI. PLAN IMPLEMENTATION

Design Phase and Refinement Needs

As the plan moves towards implementation, the conceptual design plans included in this report will be refined, and the final corridor design will need to provide more detail on some aspects of the plan.

- **Right-of-way needs** – A more detailed right-of-way analysis is needed to fully understand the right-of-way impacts of the concept design. The impacts shown in this plan are approximate and will be refined in a later design stage. Changes to the concept, such as reducing or eliminating on-street parking, landscaping, or other design elements may be needed to avoid right-of-way impacts, as well as other impacts to the existing built or natural environment. Designers should aim to preserve and enhance the natural resources to the extent possible while also maintaining, at a minimum, the continuous facilities on both sides of the roadway.
- **Detailed topographic survey and engineering design** – The 10% concept design and cost estimates will need to be refined in the design phases to account for field conditions along the corridor and the need for retaining walls, utility relocation, storm drainage, and other considerations.
- **Lighting** – Existing lighting is limited along the corridor. As such, lighting should be enhanced at signalized and unsignalized intersections and designated pedestrian crossings. Street lighting should be designed to meet County standards for new development and/or be power pole based using standard LED lighting. In public capital projects, lighting will be coordinated with electric utility pole placement following City/County standards to the maximum extent practical.⁸ Lighting was identified as a critical issue throughout the planning process, especially pedestrian scale lighting. Considering the recommended design elements, Multnomah County and the three cities should conduct a formal lighting analysis along the corridor and install additional lighting as needed to meet recommended lighting levels that meet the needs of all roadway users.
- **Utility Relocation** – Due to the nature of the corridor and cost associated with conversion of overhead electric to underground, it is assumed that public capital projects will maintain and/or relocate overhead utilities in accordance with existing utility agreements. Private development projects will be responsible for undergrounding utilities consistent with City/County requirements.
- **Intersection design and operations** – Protected intersections will need further curb radius and multimodal accommodations accounted for in final design. At unsignalized approaches, the design of each side street or driveway will need to carefully consider appropriate treatments for the bicycle facility crossing, based on sight distance, topography, and property impacts.
- **Bus stop placement and design** – TriMet has been involved in the development of the concept design. As the pedestrian and bicycle facilities on the corridor improve, TriMet should be involved in the refinement of bus stop placement and design along the corridor as appropriate.
- **Location and design of enhanced pedestrian crossings** – The concept plan includes continuous sidewalks and bicycle facilities to enhance the ability for people to walk and bike along the corridor, Oregon State law gives pedestrian the legal right to cross at any intersection, with motor vehicles required to yield. To enable comfortable access to destinations on both sides of the corridor as well as to transit stops, the future design phase will consider enhanced pedestrian crossing locations in addition to the signalized intersections. The design of these enhanced crossings will consider a variety of potential treatments, including a striped crosswalk, signage, rectangular rapid flash beacons, or pedestrian hybrid beacons. The design phase will determine the final locations of enhanced crossings based on pedestrian demand, sight distance, proximity to signalized intersections and other factors.

⁸ The cities of Fairview and Troutdale are located within the Mid-County Street Lighting District, which sets the standards for intersection and street lighting along the corridor. Additional information is available on [Multnomah County's website](#).



Cost Estimates

Planning level cost estimates were prepared for implementation of the *NE Halsey Street Cross Section and Street Design Plan* based on unit costs from similar projects completed in the Pacific Northwest. The cost estimates include the total cost to implement the long-term solutions along the 3.5-mile segment of NE Halsey Street, within the three cities, and per linear foot within the three context zones (residential, commercial, and Edgefield). The cost estimates are in 2024 dollars, and therefore may increase following adoption of the plan. Table 1 summarizes the cost estimates. A list of detailed bid items and cost estimate assumptions are documented in Tech Memo #5 in the Appendix.

Table 1. Cost Estimates (Long-term Solutions)*

Units	Construction Cost	Engineering Support (25%)	Contingency (40%)	Total Cost
3.5-Mile Corridor	\$34.5M	\$8.7M	\$13.8M	\$57.0M
Fairview City Limits	\$16.2M	\$4.1M	\$6.5M	\$26.8M
Wood Village City Limits	\$7.3M	\$1.8M	\$2.9M	\$12.0M
Troutdale City Limits	\$11.0M	\$2.8M	\$4.4M	\$18.2M
Residential Context Zone (LF)	\$1,300	\$320	\$650	\$2,270
Commercial Context Zone 2-Lane (LF)	\$1,350	\$340	\$680	\$2,370
Commercial Context Zone 3-Lane (LF)	\$1,430	\$360	\$720	\$2,510
Edgefield Context Zone (LF)	\$1,220	\$300	\$610	\$2,130

*Cost estimates are reported in 2024 dollars

Note: Planning level cost estimates of the near-term solutions are provided in the Attachments.

Implementation Steps

The Plan represents the goals of the community and is reflective of public input and desires. The Plan represents a balance of providing high quality facilities to serve a variety of travel modes while managing costs and impacts to adjacent parcels. Implementation of the Plan is critical to the success of the three city's goals for their transportation systems.

NE Halsey Street provides a continuous connection between Portland and east Multnomah County that parallels I-84 and access to all the residences, businesses, and other destinations located in between. As such, it must provide access for people and goods moving on foot, by bike, by transit or in motor vehicles. It is also a significant utility corridor serving local needs. Implementation of the Plan can occur in several phases and incrementally through redevelopment along the corridor.

Plan Adoption

The Plan will be adopted by the three cities and incorporated into their transportation system plans (TSPs) as a reference or as individual projects during their next TSP updates. The Plan will also be adopted by Multnomah County and serve as a corridor specific cross-section overlay for NE Halsey Street. As an adopted Plan, it will provide direction to the three cities and Multnomah County in pursuing funding as well as preferred standards for property owners in terms of right-of-way dedication and frontage improvements. The three cities and Multnomah County should refer to the Plan for potential changes in the type of planned improvements as well as the location and orientation of the planned improvements.



Implementation through Development and Redevelopment

Segments of this plan may be implemented through private development along the corridor. For developments that result in traffic impact onto NE Halsey Street, Multnomah County will review the proposal as part of the land use approval to determine if and which right of way improvements are required for the owner or applicant to complete. The Plan's adoption also requires the three cities and Multnomah County to consider the following elements when reviewing and approving specific land use actions:

- **Right-of-Way Dedication Requirements:** Right-of-way dedications should be consistent with the Plan and typical cross section shown in the appendix.
- **Direction of Required Construction of Improvements, Partial Improvements, or Fee-in-Lieu Payments:** Through conditions of approval and development agreements Multnomah County will require specific improvements, partial improvements, or fee-in-lieu payments consistent with the Plan based on the impacts and properties associated with the specific land use actions and/or agreement.
- **Administration of Fee-in-lieu Payments (Optional):** Multnomah County may seek to receive fee-in-lieu of construction payments for land use actions that would result in smaller isolated elements of the corridor being constructed prior to use. These funds would need to be administered by Multnomah County in order to preserve and allocate the funds to implement overall improvements.

Implementation as a Capital Improvement Project

Implementation of the Plan through development could occur gradually, over time, and in small increments; however, implementation as a capital improvement project is more likely and has the potential to improve significant segments or even the entire corridor within a relatively short time period. Funding sources for capital improvement projects such as this include a variety of local, regional, state, and national sources, as follows:

- **Regional Flexible Funds** – Metro allocates federal funding dollars through the Regional Flexible Funds program as part of the Metropolitan Transportation Improvement Program (MTIP). Metro maintains and updates funding priority policy guidance with reoccurring funding application periods. The Main Streets on Halsey project was added to Metro's 2023 Regional Transportation Plan (RTP), enabling the three cities and Multnomah County to pursue federal funding allocations. Per the RTP, Project 10388 includes "Reconstruction of the Halsey corridor through Fairview, Wood Village, and Troutdale to be a pedestrian and bike-friendly "main street" based on the Main Streets on Halsey Street Design Concept Plan. This includes a roundabout, intersection improvements, bicycle-specific safety enhancements, new sidewalk/lighting/crossing enhancements, pedestrian/bicycle crossing with refuge and/or RRFB. (519U, 520U, 522U)".
- **Rebuilding American Infrastructure with Sustainability and Equity (RAISE)** – Raise grants are awarded by the US Department of Transportation to support innovative projects across the country that promote economic development and improve transportation access for a variety of communities. The three cities and/or Multnomah County could consider applying for a RAISE grant to fund construction of the Plan.
- **Safe Streets and Roads for All (SS4A)** – SS4A is a federal program that supports development of comprehensive safety action plans for regional, local, and tribal communities that identify the most significant roadway safety concerns in a community. The program also supports implementation of projects and strategies to address road safety issues as documented in SS4A compliant safety plans. Multnomah County recently received an SS4A grant to develop a Transportation Safety Action Plan (TSAP) for the three cities. Once adopted, projects in the TSAP may apply for funding through the SS4A competitive grant program.



- **Local Funding Sources** – The three cities and Multnomah County have a limited number of funding sources for transportation improvements which could be leveraged as local match funds for grants or used to fund portions of the Plan. These sources include the state gas tax and license fees, a roadway maintenance fee, franchise and miscellaneous fees, and system development charges. The sources are described in more detail in the local TSPS.

Variance from County Standards and Requirements

Multnomah County Road Rules (MCRR) establish procedural standards for road design and right-of-way improvements for County facilities, including NE Halsey Street. Per Section 10.000 of the MCRR, once this plan is adopted by Multnomah County Board of Commissioners, the typical cross sections, intersection treatments, and enhanced crossings identified in this plan will become the preferred standards for NE Halsey Street. If the preferred standards cannot be met, a variance can be requested, following procedures from MCRR Section 16.000. In order to obtain the variance, the request must meet the variance requirements, address the general variance criteria, and follow the variance request procedure. At a minimum, the variance request must provide *“written documentation substantiating that the requested variance is in keeping with the intent and purpose of County Code and adopted rules, and the requested variance will not adversely affect the intended function of the County Road system or related facilities”*.

In keeping with the intent and purpose of the Multnomah County Road Rules and Design and Construction Manual, the variance request should also consider the need for continuous and comfortable pedestrian and bicycle facilities on both sides of NE Halsey Street with direct access to adjacent land uses as well as transportation facilities and services (e.g., on-street parking, loading, bus stops). The request should also consider the need for continuity along the entire corridor and continue to provide a unified vision for NE Halsey Street as it passes through the three cities.

VII. ATTACHMENTS

A. Maintenance Considerations

Maintenance was identified as a key issue throughout the development of the *Main Streets on Halsey Cross Section and Streetscape Design Plan*. The ultimate success of the improvements recommended by this plan will be determined by the level and consistency of ongoing maintenance and periodic repairs that take place after initial construction. Maintenance in the corridor can be broken into two major categories:

- **Landscape Maintenance:** the maintenance, repair, and eventual replacement of all plantings in the NE Halsey Street Right of Way. This includes street trees, shrubs, groundcovers, and stormwater plantings. This would also include maintenance of irrigation systems for those planting areas, and electrical infrastructure for lighting of street trees.
- **Roadway Maintenance:** including regular maintenance, periodic maintenance, replacement of paving, pavement markings, sidewalks, and bike lanes; as well as striping, curbs and appurtenances such as streetlights, signals, signage, sidewalks, bike lanes, and street furnishings.

Landscape Maintenance

As mentioned above, plants should be selected that minimize the ongoing maintenance requirements. That being said, as the living part of a streetscape, trees, shrubs and groundcovers will require regular maintenance, periodic pruning and repair, and occasional replacement.

- **Regular Maintenance:** Includes mowing of turf, periodic trimming and pruning of shrubs and groundcovers, and pruning of street trees to maintain the required clear zone of branches overhanging the roadway, bike lanes, and sidewalk. Also included is litter removal, leaf removal, fertilization, and weed, pest and disease control. Irrigation adjustment, winterization and annual initiation are also included in regular maintenance activities.
- **Periodic Pruning and Repairs:** In addition to regular maintenance, because of the harsh streetscape environment and the unique climate events that occur in East Multnomah County (east winds, freezing rain, occasional snowplowing, vehicle damage, etc.), it is expected that there will be damaged plantings that may be repaired and brought back to health through arboricultural methods such as pruning, staking, bracing, fertilization, or other methods. In addition, street tree electrical and irrigation systems may become damaged and need to be repaired.
- **Replacement:** Occasionally, plants will need to be replaced because of significant damage, disease or simple expected mortality. Plants should be monitored and replaced in the following Fall or Spring planting season, not during Summer or Winter. Likewise, irrigation and electrical components may not be able to be repaired and will require replacement.
- **Maintenance Responsibility:** Per city code, it is the responsibility of property who abut the right-of-way along NE Halsey Street to maintain the landscaping. However, most property owners leave it to the three cities and Multnomah County to maintain. Because one of the key objectives of the Main Streets on Halsey Plan is to develop visual consistency throughout the corridor in the three cities, it is recommended that the three cities and the County develop a new intergovernmental agreement (IGA) that clearly describes the level of service for landscape maintenance, repair and replacement in the corridor. It is also recommended that a single entity – either one of the four parties or a private landscape maintenance company – be engaged to provide regular landscape maintenance for the entire extent of the corridor.

Roadway Maintenance

- **Regular Maintenance:** Regular roadway maintenance ensures the transportation infrastructure remains safe, efficient, and aesthetically pleasing by addressing minor issues and preventing major deterioration. For roadways, this includes regular sweeping, pothole repair, crack sealing, and drainage system maintenance. For sidewalks, this includes pressure washing, minor repairs to surface cracks and tripping hazards, trimming encroaching vegetation, and root control to prevent damage and ensure clear pathways. Bike lanes are also cleared of debris, lane markings are repainted, and surface inspections are performed regularly to address hazards.
- **Periodic Upgrades and Repairs:** Periodic upgrades and repairs are more extensive than regular maintenance and address moderate issues before they become severe, extending the life and functionality of transportation infrastructure. For roadways, this includes applying surface treatments like slurry seals or chip seals, placing new asphalt overlays, and addressing underlying structural issues. For sidewalks, this involves section replacements, and periodic ADA compliance upgrades. Bike lanes are resurfaced, with network expansion and upgrades evaluated periodically based on usage and demand.
- **Replacement:** Full replacement involves renewing infrastructure elements that have reached the end of their service life. Roadway pavement is replaced every 20-25 years with subgrade assessment and improvement, while pavement markings are repainted annually and upgraded for visibility. Sidewalks are replaced every 30 years or as needed, using durable materials. Bike lanes are resurfaced or replaced every 20 years, incorporating best design practices. Curbs are inspected and replaced every 20-25 years; street lights and signals every 15-20 years; signage every 10 years; and street furnishings every 10-15 years, ensuring functionality and aesthetics.
- **Maintenance Responsibilities:** local agencies are responsible for regular and periodic maintenance, repairs, and replacement of roadways, sidewalks, bike lanes, curbs, streetlights, traffic signals, signage, and street furnishings. Property owners may need to maintain adjacent sidewalks, including snow removal and minor repairs, per local ordinances. Public-private partnerships can be leveraged for significant infrastructure upgrades and expansions. A system for public reporting of maintenance issues should be established, along with a proactive inspection schedule to identify and address problems early.

Landscape and roadway maintenance along NE Halsey Street will signal that the three cities and Multnomah County are committed to supporting NE Halsey Street as a thriving community main street. A high level of upkeep can promote private investment, attract and support businesses, and create an inviting place for the community to gather. The three cities and Multnomah County should work together to develop a Memorandum of Understanding (MOU) regarding maintenance of landscaping and roadway facilities. The MOU should, at a minimum, establish who is responsible for maintenance and how often it will be completed. The MOU should also identify code and policy changes necessary to ensure continued maintenance activity and coordination along the corridor.

B. Near-Term Cost Estimates

Planning level cost estimates were prepared for implementation of the near-term solutions along the 3.5-mile segment of NE Halsey Street, within each of the three cities, and with and without a 2" grind and inlay of the roadway surface. All the estimates also include ADA upgrades at all pedestrian ramps. The cost estimates are in 2024 dollars, and therefore may increase following adoption of the plan. Table 2 summarizes the cost estimates.

Table 2. Near-Term Cost Estimates*

Units	Construction Cost	Engineering Support (25%)	Contingency (40%)	Total Cost
3.5-Mile Corridor	\$445K	\$111K	\$177K	\$733K
3.5-Mile Corridor with 2" Grind and Inlay	\$2,619K	\$655K	\$1,048K	\$4,322K
Fairview City Limits	\$225K	\$56K	\$90K	\$371K
Fairview City Limits with 2" Grind and Inlay	\$1,132K	\$283K	\$453K	\$1,868K
Wood Village City Limits	\$71K	\$18K	\$28K	\$117K
Wood Village City Limits with 2" Grind and Inlay	\$576K	\$144K	\$230K	\$950K
Troutdale City Limits	\$149K	\$37K	\$59K	\$245K
Troutdale City Limits with 2" Grind and Inlay	\$911K	\$228K	\$365K	\$1,504K

*Cost estimates are reported in 2024 dollars



Appendix A: Evaluation Summary



Project Objectives	Evaluation Criteria	Residential Context Cross-Section Evaluation			Evaluation Notes		
		Separated Bike Lanes	Sidewalk-Level Bike Lanes	Sidewalk-Adjacent Bike Lanes	Separated Bike Lanes	Sidewalk-Level Bike Lanes	Sidewalk-Adjacent Bike Lanes
1. Create a cohesive Halsey streetscape and pedestrian environment that supports existing small businesses, attracts new businesses, and creates new jobs	1.1 Promotes economic development by supporting access to local businesses and business districts for all travel modes.	3	4	4	Improves comfort of people biking, but could create challenges for other travel modes	Improves comfort of people walking, biking, and taking transit	Improves comfort of people walking, biking, and taking transit
2. Design Halsey Street to unite the three cities while also allowing each city to be distinguished in the ways they build community and drive economic development	2.1 Minimizes impacts to adjacent properties	2	3	3	May have property impacts in some areas	May have property impacts in some areas	May have property impacts in some areas
	2.2 Can be implemented on an incremental basis through development	4	3	2	Can be implemented on an incremental basis in some areas	Can be implemented on an incremental basis in few areas	May be difficult to implemented on an incremental basis
	2.3 Construction and long-term maintenance costs are equal to existing costs	2	3	4	Would increase construction cost and require new maintenance equipment	Would increase construction cost, but would have similar maintenance cost	Would increase construction cost, but would have similar maintenance cost - easier to maintain landscaping
3. Make Halsey Street safer, more accessible, and more visually attractive	3.1 Creates safe and convenient access for people with disabilities	2	4	3	Could create some challenges for people with disabilities	Creates few challenges for people with disabilities	Could create some challenges for people with disabilities
	3.2 Improves street appearance through added landscaping and street trees	3	4	5	Creates space for street trees and other plantings behind bike lanes	Creates space for street trees and other plantings behind bike lanes	Creates space for street trees and other plantings behind bike lanes adjacent to travel lanes
	3.3 Creates space for adding street furnishing	3	5	4	Could create space for street furnishings in landscape strips	Could create space for street furnishings in landscape strips (btw sidewalks and bike lanes) - narrower cross section could also allow street furnishings adjacent to building	Could create space for street furnishings in landscape strips (btw bike lanes and motor vehicle lanes) - narrower cross section could also allow street furnishings adjacent to building
4. Make public transit, walking, and biking in the Halsey Street corridor more appealing and safer	4.1 Improves safety for people walking, biking and taking transit	3	4	5	Provides some benefit to people biking, but little added benefit to people walking or taking transit	Provides good benefit to people walking, biking, and taking transit	Provides good benefit to people walking, biking, and taking transit - transit access may be improved with space for a waiting area adjacent to motor vehicle lane
	4.2 Increases number and frequency of protected crossings of Halsey Street	3	5	5	Improves ability to provided enhanced crossings	Significantly improves ability to provided enhanced crossings	Significantly improves ability to provided enhanced crossings
	4.3 Improves access to adjacent land uses and public transit facilities and services	2	4	5	Could create challenges for accessing adjacent land uses and transit	Improves access for people walking, biking, and taking transit	Improves access for people walking, biking, and taking transit - transit access may be improved with space for a waiting area adjacent to motor vehicle lane
5. Improve the environment by reducing pollution, planting street trees, and using cost-efficient, sustainable landscaping treatments	5.1 Incorporates sustainable design strategies	3	4	5	Some sustainable design strategies could be used	Allows for sustainable design features, such as stormwater facilities	Allows for sustainable design features, such as stormwater facilities adjacent to motor vehicle travel lane
	5.2 Creates space for incorporating stormwater facilities	2	4	5	Stormwater facilities could be challenging	Creates space for stormwater facilities	Creates space for stormwater facilities adjacent to motor vehicle travel lane
	5.3 Reduces impervious surfaces	2	3	3	Some increases impervious surfaces	Some minor increases impervious surfaces	Some minor increases impervious surfaces
	5.4 Increases tree canopy coverage in the corridor	4	4	5	Creates space for street trees	Creates space for street trees	Creates space for street trees adjacent to motor vehicle lanes
6. Enhance bikeability and walkability by slowing vehicular traffic, improving intersections, and discouraging through-traffic by trucks	6.1 Slows vehicular traffic	3	4	5	Narrows travel lanes and center turn lane	Narrows travel lanes and center turn lane	Narrows travel lanes and center turn lane - streets trees adjacent to travel way will also help narrow feel of roadway
	6.2 Discourages through truck traffic	3	4	4	Could discourage some through trucks	Could discourage some through trucks	Could discourage some through trucks
	6.3 Maintains access to local businesses for delivery trucks	2	3	4	Could create challenges for curbside deliveries	Could create challenges for curbside deliveries	Could improve access for curbside deliveries
	6.4 Provides low-street pedestrian and bicycle facilities	3	5	5	Reduces stress for people biking	Significantly reduces stress for people walking and biking	Significantly reduces stress for people walking and biking
7. Engage with local business owners and the public to broaden commitment and ongoing involvement in the corridor	7.1 Supported by local property owners, business owners and operators, and the public.	2	5	5	Not well supported by public	Well supported by public	Well supported by public
	7.2 Consistent with previous planning efforts	1	2	2	No included in prior planning efforts	Not included in prior planning efforts, but consistent with Metro vision for corridor	Not included in prior planning efforts, but consistent with Metro vision for corridor

Project Objectives	Evaluation Criteria	Commercial Context Cross-Section Evaluation				Evaluation Notes			
		Separated Bike Lanes	Sidewalk-Level Bike Lanes	Sidewalk-Adjacent Bike Lanes	Parking-Protected Bike Lane	Separated Bike Lanes	Sidewalk-Level Bike Lanes	Sidewalk-Adjacent Bike Lanes	Parking-Protected Bike Lane
1. Create a cohesive Halsey streetscape and pedestrian environment that supports existing small businesses, attracts new businesses, and creates new jobs	1.1 Promotes economic development by supporting access to local businesses and business districts for all travel modes.	3	4	4	3	Improves comfort of people biking, but could create challenges for other travel modes	Improves comfort of people walking, biking, and taking transit	Improves comfort of people walking, biking, and taking transit	Improves comfort of people biking, but could create challenges for other travel modes
2. Design Halsey Street to unite the three cities while also allowing each city to be distinguished in the ways they build community and drive economic development	2.1 Minimizes impacts to adjacent properties	2	3	3	2	May have property impacts in some areas	May have property impacts in some areas	May have property impacts in some areas	May have property impacts in some areas
	2.2 Can be implemented on an incremental basis through development	4	3	2	2	Can be implemented on an incremental basis in some areas	Can be implemented on an incremental basis in few areas	May be difficult to implemented on an incremental basis	May be difficult to implemented on an incremental
	2.3 Construction and long-term maintenance costs are equal to existing costs	2	3	4	3	Would increase construction cost and require new maintenance equipment	Would increase construction cost, but would have similar maintenance cost	Would increase construction cost, but would have similar maintenance cost - easier to maintain landscaping	Would increase construction cost, but would have similar maintenance cost
3. Make Halsey Street safer, more accessible, and more visually attractive	3.1 Creates safe and convenient access for people with disabilities	2	4	3	3	Could create some challenges for people with disabilities	Creates few challenges for people with disabilities	Could create some challenges for people with disabilities	Could create some challenges for people with disabilities
	3.2 Improves street appearance through added landscaping and street trees	3	4	5	3	Creates space for street trees and other plantings behind bike lanes	Creates space for street trees and other plantings behind bike lanes	Creates space for street trees and other plantings behind bike lanes adjacent to travel lanes	Creates space for street trees and other plantings behind bike lanes
	3.3 Creates space for adding street furnishing	3	5	4	5	Could create space for street furnishings in landscape strips	Could create space for street furnishings in landscape strips (btw sidewalks and bike lanes) - narrower cross section could also allow street furnishings adjacent to building	Could create space for street furnishings in landscape strips (btw bike lanes and motor vehicle lanes) - narrower cross section could also allow street furnishings adjacent to building	Could create space for street furnishings in landscape strips (btw sidewalks and bike lanes) - narrower cross section could also allow street furnishings adjacent to building
4. Make public transit, walking, and biking in the Halsey Street corridor more appealing and safer	4.1 Improves safety for people walking, biking and taking transit	3	4	5	3	Provides some benefit to people biking, but little added benefit to people walking or taking transit	Provides good benefit to people walking, biking, and taking transit	Provides good benefit to people walking, biking, and taking transit - transit access may be improved with space for a waiting area adjacent to motor vehicle lane	Provides some benefit to people biking, but little added benefit to people walking or taking transit
	4.2 Increases number and frequency of protected crossings of Halsey Street	3	5	5	3	Improves ability to provided enhanced crossings	Significantly improves ability to provided enhanced crossings	Significantly improves ability to provided enhanced crossings	Does not change ability to provide enhanced crossings
	4.3 Improves access to adjacent land uses and public transit facilities and services	2	4	5	3	Could create challenges for accessing adjacent land uses and transit	Improves access for people walking, biking, and traking transit	Improves access for people walking, biking, and traking transit - tranist access may be improved with space for a waiting area adjacent to motor vehicle lane	Improves access for people biking and could be designed to improve access for people traking transit
5. Improve the environment by reducing pollution, planting street trees, and using cost-efficient, sustainable landscaping treatments	5.1 Incorporates sustainable design strategies	3	4	5	3	Some sustainable design strategies could be used	Allows for sustainable design features, such as stormwater facilities	Allows for sustainable design features, such as stormwater facilities adjacent to motor vehicle travel lane	Some sustainable design strategies could be used
	5.2 Creates space for incorporating stormwater facilities	2	4	5	2	Stormwater facilities could be challenging	Creates space for stormwater facilities	Creates space for stormwater facilities adjacent to motor vehicle travel lane	Stormwater facilities could be challenging
	5.3 Reduces impervious surfaces	2	3	3	2	Some increases impervious surfaces	Some minor increases impervious surfaces	Some minor increases impervious surfaces	Some increases impervious surfaces
	5.4 Increases tree canopy coverage in the corridor	4	4	5	4	Creates space for street trees	Creates space for street trees	Creates space for street trees adjacent to motor vehicle lanes	Creates space for street trees
6. Enhance bikeability and walkability by slowing vehicular traffic, improving intersections, and discouraging through-traffic by trucks	6.1 Slows vehicular traffic	3	4	5	5	Narrows travel lanes and center turn lane	Narrows travel lanes and center turn lane	Narrows travel lanes and center turn lane streets trees adjacnet to travel way will also help narrow feel of roadway	Narrows travel lanes - on-street parking creates additional friction
	6.2 Discourages through truck traffic	3	4	4	5	Could discourage some through trucks	Could discourage some through trucks	Could discourage some through trucks	Could discourage some through trucks
	6.3 Maintains access to local businesses for delivery trucks	2	3	4	2	Could create challenges for curbside deliveries	Could create challenges for curbside deliveries	Could improve access for curbside deliveries	Could create challenges for curbside deliveries
	6.4 Provides low-street pedestrian and bicycle facilities	3	5	5	4	Reduces stress for people biking	Significantly reduces stress for people walking and biking	Significantly reduces stress for people walking and biking	Reduces stress for people biking
7. Engage with local business owners and the public to broaden commitment and ongoing involvement in the corridor	7.1 Supported by local property owners, business owners and operators, and the public.	2	5	5	2	Not well supported by public	Well supported by public	Well supported by public	Not well supported by public
	7.2 Consistent with previous planning efforts	1	2	2	1	No included in prior planning efforts	Not included in prior planning efforts, but consistent with Metro vision for corridor	Not included in prior planning efforts, but consistent with Metro vision for corridor	No included in prior planning efforts
		52	77	83	60				

Project Objectives	Evaluation Criteria	Edgefield Context Cross-Section Evaluation			Evaluation Notes		
		Shoulder Bike Lanes with Shared-Use Path	Sidewalk-Level Bike Lanes	Shared-Use Paths Within Right-of-Way	Shoulder Bike Lanes with Shared-Use Path	Sidewalk-Level Bike Lanes	Shared-Use Paths Within Right-of-Way
1. Create a cohesive Halsey streetscape and pedestrian environment that supports existing small businesses, attracts new businesses, and creates new jobs	1.1 Promotes economic development by supporting access to local businesses and business districts for all travel modes.	3	4	4	Improves comfort of people walking and biking, but could create challenges for other travel modes	Improves comfort of people walking, biking, and taking transit	Improves comfort of people walking, biking, and taking transit
2. Design Halsey Street to unite the three cities while also allowing each city to be distinguished in the ways they build community and drive economic development	2.1 Minimizes impacts to adjacent properties	3	1	2	May have property impacts in some areas	Significant property impacts	Significant property impacts
	2.2 Can be implemented on an incremental basis through development	4	2	4	Can be implemented on an incremental basis in some areas	May be difficult to implement on an incremental	Can be implemented on an incremental basis in some areas
	2.3 Construction and long-term maintenance costs are equal to existing costs	2	3	4	Would increase construction cost and require new maintenance equipment	Would increase construction cost, but would have similar maintenance cost	Would increase construction cost, but would have similar maintenance cost - easier to maintain landscaping
3. Make Halsey Street safer, more accessible, and more visually attractive	3.1 Creates safe and convenient access for people with disabilities	2	4	3	Could create some challenges for people with disabilities	Creates few challenges for people with disabilities	Could create some challenges for people with disabilities
	3.2 Improves street appearance through added landscaping and street trees	3	4	5	Creates space for street trees and other plantings behind shoulders/bike lanes	Creates space for street trees and other plantings behind bike lanes	Creates space for street trees and other plantings adjacent to travel lanes
	3.3 Creates space for adding street furnishing	3	4	4	Could create space for street furnishings in landscape strips on one side (btw sidewalks and bike lanes)	Could create space for street furnishings in landscape strips (btw sidewalks and bike lanes)	Could create space for street furnishings in landscape strips (btw SUP and motor vehicle lanes)
4. Make public transit, walking, and biking in the Halsey Street corridor more appealing and safer	4.1 Improves safety for people walking, biking and taking transit	3	4	5	Provides some benefit to people walking and biking, but little added benefit to people taking transit	Provides good benefit to people walking, biking, and taking transit	Provides good benefit to people walking, biking, and taking transit - transit access may be improved with space for a waiting area adjacent to motor vehicle lane
	4.2 Increases number and frequency of protected crossings of Halsey Street	3	5	5	Improves ability to provide enhanced crossings	Significantly improves ability to provide enhanced crossings	Significantly improves ability to provide enhanced crossings
	4.3 Improves access to adjacent land uses and public transit facilities and services	2	4	5	Improves access for people walking and biking, but could create challenges for accessing transit	Improves access for people walking, biking, and taking transit, as well as motor vehicle access to adjacent land uses	Improves access for people walking, biking, and taking transit, as well as motor vehicle access to adjacent land uses
5. Improve the environment by reducing pollution, planting street trees, and using cost-efficient, sustainable landscaping treatments	5.1 Incorporates sustainable design strategies	4	4	5	Allows for sustainable design features, such as stormwater facilities	Allows for sustainable design features, such as stormwater facilities	Allows for sustainable design features, such as stormwater facilities adjacent to motor vehicle travel lane
	5.2 Creates space for incorporating stormwater facilities	4	4	5	Creates space for stormwater facilities	Creates space for stormwater facilities	Creates space for stormwater facilities adjacent to motor vehicle travel lane
	5.3 Reduces impervious surfaces	2	2	3	Increases impervious surfaces	Increases impervious surfaces	Some increases impervious surfaces
	5.4 Increases tree canopy coverage in the corridor	4	4	5	Creates space for street trees	Creates space for street trees	Creates space for street trees adjacent to motor vehicle lanes
6. Enhance bikeability and walkability by slowing vehicular traffic, improving intersections, and discouraging through-traffic by trucks	6.1 Slows vehicular traffic	3	3	3	Narrows travel lanes, but widens shoulders	Narrows travel lanes and provides curb on both sides, but widens to three lanes	Narrows travel lanes and provides curb on both sides, but widens to three lanes - also provides street trees adjacent to travel lanes
	6.2 Discourages through truck traffic	3	4	4	Could discourage some through trucks	Could discourage some through trucks	Could discourage some through trucks
	6.3 Maintains access to local businesses for delivery trucks	3	5	5	Maintains access to local businesses	Improves access to local businesses	Improves access to local businesses
	6.4 Provides low-street pedestrian and bicycle facilities	3	5	5	Reduces stress for people biking	Significantly reduces stress for people walking and biking	Significantly reduces stress for people walking and biking
7. Engage with local business owners and the public to broaden commitment and ongoing involvement in the corridor	7.1 Supported by local property owners, business owners and operators, and the public.	4	2	5	Supported by public	Not well supported by public	Well supported by public
	7.2 Consistent with previous planning efforts	2	2	2	Not included in prior planning efforts, but consistent with Metro vision for corridor	Not included in prior planning efforts, but consistent with Metro vision for corridor	Not included in prior planning efforts, but consistent with Metro vision for corridor

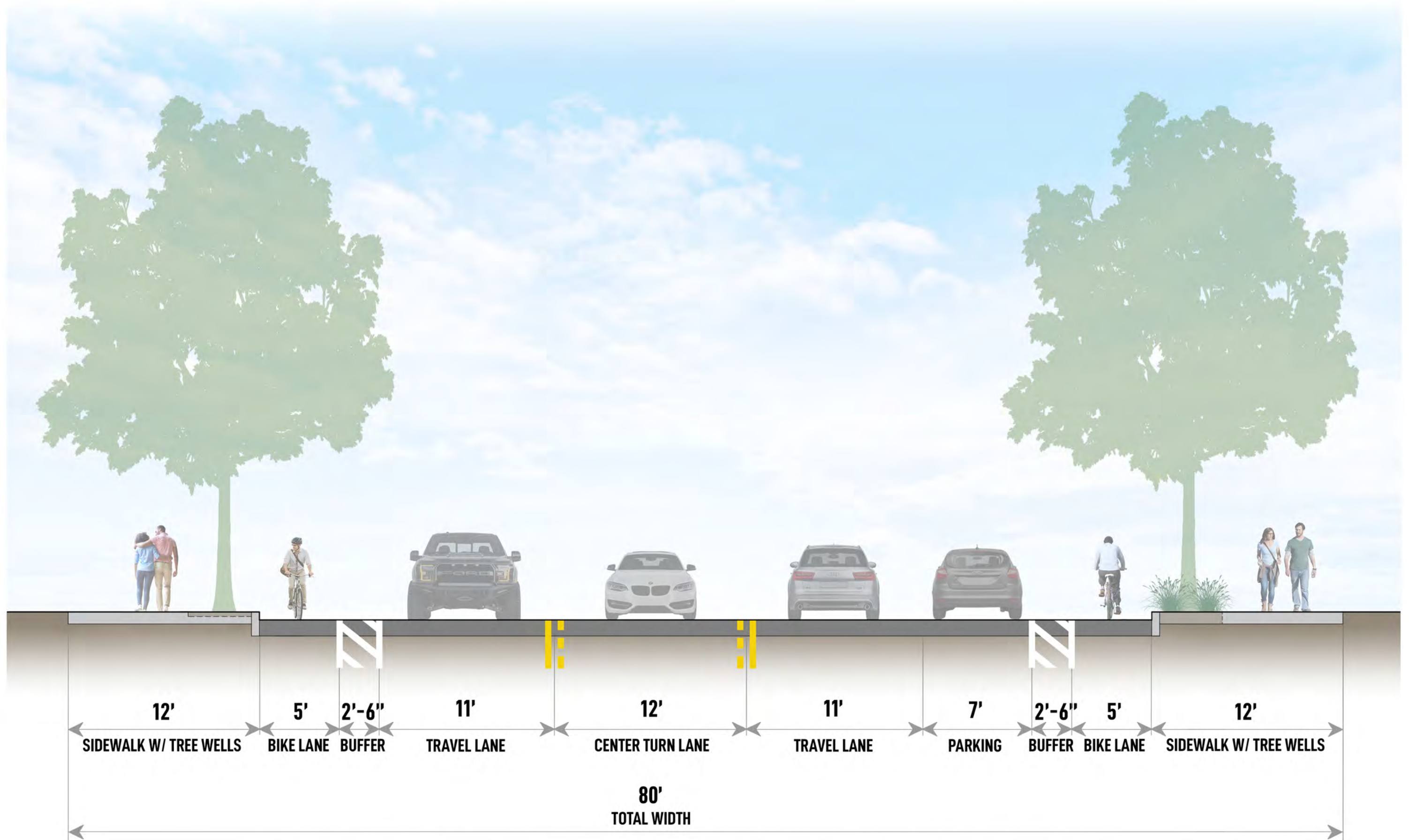
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70

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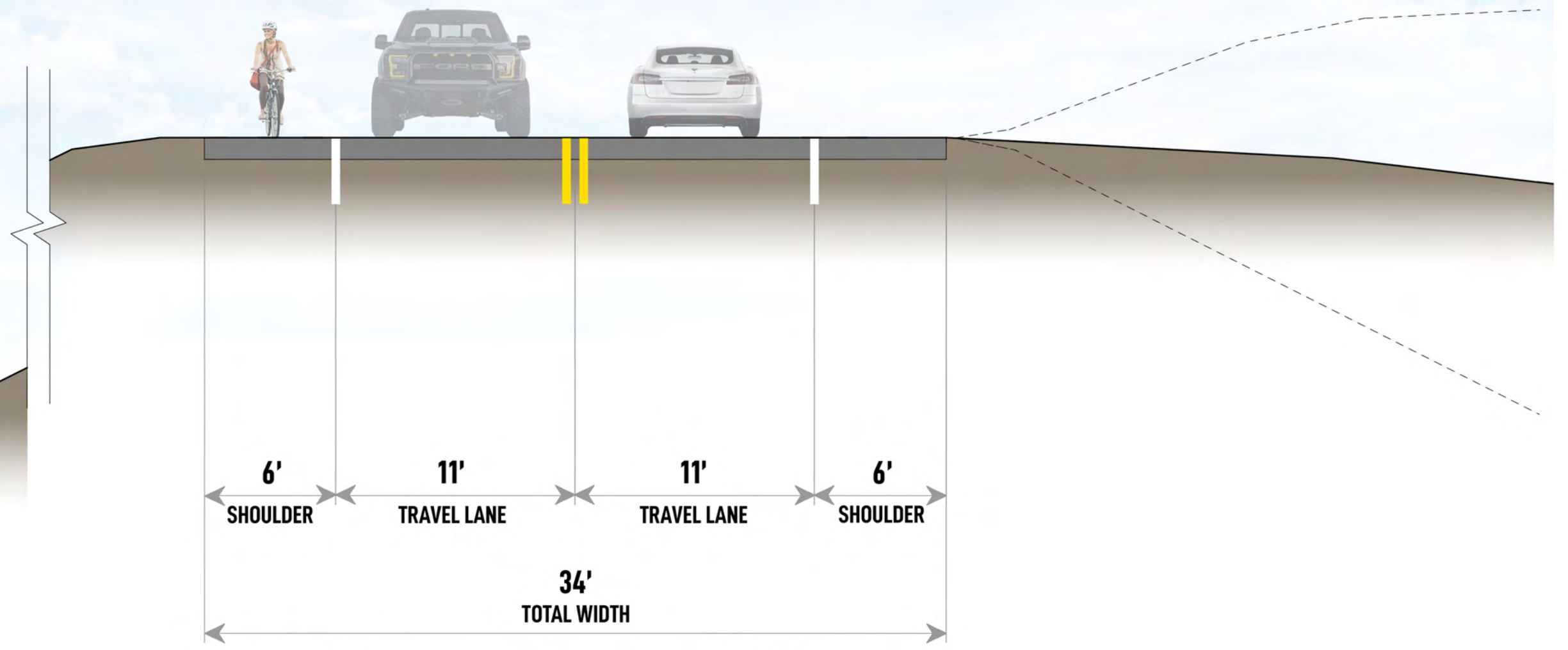
Appendix B: Near-Term Solutions





RESIDENTIAL AND COMMERCIAL - NEAR TERM SOLUTION

NORTH
←

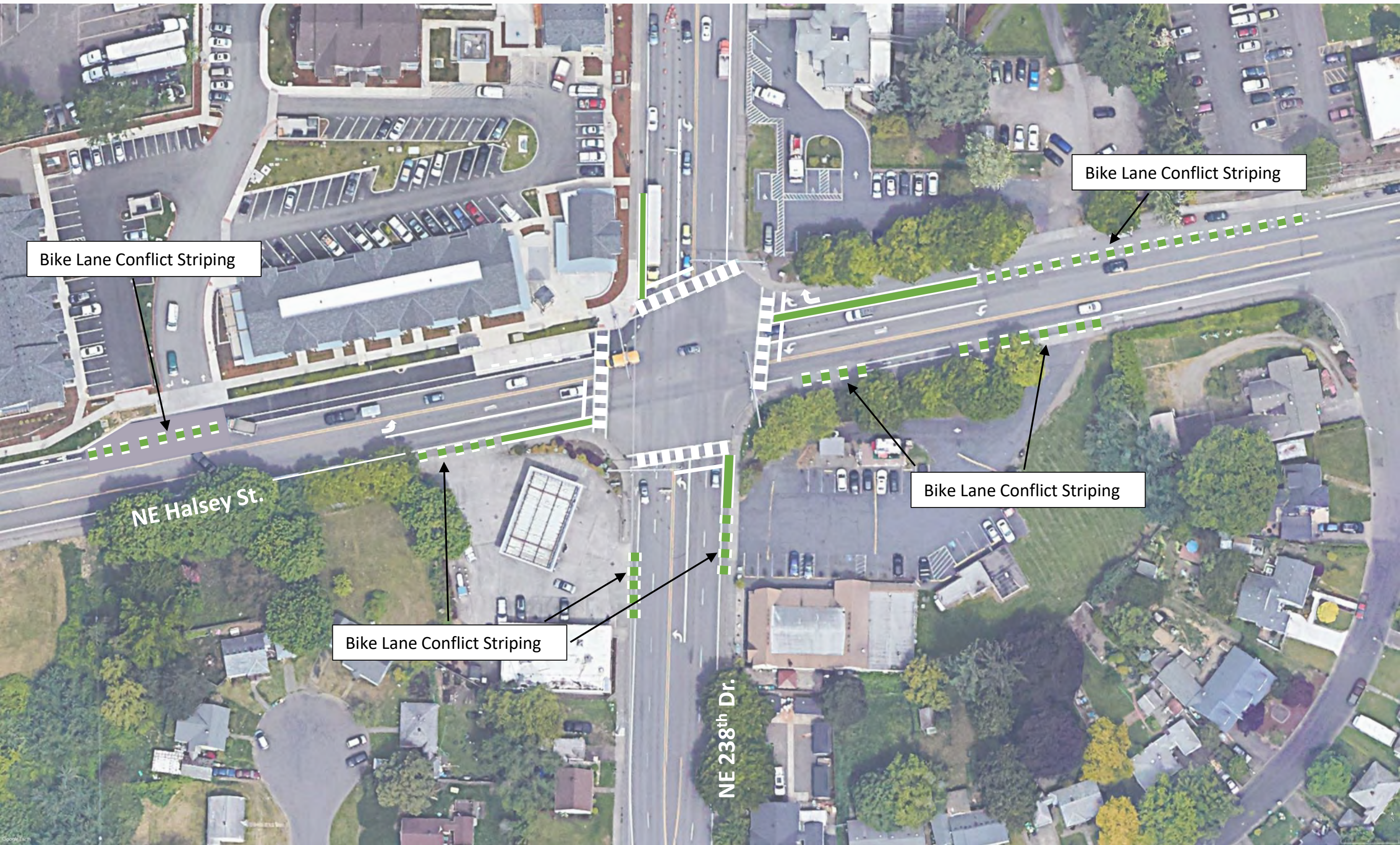


EDGEFIELD - NEAR TERM SOLUTION

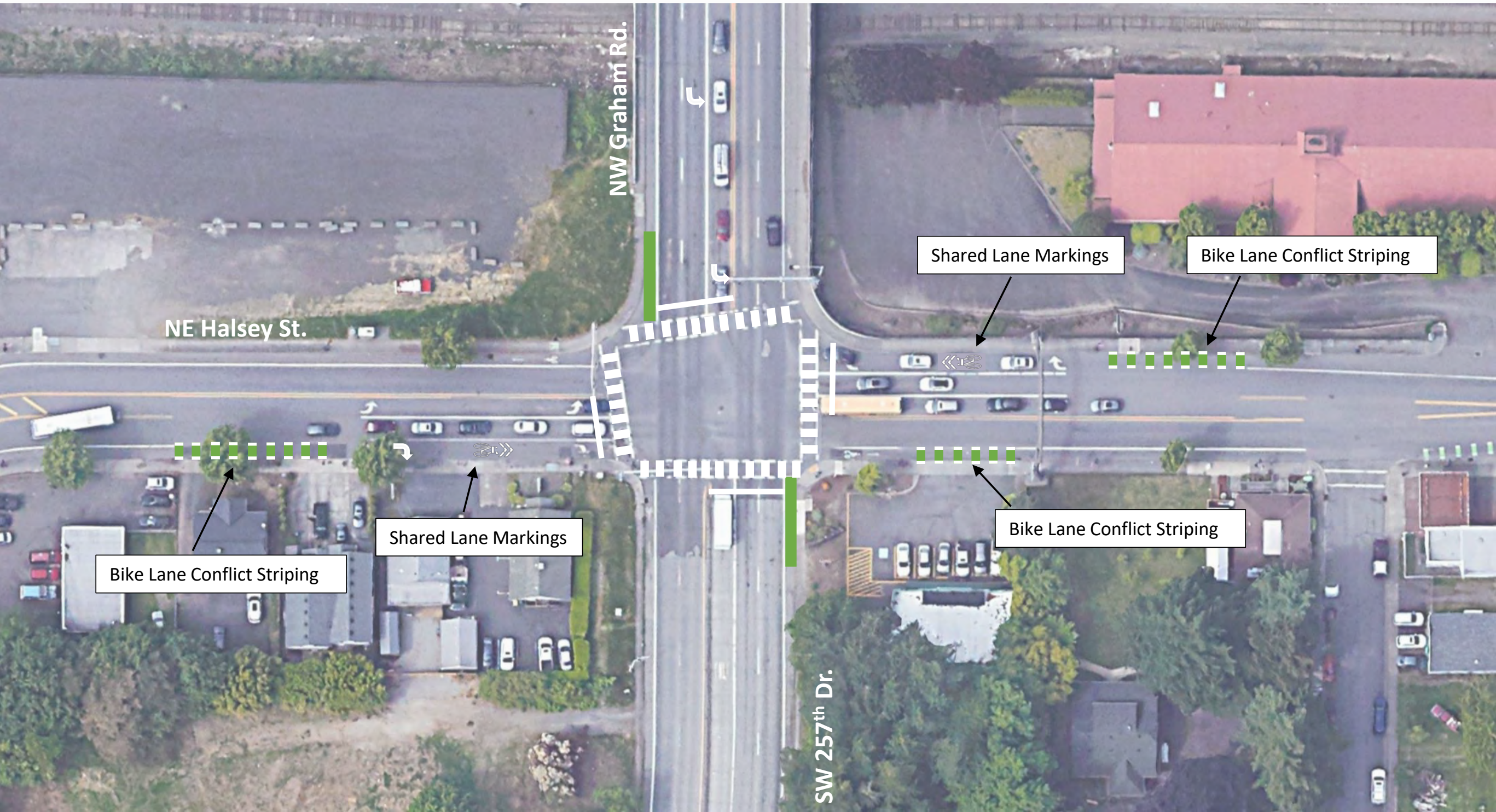
ENHANCED IMPROVEMENTS AT NE HALSEY STREET & NE 223RD AVENUE INTERSECTION



ENHANCED IMPROVEMENTS AT NE HALSEY STREET & NE 238TH DRIVE INTERSECTION



ENHANCED IMPROVEMENTS AT NE HALSEY STREET & NE 257TH DRIVE/ NW GRAHAM ROAD INTERSECTION

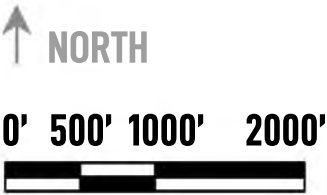


PROPOSED NEAR-TERM ENHANCED PEDESTRIAN CROSSING LOCATIONS



LEGEND

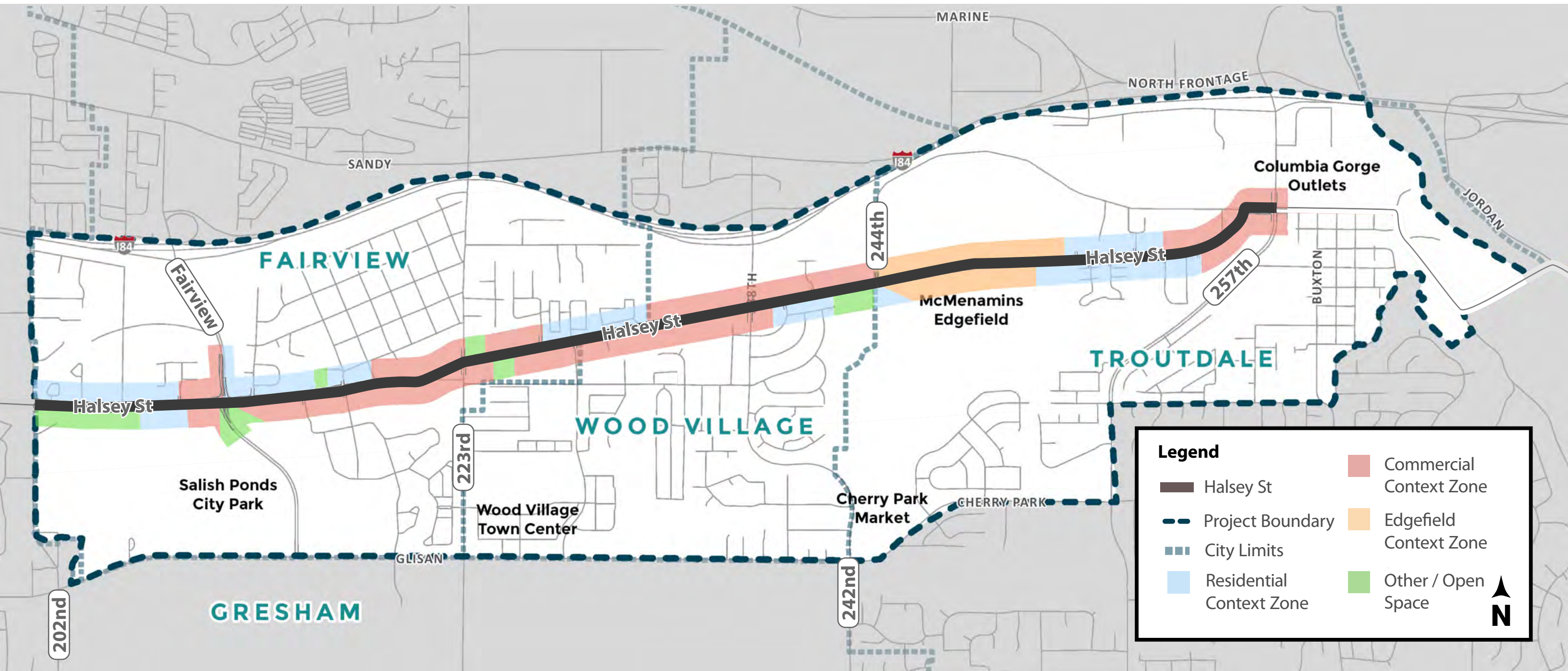
-  EXISTING CROSSING, IMPROVE NEAR-TERM
-  NEW CROSSING, BUILD NEAR-TERM



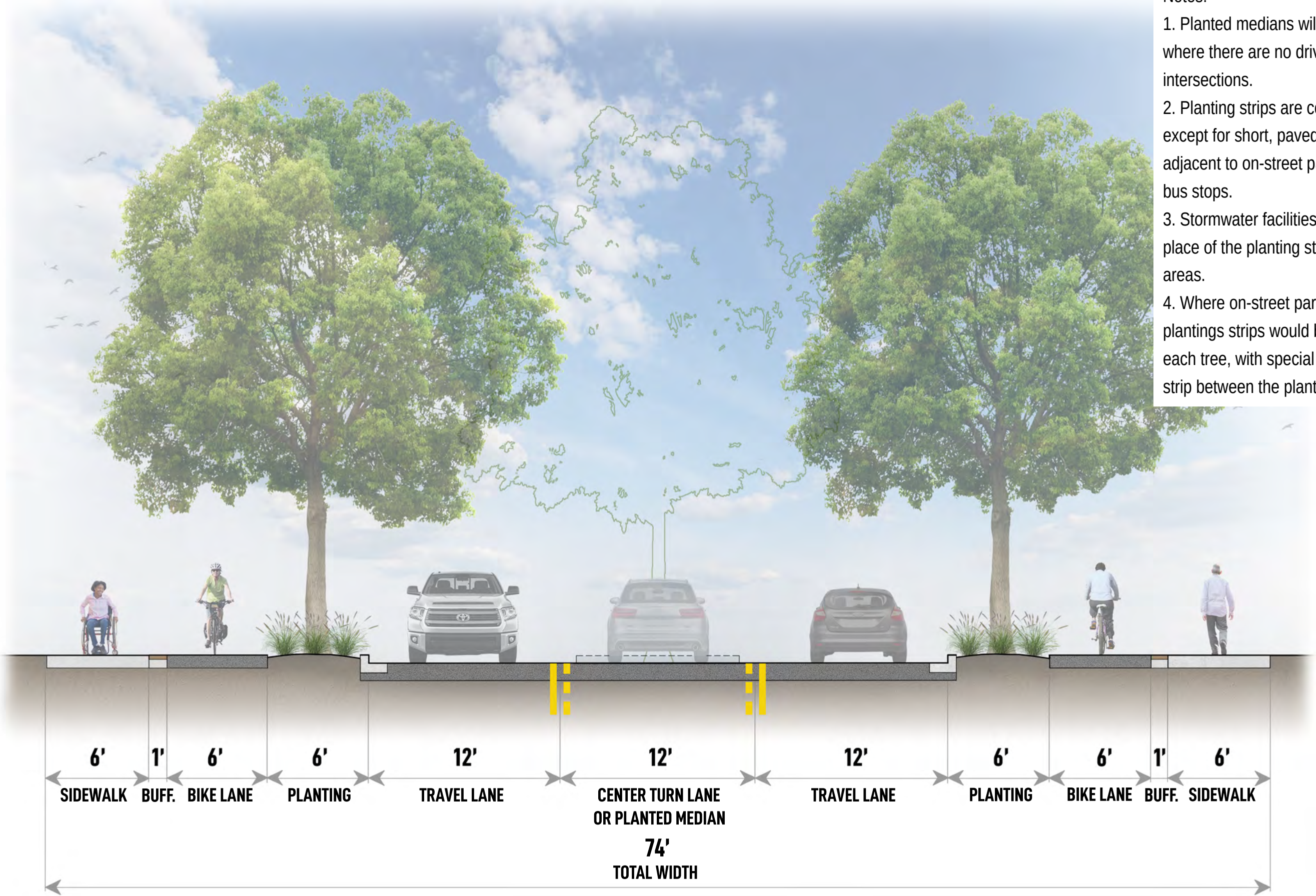
Appendix C: Long-Term Solutions



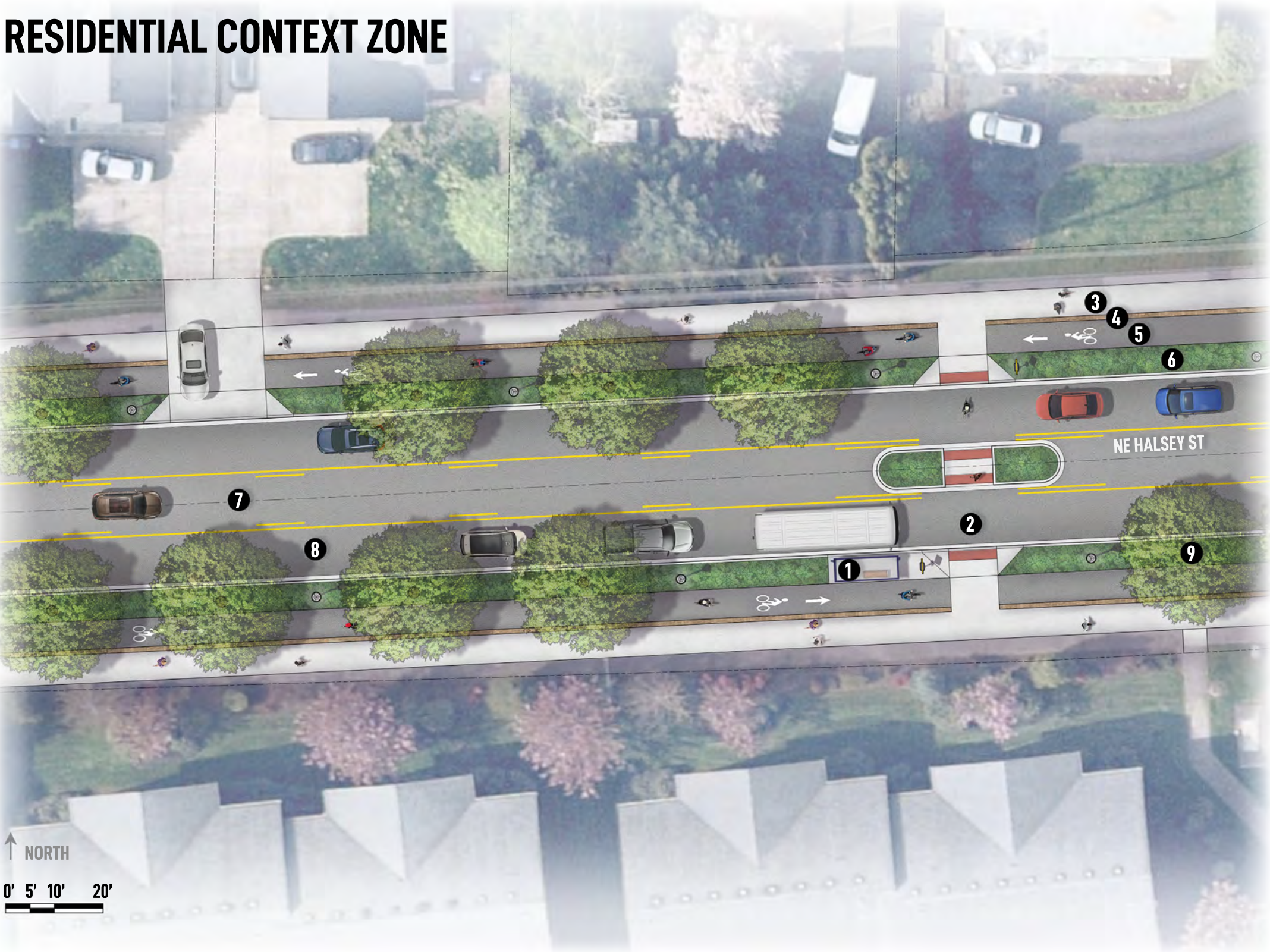
CONTEXT ZONE PLAN



- Notes:
- 1. Planted medians will only occur where there are no driveways or intersections.
 - 2. Planting strips are continuous except for short, paved sections adjacent to on-street parking or in-lane bus stops.
 - 3. Stormwater facilities may be used in place of the planting strips in some areas.
 - 4. Where on-street parking is provided, plantings strips would be 8' long at each tree, with special paving in the strip between the planters.



RESIDENTIAL CONTEXT ZONE



LEGEND

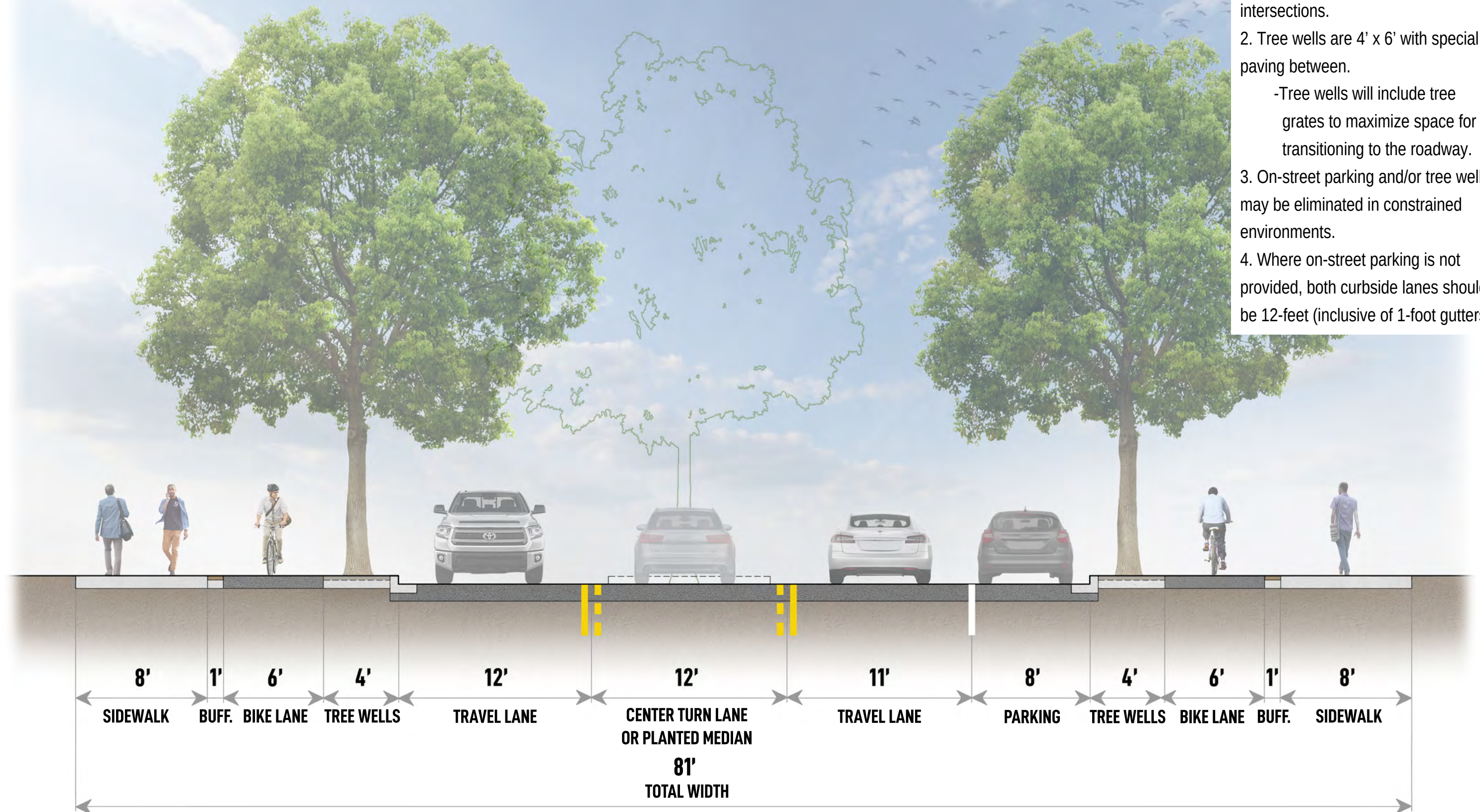
- STREET LIGHTING
- RECTANGULAR RAPID FLASHING BEACON

KEY NOTES

- | | | | | | |
|---|------------------------------|---|------------------|---|-----------------------|
| 1 | BUS STOP | 5 | BIKE LANE | 9 | PROPOSED STREET TREES |
| 2 | ENHANCED PEDESTRIAN CROSSING | 6 | PLANTING | | |
| 3 | SIDEWALK | 7 | CENTER TURN LANE | | |
| 4 | BUFFER - SPECIAL PAVING | 8 | TRAVEL LANE | | |

Notes:

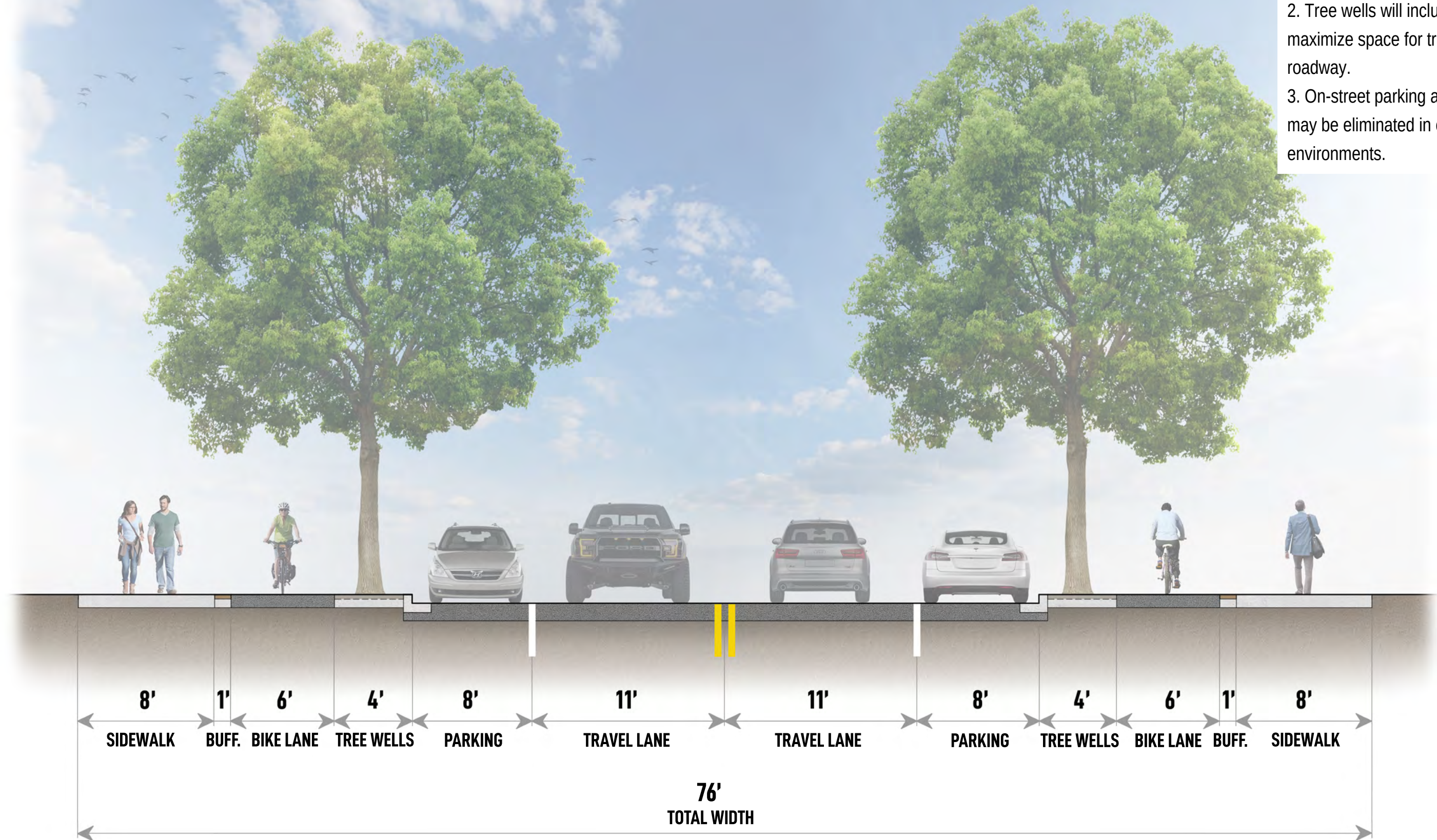
1. Planted medians will only occur where there are no driveways or intersections.
2. Tree wells are 4' x 6' with special paving between.
 - Tree wells will include tree grates to maximize space for transitioning to the roadway.
3. On-street parking and/or tree wells may be eliminated in constrained environments.
4. Where on-street parking is not provided, both curbside lanes should be 12-feet (inclusive of 1-foot gutters).



COMMERCIAL CONTEXT ZONE: A

Notes:

1. Tree wells are 4' x 6' with special paving between.
2. Tree wells will include tree grates to maximize space for transitioning to the roadway.
3. On-street parking and/or tree wells may be eliminated in constrained environments.



COMMERCIAL CONTEXT ZONE: B

COMMERCIAL CONTEXT ZONE



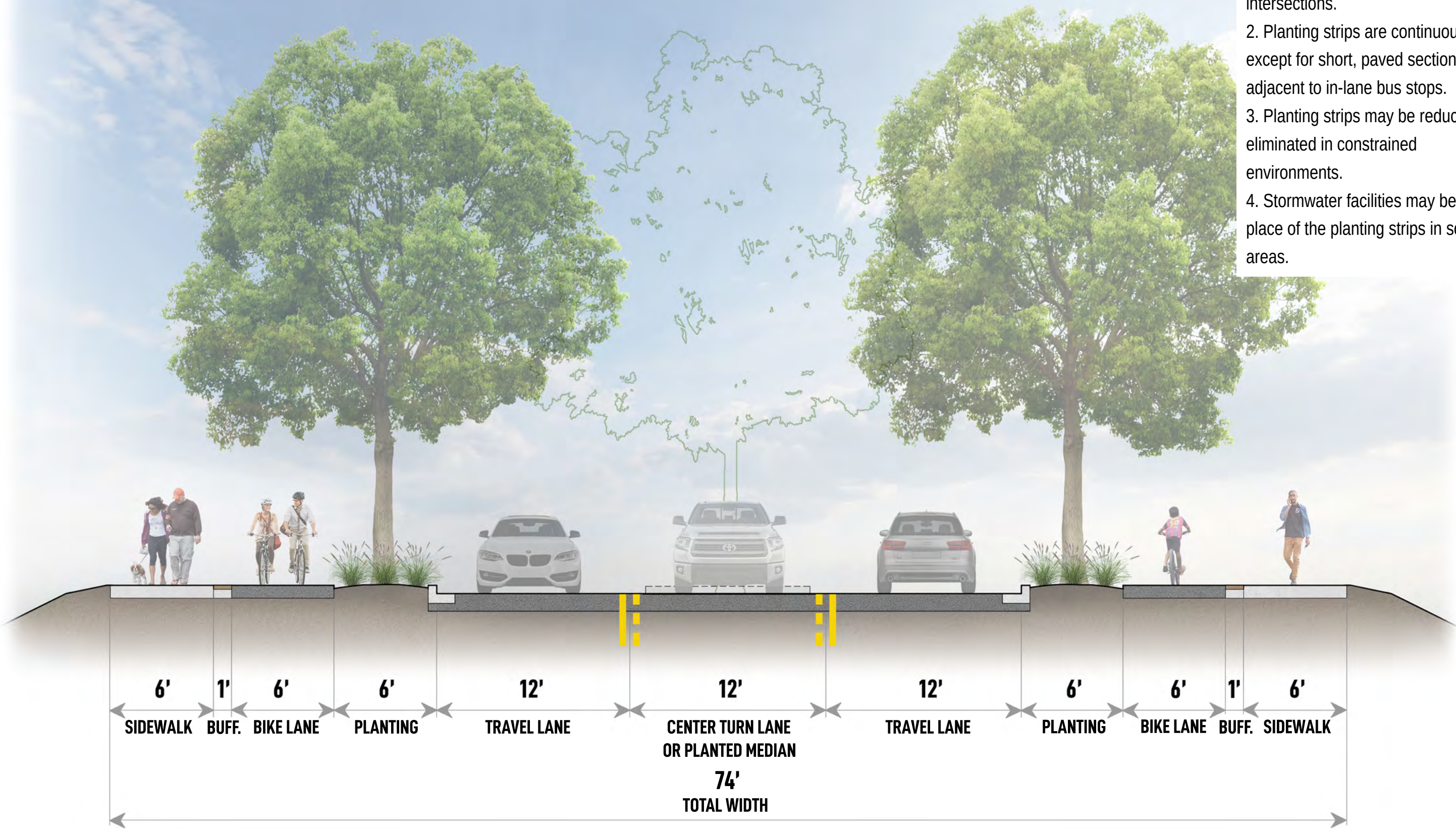
LEGEND

- STREET LIGHTING
- RECTANGULAR RAPID FLASHING BEACON
- TRASH RECEPTACLE
- BENCH

KEY NOTES

- 1 ENHANCED PEDESTRIAN CROSSING
- 2 BIKE RACK
- 3 SIDEWALK
- 4 BUFFER - SPECIAL PAVING
- 5 BIKE LANE
- 6 FURNISHING ZONE
- 7 CENTER TURN LANE
- 8 TRAVEL LANE
- 9 PROPOSED STREET TREES W/ TREE GRATES
- 10 PARKING

- Notes:
- 1. Planted medians will only occur where there are no driveways or intersections.
 - 2. Planting strips are continuous except for short, paved sections adjacent to in-lane bus stops.
 - 3. Planting strips may be reduced or eliminated in constrained environments.
 - 4. Stormwater facilities may be used in place of the planting strips in some areas.



EDGEFIELD CONTEXT ZONE

EDGEFIELD CONTEXT ZONE



LEGEND

-  STREET LIGHTING
-  RECTANGULAR RAPID FLASHING BEACON

KEY NOTES

- | | | |
|---------------------------------------|---------------------------|--------------------------------|
| 1 BUS STOP | 5 BIKE LANE | 9 PROPOSED STREET TREES |
| 2 ENHANCED PEDESTRIAN CROSSING | 6 PLANTING | 10 PROPOSED EMBANKMENT |
| 3 SIDEWALK | 7 CENTER TURN LANE | |
| 4 BUFFER - SPECIAL PAVING | 8 TRAVEL LANE | |

Appendix D: Linear Design Plans



Gresham

Fairview

NE Halsey St

NE 196th Ave

NE Wasco St

NE 201st Ave

Key Map

SEE BELOW LEFT

Fairview

NE 205th Ave

NE 208th Pl

NE Halsey St

5

Redesign existing
refuge islands

Residential Context
Zone Enlargement

Relocate
bus stop

SEE BELOW LEFT

Fairview

NE 213th Ave

NE Halsey St

NE Village St

NE Market Dr

Key Map

SEE PLAN 2

LINEAR DESIGN PLAN 1

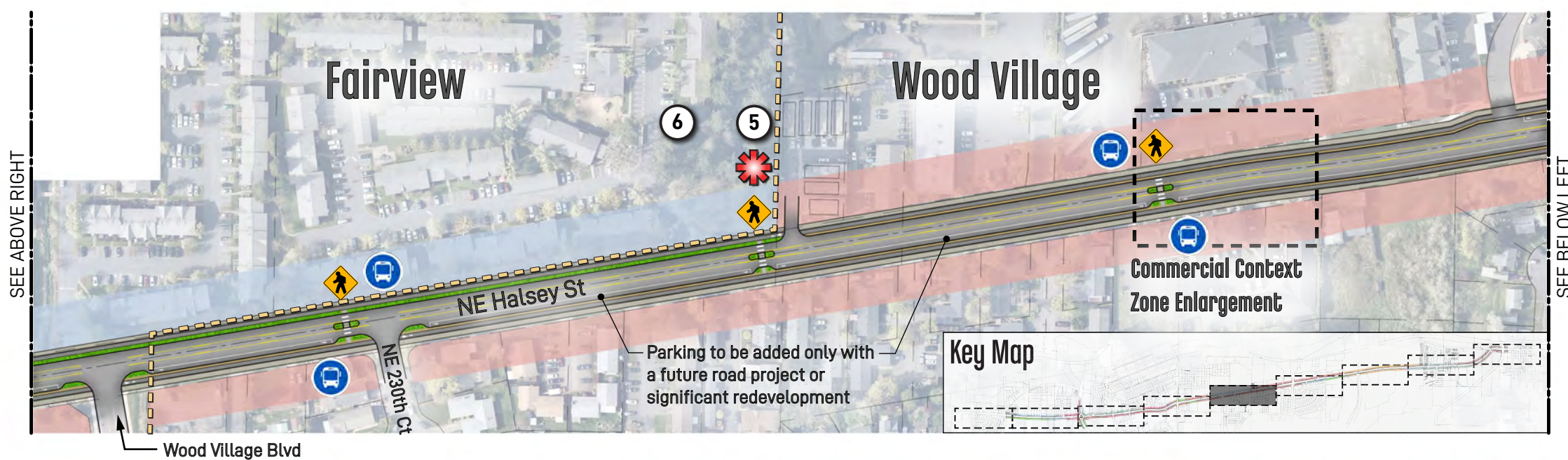
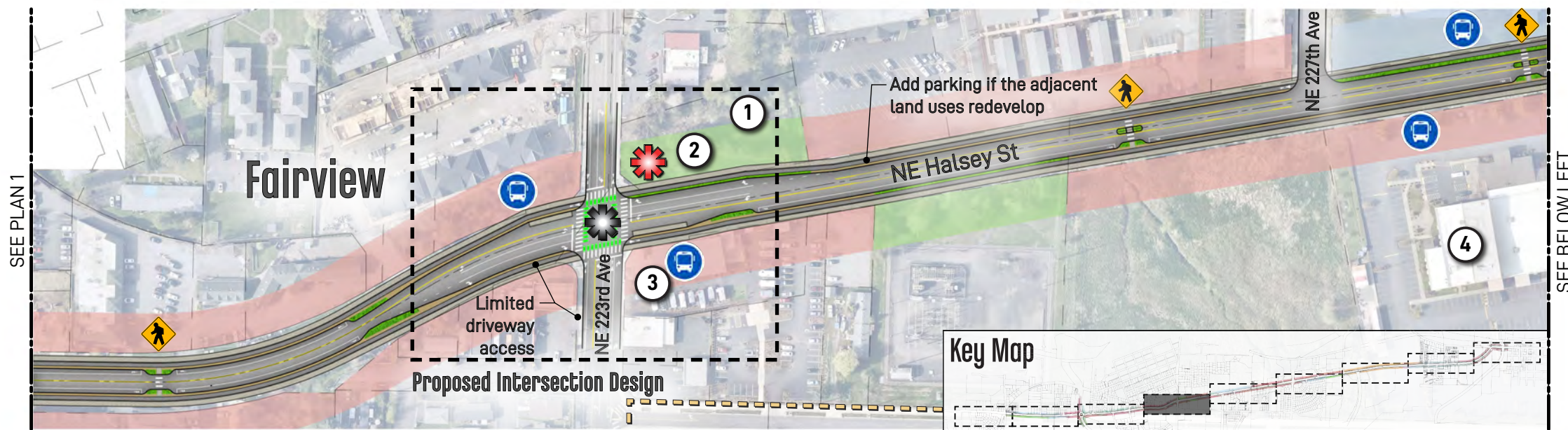
Legend

- City Limits
- Residential Context Zone
- Commercial Context Zone
- Edgefield Context Zone
- Other / Open Space
- Enhanced Pedestrian Crossing
- Proposed Intersection Improvements
- Special Opportunity Area
- Bus Stops

Key Notes

- 1 Reynolds Learning Academy
- 2 Reynolds SD Park & Ride
- 3 Connection to Gresham-Fairview Trail, and Potential Trailhead Improvements
- 4 Gresham Fairview Trail
- 5 Renolds SD Baseball Diamond
- 6 Potential Connection to Salish Ponds City Trail
- 7 VA Outpatient Clinic

0' 200' ↑



LINEAR DESIGN PLAN 2

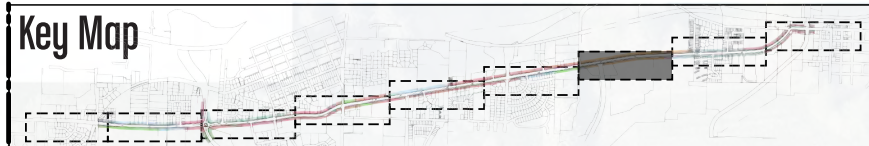
Legend

- City Limits
- Residential Context Zone
- Commercial Context Zone
- Edgefield Context Zone
- Other / Open Space
- Enhanced Pedestrian Crossing
- Proposed Intersection Improvements
- Special Opportunity Area
- Bus Stops

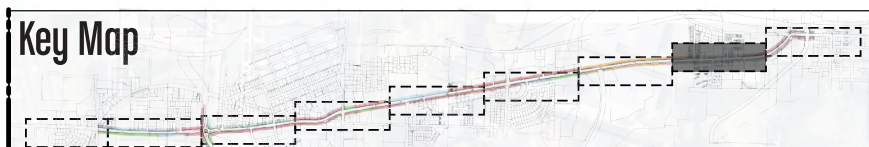
Key Notes

- 1 Fairview Creek
- 2 Marilyn's Park - Opportunity to Highlight Fairview Creek
- 3 Fairview Food Plaza and "The Fork"
- 4 Ukrainian Bible Church
- 5 Access to Fairview Woods Wetland Park
- 6 Mt. Hood Community College Head Start - Fairview
- 7 The Byway Retail / Dining
- 8 Wood Village City Hall and Civic Center
- 9 Donald L. Robertson City Park
- 10 Reynolds School District
- 11 Arata Creek
- 12 Opportunity to Highlight Arata Creek

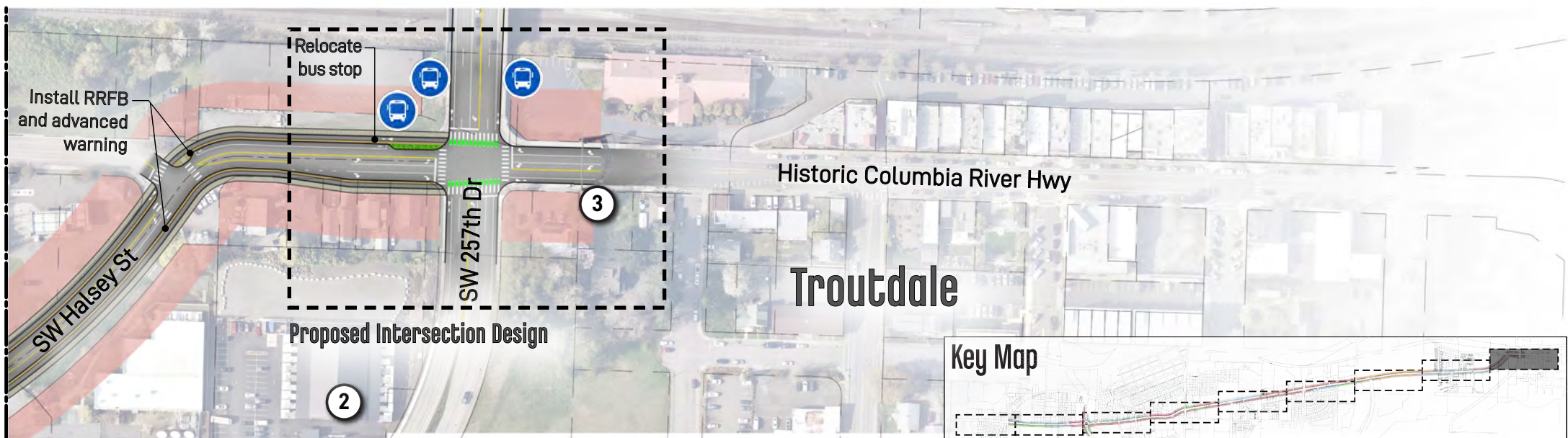




SEE PLAN 2



SEE ABOVE RIGHT



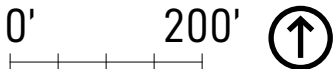
LINEAR DESIGN PLAN 3

Legend

- City Limits
- Residential Context Zone
- Commercial Context Zone
- Edgefield Context Zone
- Other / Open Space
- Enhanced Pedestrian Crossing
- Special Opportunity Area
- Bus Stops

Key Notes

- 1 McMenamins Edgefield
- 2 Troutdale Station Food Carts
- 3 Troutdale Gateway Sign

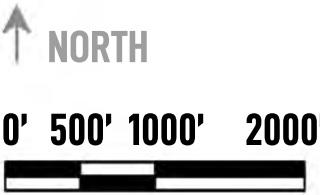


PROPOSED ENHANCED PEDESTRIAN CROSSING LOCATIONS



LEGEND

- | | |
|--|---|
|  EXISTING CROSSING, NO CHANGE |  NEW CROSSING, BUILD NEAR-TERM |
|  EXISTING CROSSING, IMPROVE NEAR-TERM |  NEW CROSSING, BUILD LONG-TERM |
|  EXISTING CROSSING, IMPROVE LONG-TERM | |



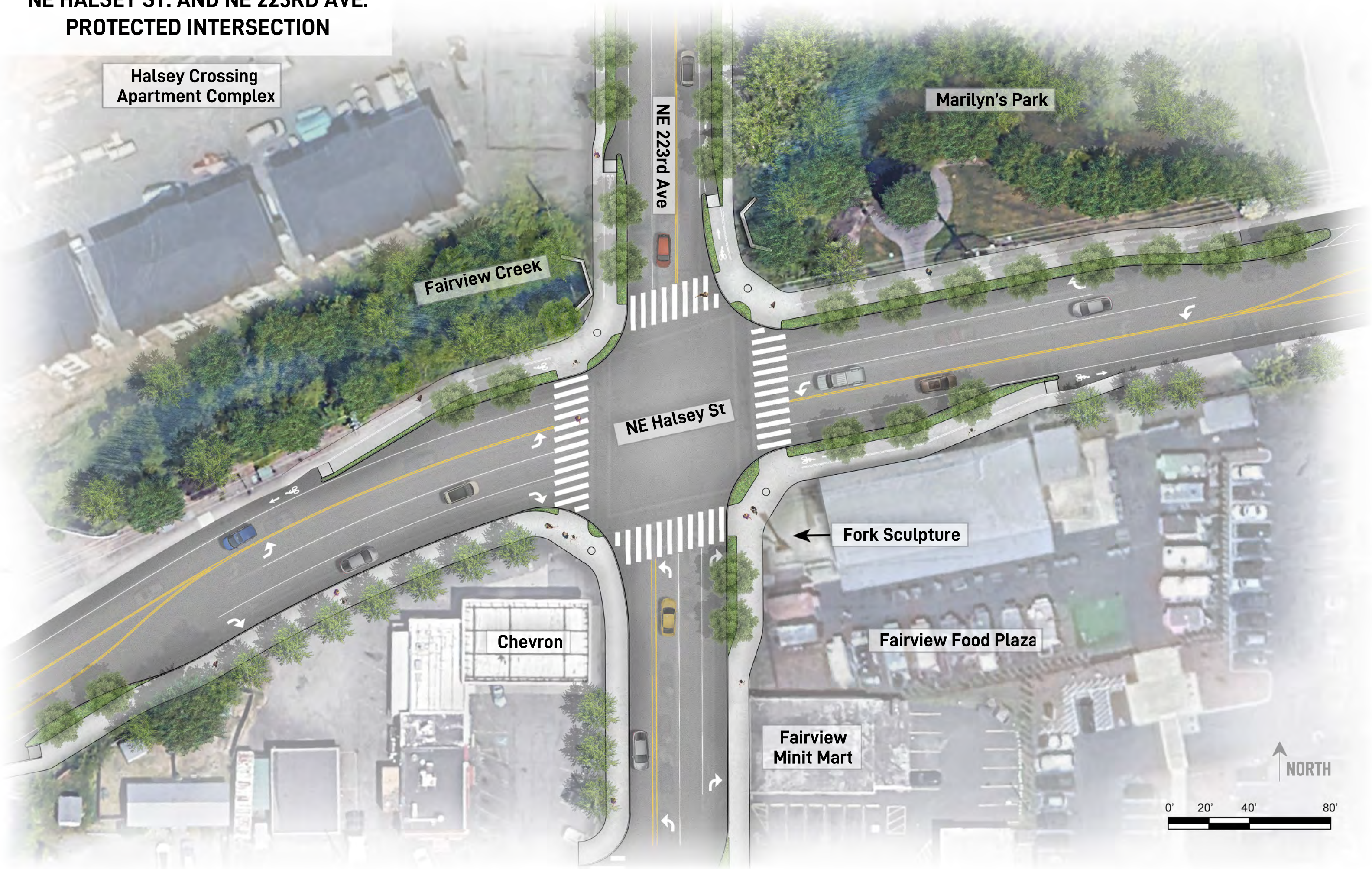
NE 223RD AVE & NE HALSEY ST



KEY NOTES

- | | |
|---------------------------|--|
| ① PARKING | ⑤ FURNISHING ZONE |
| ② SIDEWALK | ⑥ TRAVEL LANE |
| ③ BUFFER - SPECIAL PAVING | ⑦ PROPOSED STREET TREES W/ TREE GRATES |
| ④ BIKE LANE | ⑧ BUS STOP |

NE HALSEY ST. AND NE 223RD AVE.
PROTECTED INTERSECTION



Halsey Crossing
Apartment Complex

Marilyn's Park

Fairview Creek

NE 223rd Ave

NE Halsey St

Fork Sculpture

Chevron

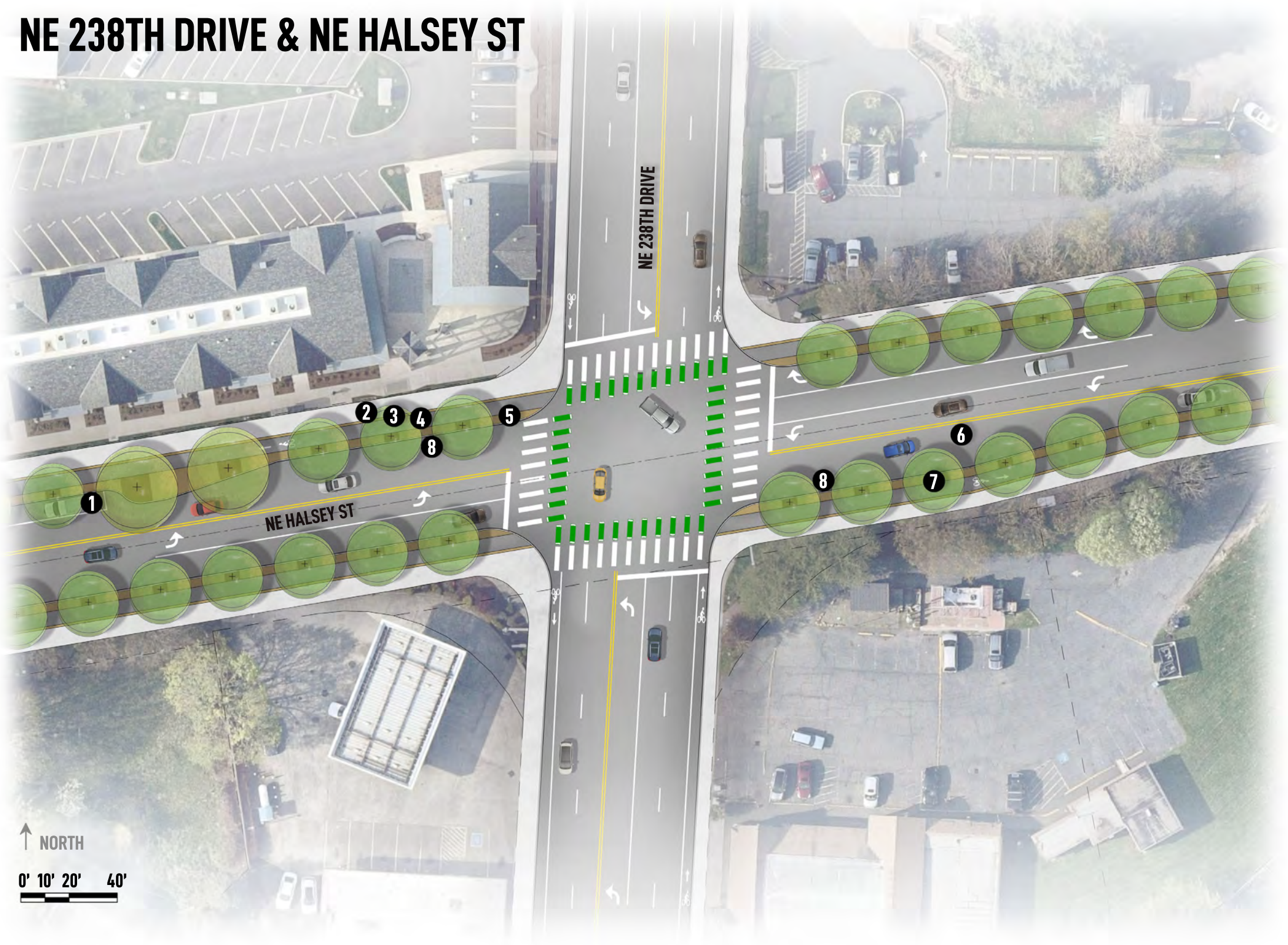
Fairview Food Plaza

Fairview
Minit Mart

NORTH

0' 20' 40' 80'

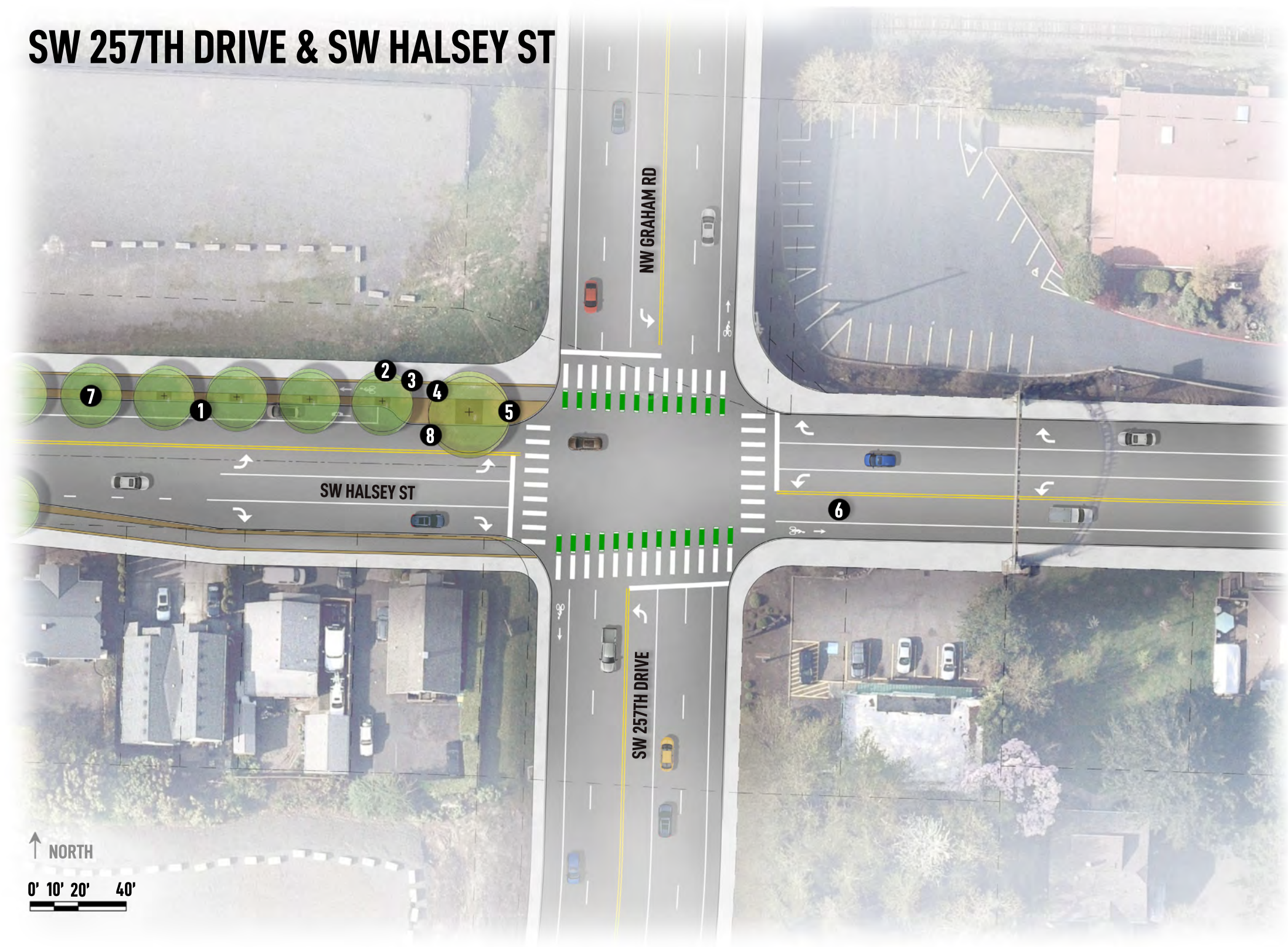
NE 238TH DRIVE & NE HALSEY ST



KEY NOTES

- | | |
|---------------------------|--|
| ➊ PARKING | ➕ FURNISHING ZONE |
| ➋ SIDEWALK | ➖ TRAVEL LANE |
| ➌ BUFFER - SPECIAL PAVING | ➗ PROPOSED STREET TREES W/ TREE GRATES |
| ➍ BIKE LANE | ➘ BUS STOP |

SW 257TH DRIVE & SW HALSEY ST



KEY NOTES

- | | |
|---------------------------|--|
| ➊ PARKING | ➕ FURNISHING ZONE |
| ➋ SIDEWALK | ➎ TRAVEL LANE |
| ➌ BUFFER - SPECIAL PAVING | ➏ PROPOSED STREET TREES W/ TREE GRATES |
| ➍ BIKE LANE | ➐ BUS STOPS |