DRAFT MEMORANDUM 7: PREFERRED LAND USE AND TRANSPORTATION ALTERNATIVES (DRAFT)

ASTORIA UNIONTOWN REBORN MASTER PLAN

Attention	Mike Morgan, City of Astoria
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Date	April 29, 2019
Copies to	Michael Duncan, ODOT

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Introduction

The purpose of this memorandum is to identify and evaluate the preferred land use and transportation alternatives for the Astoria Uniontown Reborn Master Plan. The sections below describe how the preferred alternatives were selected, how key elements of the preferred alternatives were developed, and how preferred alternatives were evaluated based on the project evaluation criteria.

Land Use Alternative Summary

The land use alternative section in this memorandum lays out the vision for preferred land uses. The land use regulations evaluated address five topic areas: allowed uses, building heights and massing, landscaping and setbacks, off-street parking, and design guidelines. Within each topic, two to three alternative approaches were described.

Key findings from the land use analysis include:

- The Gateway Subarea land use vision incrementally transitions the area into a more pedestrian-oriented and walkable form. Where buildings do not directly front the sidewalk, landscaping or plazas would provide for an attractive street frontage.

- The Core Subarea land use vision preserves the traditional urban pattern. New developments or redevelopments would extend the essential features of this historic character and strengthen the identity of the area as a traditional commercial "Main Street".

- The Gateway Subarea preferred use regulation concept would prohibit industrial uses (except for light manufacturing with a retail component) and automotive sales, continue to allow auto-oriented commercial uses.

- The Core Subarea preferred use regulation concept would prohibit industrial uses (except for light manufacturing with a retail component), automotive sales, gasoline service stations, automotive service and repair, drive-through facilities.

- The Gateway and Core Subarea preferred setbacks and landscaping concept is tailored respectively, but both promote improved landscaping and setbacks that create a pedestrian-friendly and attractive urban design.

- Preferred building height and massing concept would allow for a maximum height of 45 feet throughout the area, requiring any part of the building above 35 feet to be stepped back from the main façade by a minimum of 10 feet. As described below, this approach balances the goal of preserving views and view corridors with the goal to allow for development levels that support economic feasibility for new development.

- Preferred off-street parking concept would require off-street parking for most new development but provide reductions and exemptions to the standards to address situations where it may be difficult or infeasible.

- Preferred design standards and guidelines would prohibit architectural elements and styles that would be inconsistent with the predominant architectural elements of the buildings in the area. Compliance with the standards and guidelines is administered through a design review process.

Transportation Alternative Summary

The transportation alternative lays out the evaluation for the West Marine Drive (US 101) Astoria Uniontown study area. The transportation alternative evaluation section in this memorandum includes a discussion of the preferred alternative roadway configuration, including multimodal facilities, a Level of Traffic Stress evaluation for both pedestrians and bicyclists, a qualitative evaluation of potential safety benefits for the preferred alternative, and detailed intersection operations and queuing for 2035.

Key findings from the transportation analysis include:

- The Tier 2 evaluation carries forward the preferred alternative identified in the Tier 1 evaluation.

- A preferred alternative for the West Marine Drive Astoria Uniontown segment between the Smith Point Roundabout (OR 202) and the Columbia Avenue/Bond Street intersection was identified as

an outcome of the Tier 1 evaluation process[1]. The preferred alternative for West Marine Drive Astoria Downtown segment between the Columbia Avenue/Bond Street intersection and 8th Street was identified prior to this master planning work and is assumed to be complete for this study.

- The preferred alternative in the Uniontown segment would provide a four-lane cross-section with two westbound lanes, one eastbound lane, and a center two-way left turn (TWLT) lane between the Smith Point Roundabout and the Columbia Avenue/Bond Street intersection. The cross-section would also include westbound and eastbound bike lanes and segments of on-street parking.

- The analysis assumed the preferred cross-section would repurpose the existing curb-to-curb pavement width with new striping and median treatments and no roadway widening would occur. For the Uniontown segment, this will require several ODOT design exceptions for vehicle lane width and missing elements such as landscape strip. For the Uniontown segment, there is an opportunity along several segments of the corridor to construct minor roadway widening to meet, or come closer, to ODOT design standards.

- The preferred alternative is expected to provide safety benefits along the corridor. Spot locations could experience a crash reduction as high as 27%, depending on site specific crash patterns and the specific lane configuration.

- The Uniontown segment preferred alternative was analyzed for future 2035 intersection operations and compared to the baseline conditions. Most study intersections are expected to meet their mobility targets in 2035. The West Marine Dr/Columbia Avenue/Bond Street intersection is forecasted to operate slightly over the ODOT mobility target.

[1] Draft Memorandum 6: Transportation Alternatives, Astoria Uniontown Reborn Master Plan, DKS Associates and Jacobs, February 26, 2019.

Land Use Alternative Analysis

Development of the Preferred Alternative

The preferred land use alternative was identified through a process of creating multiple land use alternatives and facilitating stakeholder and community discussion. The preferred land use alternative was developed as part of a set of alternatives in Memorandum #6: Tier 1 Screening of Land Use Alternatives and Public Improvements. Five land use topics were identified: allowed uses, building heights and massing, landscaping and setbacks, off-street parking, and design guidelines. Within each topic, two to three alternative approaches were described.

The alternatives were presented to the STAC (at STAC Meeting #2) and to the community (at Public Event #2). The project team used feedback from the STAC and community to help identify the alternatives that best addressed the land use vision, community goals, and the project evaluation criteria. The preferred alternative is a combination of the preferred approach to each of the five individual topics presented to the STAC and community.

Uniontown Overlay Zone – Boundary and Subareas

A key concept of the preferred land use alternative is to establish a new Uniontown Overlay Zone (UOZ) within the study area. The proposed land use and urban design concepts cannot easily be implemented through amending the existing base zone in the area—the C-3 General Commercial Zone—because that zone applies to many other locations in the city. An overlay zone enables the city to apply the proposed code changes to a specific area within the plan area. The City of Astoria has commonly used overlay zones to implement subarea plans, so this approach is consistent with this practice.

Boundary

The proposed boundary of the UOZ is illustrated in Figure 1. The boundary of the UOZ is focused on the West Marine Drive corridor. The community has expressed a desire for this corridor to function as an important gateway into Astoria for travelers entering the city from the west, many arriving from Warrenton and other coastal communities to the south via the New Youngs Bay Bridge. Additionally, the community desires to preserve the character of the historic buildings and development pattern of the Uniontown-Alameda Historic District that is centered on the corridor in the study area.

The UOZ does not extend north into the industrial areas in and adjacent to the Port of Astoria as it was not identified as a priority to achieve certain land use and urban design goals for this area. The focus of this area is to provide employment uses and support citywide economic development. Secondly, the UOZ does not extend south into the residential neighborhoods as it was not identified as a priority to amend any development regulations that apply in these neighborhoods. Both areas will continue to support the commercial uses on the West Marine Drive corridor by supplying nearby employees and residents.

The UOZ will work in concert with the nearby Bridge Vista Overlay Zone (BVO). Previously, the approach identified in Memorandum #6 and presented to the STAC and public was to modify the boundaries of the BVO in order to re-assign some properties on the north side of West Marine Drive from the BVO to the new UOZ. Upon identifying the preferred alternative, the project team concluded that a more effective and efficient approach would be to preserve the existing boundaries of the BVO and apply the UOZ only to properties on the south side of West Marine Drive that are currently outside the BVO. There are two reasons this approach is preferred over modifying the boundary of the BVO:

1. The preferred land use alternative for these properties (if it were to be included in the UOZ) is largely identical to the development regulations that currently apply in the BVO, so the BVO is consistent with and implementing the land use vision for this area as expressed in this plan.
2. Separately from this project, the City is considering code amendments to the BVO that would apply in this area. The code amendments are intended to address evolving community goals for the entire BVO. Preserving the boundaries of the BVO will allow these regulations to remain consistent across all the properties within the boundaries of the existing BVO, as intended by the code amendments.

Subareas

The UOZ is proposed to be divided into two subareas: “Gateway” and “Core”. The boundaries of the two subareas are illustrated in Figure 1. While most of the proposed land use and urban design concepts will apply throughout the corridor, the existing characteristics and land use vision for these two subareas vary slightly. Thus, the areas will be identified and mapped in order to allow for variation in the development regulations that apply in each subarea. The size, existing characteristics, and land use vision for each subarea area described below. The specific development code concepts for each subarea, if they vary, are presented in the “Code Concepts” section of the memo that follows.

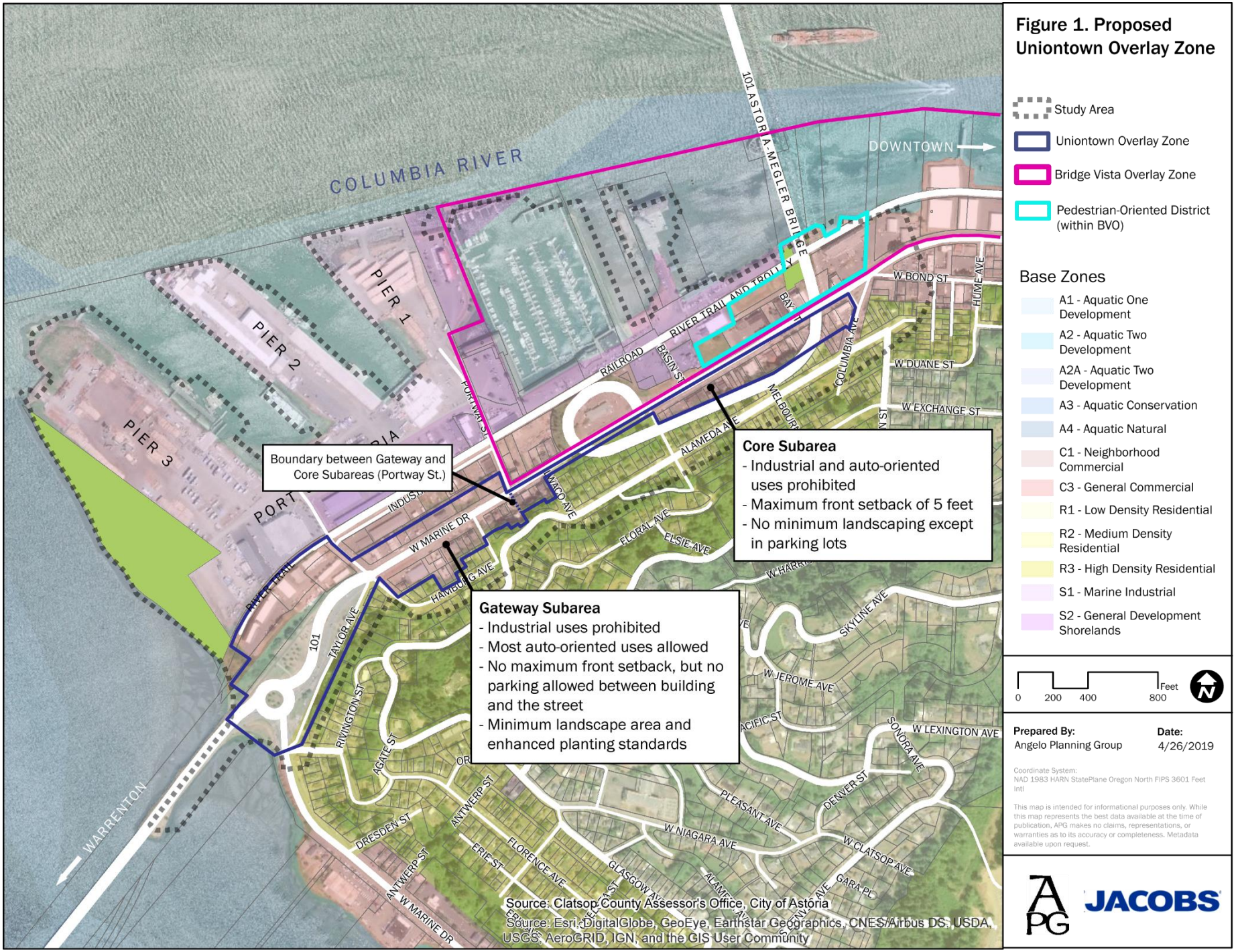


Figure 1. Proposed Uniontown Overlay Zone

- Study Area
- Uniontown Overlay Zone
- Bridge Vista Overlay Zone
- Pedestrian-Oriented District (within BVO)

Base Zones

- A1 - Aquatic One Development
- A2 - Aquatic Two Development
- A2A - Aquatic Two Development
- A3 - Aquatic Conservation
- A4 - Aquatic Natural
- C1 - Neighborhood Commercial
- C3 - General Commercial
- R1 - Low Density Residential
- R2 - Medium Density Residential
- R3 - High Density Residential
- S1 - Marine Industrial
- S2 - General Development Shorelands

0 200 400 800 Feet

Prepared By: Angelo Planning Group

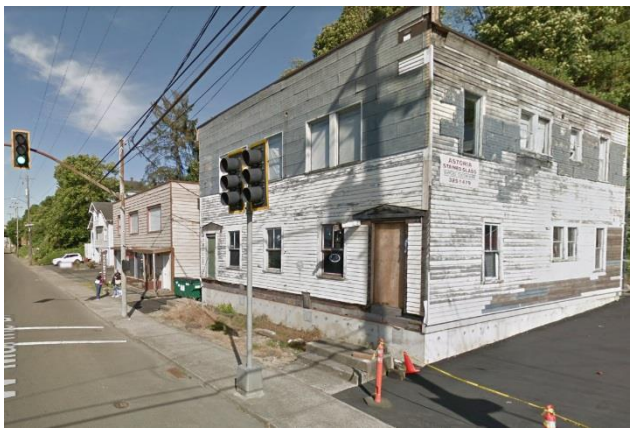
Date: 4/26/2019

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

This map is intended for informational purposes only. While this map represents the best data available at the time of publication, APG makes no claims, representations, or warranties as to its accuracy or completeness. Metadata available upon request.

Gateway Subarea



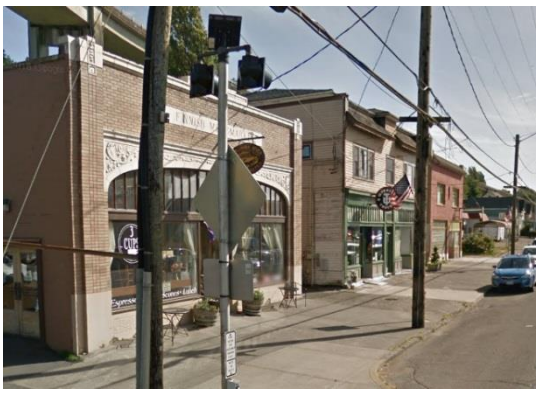


Size: Approximately 16 acres

Characteristics: The Uniontown Gateway subarea is predominantly a commercial corridor that benefits from the high traffic volumes and visibility of West Marine Drive. The area is the western gateway to the City of Astoria and functions as an important transition into the more intensely developed areas in the core of the city. Many of the existing commercial uses are automobile-oriented (fuel station, quick lube, drive-through coffee kiosk). There are a few residential properties on the south side of West Marine Drive. Several sites include vacant buildings and several sites are underutilized and may be candidates for redevelopment. Many buildings are set back from the street and many of the sites in this area include substantial paved areas with little to no landscaping. The right-of-way of West Marine Drive in this subarea is relatively wide and vehicle speeds are high, contributing to a relatively uncomfortable pedestrian experience.

Land Use Vision: The Uniontown Reborn Master Plan envisions that this subarea will incrementally transition into a more pedestrian-oriented and walkable form. New buildings or building additions would be placed closer to the street frontage to create a more comfortable and interesting pedestrian experience. Where buildings do not directly front the sidewalk, landscaping or plazas would provide for an attractive street frontage. Parking lots fronting the sidewalk would be discouraged, prohibited, or required to be screened with landscaping. Automobile-oriented uses, which generally detract from the pedestrian experience, would be prohibited or subject to special design standards to ensure they contribute to the walkable character of the area. New developments or redevelopments would respect and strengthen the historic character of the area.

Core Subarea



Size: Approximately 10 acres

Characteristics: The Uniontown Core subarea includes the properties on the south side of West Marine Drive between Portway Street to the west and Columbia Avenue to the east. The area includes two-story historic commercial and residential buildings that are built close to the sidewalk as well as more recently developed single-story commercial buildings with parking fronting the street. When considered as a corridor, this section of West Marine Drive represents the historic core of the Uniontown area, with a traditional development pattern of storefront commercial buildings, many of which embody the historic character that led to the formation of the Uniontown-Alameda Historic District. This existing development pattern is more similar to the pedestrian-oriented form of downtown Astoria than the more auto-oriented segment of West Marine Drive in the Gateway subarea.

Land Use Vision: The Uniontown Reborn Master Plan envisions that the traditional urban pattern of the Core subarea will be preserved and strengthened as properties are improved and new buildings are added in the area. Building renovations will respect this historic character of the district. New developments or redevelopments, where appropriate, will extend the essential features of this historic character and strengthen the identity of the area as a traditional commercial “Main Street”. These features include buildings that front the street, storefront facades with generous windows, and historically-appropriate architectural elements.

Uniontown Overlay Zone – Code Concepts

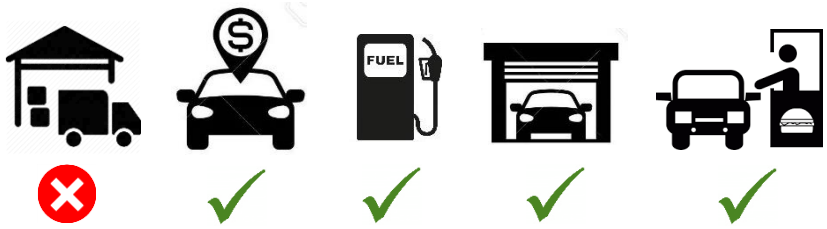
This section of the memo identifies the preferred land use alternative. Each subsection below addresses one of the five topics related to land use and urban design. Within each subsection, some background on that topic is provided and then the "preferred code concept" is identified. The preferred code concept describes the general approach to the development code regulation that pertain to each topic.

Use Regulations

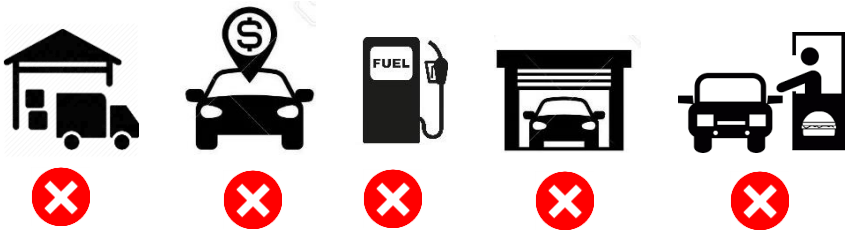
Background. A review of the existing use regulations of the base zone along the corridor—C3 General Commercial—found that some commercial and industrial uses are permitted in the zone which may detract from the goal of creating a walkable, pedestrian-friendly, commercial district. These uses include auto-oriented commercial businesses (such as gas stations and car washes), drive-through businesses, and some industrial uses such as warehouses. The auto-oriented commercial uses are generally not pedestrian friendly because they result in high volumes of vehicle traffic, may require multiple driveways, and do not provide a destination or amenity for people on foot. Some industrial uses are generally not pedestrian-friendly because people do not typically visit them on foot, and they are difficult to design in a manner that creates an interesting and comfortable pedestrian experience. For example, warehouses often have few windows, long blank walls, and high volumes of truck traffic.

Preferred Code Concept. The existing uses and anticipated demand for future uses varies by subarea in the UOZ. The Gateway subarea includes some existing auto-oriented commercial uses and similar uses are anticipated given the location and the lack of alternative places for these uses in the city. The Core subarea includes very few of these uses and is expected to have greater demand for other commercial uses given the proximity to downtown and tourist-oriented development along the riverfront. Thus, the preferred code concept is to tailor the use regulations to the two subareas, as follows.

- Gateway Subarea: Prohibit industrial uses (except for light manufacturing with a retail component), continue to allow auto-oriented commercial uses.



- Core Subarea: Prohibit industrial uses (except for light manufacturing with a retail component), automotive sales, gasoline service stations, automotive service and repair, drive-through facilities.

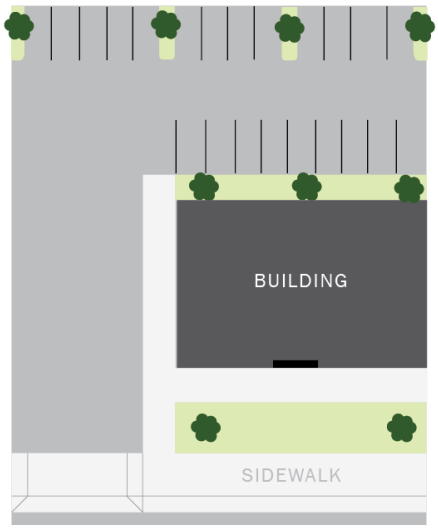


Setbacks and Landscaping

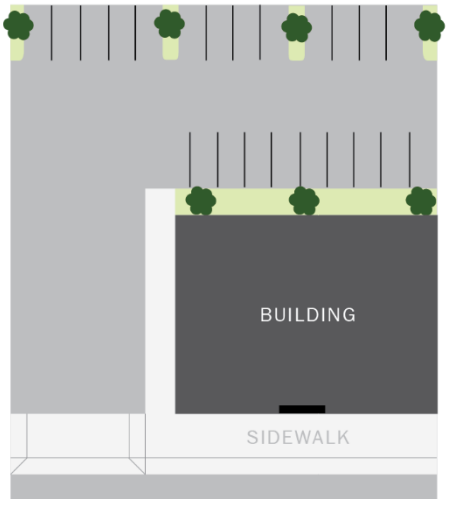
Background. The C-3 zone currently does not establish minimum or maximum setbacks. The zone does require a minimum of 10% of the lot to be landscaped. The community has expressed a desire for improved landscaping along the corridor, both within the public right-of-way through new plantings of street trees and other vegetation, and on private properties that front the corridor. As with the allowed uses, there is a recognition that building setbacks and landscaping may vary across the two subareas in the corridor. In the Gateway subarea, most buildings are set back from the street and have parking, vehicle circulation, or landscaping in between the building and the street. In the Core subarea, most buildings directly front the sidewalk and occupy most or all of the lot with minimal landscaping, consistent with the historical development patterns of storefront commercial buildings.

Preferred Code Concept. The preferred code concept is to tailor the setback and landscaping requirements to the subareas, while instituting new standards that will help to create more pedestrian-friendly and attractive urban design.

- Gateway Subarea:
  - No maximum or minimum setback.
  - Parking lots may not be located between the building and the street (must be to the side or rear).
  - Where buildings are set back from the street more than 5 feet, a landscape strip or pedestrian plaza must be provided between building and street.
  - Require at least 15% of lot area to be landscaped and require the landscaping to be visible from the public right-of-way.
  - Establish enhanced minimum planting requirements to require minimum areas of live ground cover and minimum density of trees and/or shrubs in landscaped area.



- Core Subarea:
  - Establish a *maximum* setback of 5 feet, with exceptions for certain situations, including presence of an easement or utilities or the creation of a pedestrian plaza or wider walkway.
  - Do not require a minimum landscaped area or a maximum lot coverage. Continue to require parking lots be landscaped according to Section 7.170 and Section 3.105 through 3.120.



Building Height and Massing

Background: The C-3 zone currently allows for a maximum height of 45 feet with no requirements for stepbacks or other special massing standards. A 45-foot height limit allows for 3-4 story buildings. Compared to the areas with the BVO, north of West Marine Drive to the riverfront, buildings within the proposed UOZ will have relatively fewer impacts on views of the river from the hillsides above the corridor to the south. The properties in the Core Subarea are tucked against a steep embankment and partially underneath the ramp of the Astoria-Megler Bridge. The properties in the Gateway subarea do not abut a steep embankment, but the impact of taller buildings in this area may be less significant as properties to the east because there are less direct views of the river due to the presence of the Port of Astoria.

At the same time, allowing for slightly taller buildings improves the likelihood of new development and redevelopment in the corridor, for the following reasons:

- For a development project to be feasible, the rentable space must generate enough revenue to cover a developer's costs, including land acquisition. Higher development intensities allow for more rentable space, generating higher revenues. Where land costs are high, intensities must allow for the development of enough rentable space to cover these higher costs.

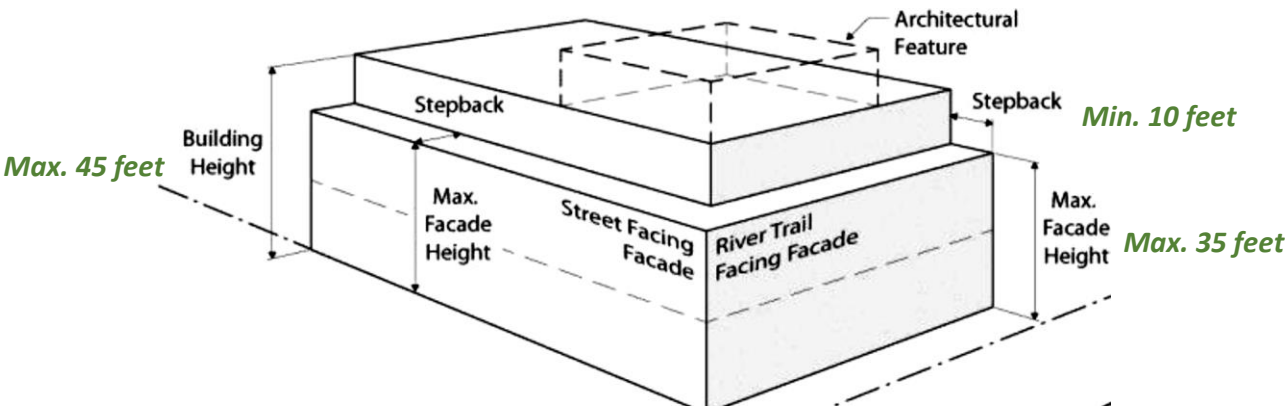
- A height limit of 28 feet will limit buildings to two-stories. Two-story construction is unlikely to yield vertically-integrated mixed-use development, as two-story mixed-use development is uncommon in the marketplace and therefore could be difficult to finance. Two-story single-use buildings such as offices or apartments may be feasible but are also less common than three- or four-story buildings.

- Three-story vertically-integrated mixed-use construction is possible but is challenged at a 35-foot height limit. Ground floor retail typically requires higher floor-to-floor heights than other uses, meaning that a 35-foot height limit allows little room to maneuver for architects.

- Many developers rely primarily on the residential portion of a mixed-use development for revenue generation. Lenders sometimes treat ground-floor retail in mixed-use buildings as a loss-leader and, as such, underwrite development projects on the basis of the residential program exclusively. Therefore, for mixed-use projects, allowing additional residential stories above ground-floor-commercial generally increases project feasibility.

Additionally, new development or redevelopment can fill in vacant or underutilized parcels along the corridor, establish new uses that generate activity and interest, and contribute to urban design goals for the area. An increased height limit would allow for more intensive land uses—whether as residential units or commercial office space—which supports economic development in the corridor by supplying more residents and employees.

Preferred Code Concept: Given these considerations, the preferred code concept is to allow for a maximum height of 45 feet throughout the UOZ but require any part of the building above 35 feet to be stepped back from the main façade by a minimum of 10 feet. The increased height limit of 45 feet will improve economic feasibility of new development and allow for more intensive uses, while the step back requirement will help to break up the massing of a larger building and may preserve view corridors.



Off-Street Parking

Background. The Astoria Development Code requires a minimum amount of off-street parking spaces be provided with new development, redevelopment, and a change of use. The community has identified that on-street parking is highly utilized and can be challenging to find during peak hours, thus, it is important that new developments continue to be required to provide off-street parking. At the same time, providing off-street parking can be challenging on some sites and may even become a significant barrier to a new use occupying a building, constructing an expansion, or a development on a small site.

Preferred Code Concept: The preferred code concept is to continue to require off-street parking for most new development, but to provide reductions and exemptions to the standards to address situations where it may be difficult or infeasible to provide off-street parking. The following reductions and exemptions would apply throughout the UOZ:

- Minimum parking space requirements may be reduced by 50% for uses with less than 5,000 square feet of gross floor area.
- Exemptions from minimum parking space requirements permitted under the following conditions:
  - Existing buildings that cover the maximum allowable area of the site
  - Building expansions of 10% or less.

Design Standards and Guidelines

Background. The C-3 zone does not currently require any type of design review process and does not establish any specific design standards or guidelines for new buildings. A central goal of the Uniontown Reborn plan is to identify strategies to preserve the historic character of this commercial district. Most of the properties included in the proposed UOZ are located in the Uniontown-Alameda Historic District, which was designated as a historic district in 1989. The district includes 132 contributing buildings, constructed between 1883 and 1938.[2]

In response to this concentration of historic buildings and the desire to preserve the character of the area, the City established design standards and guidelines, and a design review process, as part of the Bridge Vista Overlay Zone. These design standards and guidelines are intended to prohibit architectural elements and styles that would be inconsistent with the predominant architectural conventions of the

[2] Source: National Historic District nomination form, available at http://heritagedata.prd.state.or.us/historic/index.cfm?do=main.loadFile&load=NR_Noms/88001311.pdf

historic buildings in the area. The standards and guidelines are also intended to encourage buildings that preserve and expand the architectural patterns of the historic buildings in the area. Compliance with the standards and guidelines is administered through a design review process.

Preferred Code Concept. The community has expressed strong support for preserving the historic character of the Uniontown area as new buildings develop and older buildings are renovated. The design standards and guidelines that apply in the BVO are intended to preserve this historic character within this part of the study area. The historic patterns of buildings outside the BVO and within the UOZ are very similar to the patterns within the BVO; therefore, it is appropriate to apply a very similar set of design standards and guidelines. This will ensure that a consistent set of standards and guidelines are applied within the Uniontown-Alameda Historic District and the broader Uniontown Reborn plan area.

The standards and guidelines would be applied uniformly throughout the UOZ to all new construction and major renovations (defined as construction valued at more than 25% of the assessed value of existing structure). The standards and guidelines would be modeled on the standards and guidelines of the BVO but may be modified to address features or conditions that are unique to the UOZ area. The standards and guidelines would address the following topics:

- Building Form and Style
- Roof Form and Materials
- Doors
- Windows
- Siding and Wall Treatment
- Awnings
- Lighting
- Signs

Evaluation of Preferred Alternative

The preferred alternative is evaluated against the project evaluation criteria in Table 1. This evaluation is intended to demonstrate that the preferred alternative addresses the project evaluation criteria and facilitate discussion of potential refinements to the preferred alternative to better address the criteria.

Table 1. Evaluation of the Preferred Alternative

Criteria	Evaluation
Improves existing landscaping standards to reflect community vision for the neighborhood	Properties in the Gateway subarea will be subject to enhanced landscape planting requirements. These requirements will require a greater proportion of landscaped areas to include live ground cover, establish minimum planting densities of trees and shrubs, and regulate the location of required landscaping to ensure it is highly visible from the public right-of-way.
Supports sustainable landscaping design and implementation (i.e. preserving/increasing tree	The enhanced landscaping standards in the Gateway subarea will encourage tree preservation, use of native species, and minimum use of impervious surface areas.

canopy, improving storm water management)	The preferred alternative includes continued implementation of the City's parking lot landscaping standards, which are intended to create tree canopy and improve storm water management.
Encourages development types that promote a cohesive neighborhood fabric	The proposed changes to use regulations would prohibit auto-oriented and industrial uses in locations where they would be inconsistent with the current land uses and future land use vision. The design standards and guidelines will help to create a more cohesive architectural identity for the area that is consistent with the character of historic buildings.
Leverages the asset of the river, views of, and connection to the river to future development	The alternative assumes that the requirements of the BVO that are intended to preserve views of the river and connections to the river will be preserved. These standards include setbacks, height step backs, and pedestrian walkway requirements. The UOZ will require a height step back above 35 feet to preserve views of the river.
Reduces burden of parking minimums for new development	The preferred alternative includes a set of reductions and exemptions from minimum parking requirements targeted to those developments where the burden of meeting the requirements is greatest. This includes smaller sites, building additions, and existing uses that occupy the entire site.
Leverages current and potential off-street parking in Uniontown	The reductions and exemptions for off-street parking requirements recognizes there is an opportunity to leverage current and potential public/shared off-street parking lots in the area, rather than require every individual lot to provide off-street parking regardless of the capacity of the site.
Preserves historic character of Uniontown	The proposed design standards and guidelines will directly address this criterion. The standards and guidelines will be consistent with those required in the BVO to ensure a cohesive character for the entire Uniontown area. The proposed maximum front setback standard will help preserve the historic pattern of storefront commercial buildings that directly front the sidewalk in the Core subarea. The use regulations will prohibit industrial and auto-oriented uses that can be inconsistent with the historic character of the area.
Emphasizes Astoria's historic character by connecting people to	The proposed use regulations would prohibit industrial and auto-oriented commercial uses in some locations that would not contribute to the goal of creating a walkable commercial district with a concentration of destinations that people access on foot.

tourism-related and retail businesses	
Addresses the changing economic landscape by supporting new investment/employment opportunities	The proposed UOZ does not extend into the industrial areas north of West Marine Drive in order to preserve flexibility for a wider range of industrial uses and building design types in this area. There is a recognition that the primary goal for these industrial areas is to support new investment and employment. The proposed use regulations within the commercial zone in the UOZ will allow light manufacturing uses if they include a retail component. This will allow for "artisanal manufacturing" opportunities, including breweries, distilleries, art studios, and other "maker spaces" to be permitted outright in the district if the spaces include a retail function.
Emphasizes Uniontown's capability for light manufacturing and other resilient industry sectors	The proposed use regulations within the commercial zone in the UOZ will allow light manufacturing uses if they include a retail component. This will allow for "artisanal manufacturing" opportunities, including breweries, distilleries, art studios, and other "maker spaces" to be permitted outright in the district if the spaces include a retail function.
Allows or promotes feasible development types	The proposed use regulations allow for auto-oriented commercial uses in the Gateway subarea. This allowance recognizes that these types of uses are and will continue to be feasible in this location due to the location on a high-visibility highway corridor. The proposed maximum height standard may improve the economic feasibility of new development by allowing for slightly taller buildings and thus more leasable space.
Development reflects market conditions/constraints	The proposed use regulations allow for auto-oriented commercial uses in the Gateway subarea. This allowance recognizes that these types of uses are and will continue to be feasible in this location due to the location on a high-visibility highway corridor. The proposed maximum height standard may improve the economic feasibility of new development by allowing for slightly taller buildings and thus more leasable space.
Incentivizes opportunities for increases affordable housing or overall supply of housing that are appropriate for prevailing wages	The proposed use regulations will continue to allow for multi-family housing and mixed-use development. This type of development can help to increase the overall supply of housing in the city. The proposed maximum height standard would allow for higher density housing development and the creation of additional housing units compared to the current maximum height standard, helping to increase the overall supply of housing in the city.

New and proposed housing development are compatible with adjacent neighborhoods and with current neighborhood uses	The proposed design standards and guidelines would apply to residential development. These standards and guidelines would help ensure that new developments are consistent with the historic patterns and character of existing buildings and the wider neighborhood.
Promotes the envisioned neighborhood character (i.e. setbacks, building heights, landscaping) and allows for feasible development	The preferred alternative includes a tailored approach to use regulations, setbacks, and landscaping standards in the two subareas to promote the envisioned neighborhood character as it varies within the UOZ. Further, the tailored standards for the Gateway subarea provide additional flexibility in order to balance urban design goals with development feasibility considerations.
Allows for repurposing of existing buildings to fill market gap	The preferred alternative will continue to allow a change of use or rehabilitation of an existing building. The proposed off-street parking provisions would provide a reduction or exemption from off-street parking requirements for some existing buildings and building additions in order to support the repurposing of existing buildings.
Commercial development includes affordable housing	The proposed use regulations will continue to allow for mixed-use development that includes commercial and residential uses, but do not require mixed-use development or affordable housing be included with commercial developments.

Transportation Alternative Analysis

Preferred Transportation Alternatives

The preferred alternative in the Uniontown segment would provide a four-lane cross-section with two westbound lanes, one eastbound lane, and a center two-way left turn (TWLT) lane between the Smith Point Roundabout and the Columbia Avenue/Bond Street intersection. This roadway reconfiguration was emerged as the preferred alternative in prior planning work, including the Astoria Transportation System Plan and the Tier 1 Alternative evaluation. An opening year for this potential lane reconfiguration project has not been identified although this alternative is expected to be constructed by 2035. Analysis of the preferred Uniontown alternative assumes that West Marine Drive is reconfigured to a three-lane cross-section with one westbound lane, one eastbound lane, and a center TWLT lane between the Columbia Avenue/Bond Street intersection and 8th Street which is expected to open by 2023.

The cross-section would also include westbound and eastbound bike lanes and segments of on-street parking. The reconfiguration of the West Marine Drive corridor will also include updated pedestrian and transit facilities to comply with the specifications in the ODOT Highway Design Manual and to facilitate a multimodal transportation environment consistent with future land uses along the corridor. Specific elements of the preferred alternative, detailed below, to facilitate a multimodal environment on the corridor were identified through the Tier 2 evaluation process.

The analysis assumed the preferred cross-section would repurpose the existing curb-to-curb pavement width with new striping and median treatments and no roadway widening would occur. For the Uniontown segment, this will require several ODOT design exceptions for vehicle lane width and missing elements such as landscape strip. The benefit of this approach is to minimize project construction costs, retain the compact form of the corridor and minimize potential impacts to fronting properties.

Due to the wide range of available curb-to-curb widths, the Tier 2 analysis identified six unique cross-sections for West Marine Drive. Proposed roadway cross-sections for both the Downtown and Uniontown portions of the study area can be seen in the appendix (see Appendix Cross Sections A through F).

For the Uniontown segment, there is an opportunity along several segments of the corridor to construct minor roadway widening to meet, or come closer, to ODOT design standards. These opportunity segments are fronted by property that are vacant or with development located away from Marine Drive. Minor widening could be implemented to provide wider vehicle lanes, wider sidewalks and landscape strips. The conceptual design process that follows the master planning work would further evaluate the detailed design of the corridor.

Pedestrian Facilities

Sidewalks are currently provided along most of West Marine Drive although they tend to be narrow, blocked by street light/utility poles and driveway accesses, and fail to comply with ADA standards at intersections. Some intersections also lack roadway lighting which can facilitate a safer crossing for pedestrians and all intersections lack medians to provide protected crossing opportunities.

As part of the preferred alternative, it is recommended sidewalks be improved to a minimum 6 feet wide and a minimum 4-foot wide planting strip buffer be added between the existing roadway and the sidewalk. These improvements would require roadway widening beyond the existing curb location.[3] Wider sidewalks and planting strips with trees would benefit the pedestrian oriented district between Basin Street and Columbia Avenue/Bond Street. This reconstruction should enhance accessibility for pedestrians along the corridor by upgrading pedestrian ramps for ADA compliance.

Additional features to consider include installing street lighting at Hamburg Avenue (an unsignalized intersection) and a center median refuge at Bay Street, in lieu of a TWLT lane median (Appendix Cross Section B), to provide additional protection at the existing marked pedestrian crossing.

Bicycle Facilities

Current bike facilities along West Marine Drive lack connectivity. Designated 6-foot bike lanes are provided in the westbound direction only for most of the corridor.

The preferred alternative would improve bicycle facilities along West Marine Drive by increasing the bike lane width to 6 feet where possible within the existing curb-to-curb width. A short section between Portway Street and the US 101 Bridge will only accommodate a 5-foot wide westbound bike lane due to the existing 27 feet available between the bridge columns in the median and the sidewalk underpass (Appendix Cross Section B).

The preferred alternative would also add a new eastbound bike lane between the Smith Point Roundabout and Columbia Avenue/Bond Street. It is recommended the bike lanes in both directions be constructed or upgraded to be 6-feet wide, where possible, consistent with the Highway Design Manual for urban areas[3]. Green paint treatment is also recommended for the westbound bike lane approaching the US 101 bridge to highlight the potential conflict area for right turning vehicles (Appendix Cross Section B).

Transit Facilities

The Long-Range Comprehensive Transportation Plan for the Sunset Empire Transportation District (SETD) identified the future vision for transit service in the study area. The concept for the West Marine Drive corridor would be service with two bus lines: Route 101 (Astoria-Seaside) and Route 10W.

Route 101 (Astoria-Seaside) – regional, highly productive route connecting the Astoria Transit Center (at 9th Street/Marine Drive) to Warrenton, Gearhart, Seaside and Cannon Beach on US 101. The long-term operating plan is to provide weekday service with 60-minute frequency (30-minute during peak) and weekend service with 60 to 120-minute frequency.

Route 10W – local circulating loop route serving western Astoria with connections to West Marine Drive in Uniontown, Astoria Transit Center, Clatsop Community College, western Astoria neighborhoods and

[3] Oregon Department of Transportation. *Highway Design Manual,* Table 6-3: ODOT 4R/New Urban Standards – UBAs. 2012.

Astoria High School. The long-term operating plan is to provide weekday and weekend service with 60-minute frequency.

The preferred alternative does not designate specific transit enhancements to support the long-range operations plan. Future improvements will be identified in coordination with the City of Astoria and the SETD at a later project design phase. The need for transit enhancements would be based on several considerations. Transit amenities, such as bus shelters, are based on the daily ridership at each stop. SETD has established bus stop guidelines[4] for basic, major and enhanced bus stop designs. These would be applied to bus stops within the study area to determine future enhancements.

Designated bus pull-outs could be added on West Marine Drive at stop locations with available right-of-way for widening or low priority on-street parking that could be removed. Bus pull-outs reduce potential impacts to vehicle operations but can make it difficult for buses to merge back into the traffic flow. Without bus pull-outs, the preferred alternative would provide two westbound lanes allowing buses to stop in the outside lane and traffic to continue to flow in the inside lane. One eastbound lane would be provided, requiring buses to stop in the lane and block vehicles. The planned future transit service frequency on West Marine Drive would include three buses an hour in each direction.

While transit enhancements are not specifically identified as part of the preferred alternative, enhanced pedestrian and bicycle facilities along West Marine Drive are expected to support future transit users on this corridor. Additional protections for pedestrians, including median refuges, sidewalk buffers, lighting, and ADA compliant ramps enhances safety and access to transit for all roadway users. New developments and proposed land use changes along the study corridor could also support transit and enhance the multimodal character of the corridor.

Driving Facilities

The preferred alternative would reduce the overall capacity of West Marine Drive by removing one eastbound lane between the Smith Point Roundabout and 8th Street; no changes are recommended for westbound traffic (see Appendix Cross Sections). Travel lanes widths from 11 to 12 feet were used for through traffic to maintain the existing curb to curb width with all cross-section elements although this will require a design exception as part of West Marine Drive is a designated freight route.[3]

The existing westbound right turn lane at the US 101 bridge would be maintained to facilitate traffic crossing the bridge (Cross Section C). The preferred alternative would add a center TWLT lane approximately 14-feet wide[3] for most of the corridor which can enhance safety and minimize the delay to through traffic from left turning vehicles (Cross Sections A, C, D, and F). The center TWLT lane will be removed for a portion of West Marine Drive between Portway Street and the US 101 Bridge to accommodate bridge columns in the median and to provide a pedestrian median refuge at Bay Street (Cross Section B). The TWLT lane will also be partially eliminated between Basin Street and Columbia Avenue/Bond Street to maintain access to the existing on-street parking (Cross Sections E and F).

The preferred alternative aimed at retaining on-street parking where possible. Parking would be maintained in all locations except for approximately five active parking spaces on the south side of West Marine Drive between Hamburg Avenue and Portway Street. Several parking spaces could also be impacted between Basin Street and Columbia Avenue/Bond Street to accommodate the necessary lane tapers to provide a raised median at the Bay Street pedestrian crossing (Cross Section B). Approximately 15-20 inactive parking spaces could be impacted as part of the preferred alternative. However, the current spaces are poorly marked, adjacent to off-street parking, and are observed to have low demand,

[4] Long-Range Comprehensive Transportation Plan, Sunset Empire Transportation District, Figure 9-6, September 2016.

so removing these spaces to accommodate bike facilities and a center turn lane is recommended. Specific details of these removals will be determined during the design process.

Preferred Alternative Travel Conditions

Pedestrian Level of Service

To assess the pedestrian and bicycle network conditions within the study area, a high-level qualitative evaluation was conducted based on the ODOT Multimodal Analysis Methodology[5]. For the pedestrian network evaluation, consideration was given to the presence of a sidewalk or path, a buffer zone (i.e., bike lane, shoulder, landscape strip, or on-street parking) and street lighting, and the number of travel lanes and travel speeds along the adjacent roadway. In the study area, an "Excellent" rating requires sidewalks on both sides of the roadway, along with a landscape buffer. A "Good" rating requires a sidewalk on at least one side of the roadway, along with a landscape buffer. A "Fair" rating is given to a roadway with a sidewalk on at least one side, but without a landscape buffer. A "Poor" rating denotes gaps within the sidewalks along that corridor. Additional consideration to traffic volumes and speeds were used to adjust these ratings. Areas without lower traffic speeds, wider sidewalks, or buffer treatments that reduce the perception of the traffic volume were decreased by one rating level.

Future baseline pedestrian level of service (LOS) was evaluated based on the existing sidewalks and roadway configuration of West Marine Drive to provide a baseline for improvement with the preferred alternative. Currently, West Marine Drive offers a high stress environment creating an uncomfortable walking environment for most users, limiting pedestrian activity in this area. The high stress environment is largely driven by narrow sidewalks with no buffer next to a major arterial and the lack of ADA compliant ramps at all study intersections. Frequent sidewalk obstructions, including utility poles and signage further degrade the walking environment for pedestrians. In more pedestrian-oriented areas of West Marine Drive, including the local commercial district near Bay Street, wider sidewalks can create a marginally better pedestrian environment.

The future build pedestrian LOS was evaluated based on the recommended pedestrian enhancements along West Marine Drive with full implementation of the preferred alternative. Right of way or grade restrictions could reduce the available sidewalk buffer in select locations which would reduce the pedestrian LOS by one or more grades.

The future Build LTS analysis assumed that, at minimum, a newly constructed, 6-foot sidewalk with a 4-foot landscape planting strip would be provided between the Smith Point Roundabout and Columbia Avenue/Bond Street. All current sidewalk obstructions, such as utility poles and signs would be placed in the landscape strip, allowing for pedestrians to use the full sidewalk width. In the pedestrian oriented district, sidewalk widths would be increased to a minimum 8-foot with a 6-foot landscape strip. The landscape strip should include trees within the pedestrian oriented district to enhance pedestrian comfort, and trees could also be considered in the landscape strip approaching the Smith Point Roundabout, an existing park-like area.

The reconstruction of West Marine Drive could also enhance accessibility for pedestrians along the corridor by upgrading pedestrian ramps for ADA compliance. Street lighting could be installed at Hamburg Avenue. A raised center median refuge is recommended at Bay Street, in lieu of a TWLT lane median. Other enhanced crossing features, such as a hybrid beacon, in-street signage, and curb extensions should be considered during project design. The future build Pedestrian LOS analysis, based on these assumptions, along with a comparison to the baseline pedestrian LOS are summarized below in Table 1.

[5] Analysis Procedures Manual Version 2, Oregon Department of Transportation, March 2016.

The identified improvements increase the pedestrian LOS for individuals walking along West Marine Drive to *excellent* or *good* along the entire corridor which creates a comfortable environment for most pedestrians. However, crossing West Marine Drive would still be challenging as a pedestrian, particularly at unsignalized intersections. The potential crosswalk enhancements at Bay Street and other signalized intersections would provide comfortable locations for pedestrians to cross West Marine Drive. Additional crosswalk enhancements could be considered at locations with high pedestrian demand to further improve pedestrian comfort.

TABLE 1: PEDESTRIAN LEVEL OF SERVICE

Segment	Future Baseline	Future Build
West Marine Drive (Smith Point Roundabout to Basin Street)	Poor	Good
West Marine Drive (Basin Street to Columbia Avenue/Bond Street)	Fair	Excellent

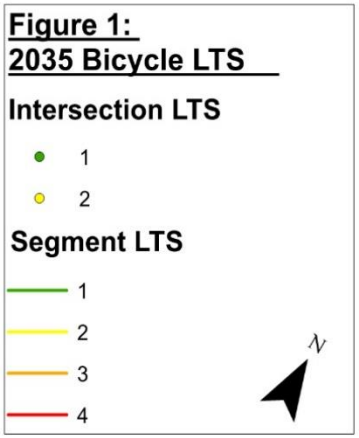
Bicycle Level of Traffic Stress

Bicycle level of traffic stress (LTS) was evaluated for future baseline and build conditions to estimate the potential of West Marine Drive to develop into a multimodal corridor. Bicycle improvements, identified in the Tier 1 alternative screening process, were included as part of the level of traffic stress evaluation to identify the potential improvement in level of traffic stress if all aspects of the alternative are considered.

The existing bicycle facilities were also used to evaluate the future baseline bicycle LTS for West Marine Drive. As a relatively high-speed and high-volume facility, West Marine Drive is a stressful environment for most bicyclists. Existing bicycle segment LTS ranges is 4 for eastbound West Marine Drive and from 1 to 4 for westbound West Marine Drive. This difference largely arises from the presence or absence of designated bike lanes along West Marine Drive. High traffic stress levels along this corridor can deter all but the most determined cyclists. Future no build bicycle LTS is seen below in Figure 1A.

Providing a 6-foot, on-street bike lane for both eastbound and westbound West Marine Drive would reduce the bicycle LTS to 2 or 2for most of the corridor which is suitable for most adult cyclists. Select segments still have a LTS 3 rating which requires a little more caution from cyclists but is still manageable. Future build bicycle LTS can also be seen below in Figure 1B.

Figure 1:
2035 Bicycle LTS



Motor Vehicle Safety

The proposed lane reconfiguration would provide left-turn storage at all intersections and driveways along West Marine Drive. This would improve safety along the corridor by minimizing speed differentials between through and turning vehicles and reducing the likelihood of rear-end collisions. The Highway Safety Manual (HSM) Part D provides estimates of the crash reduction potential of safety countermeasures for changes in the roadway configuration for intersections and segments. The HSM reports a range of CRF values for a given treatment that represents the findings of various research efforts. To ensure consistency in the evaluation of safety benefits, ODOT maintains a list of approved CRF values for a wide range of safety treatments. The ODOT approved values are summarized below in Table 2. These numbers provide only a planning-level estimate of the potential reduction in crashes associated with the proposed road reconfiguration; the specific reduction depends on intersection-, segment-, or driver-specific characteristics which are not captured in aggregate safety factors.

TABLE 2: POTENTIAL CRASH REDUCTION FOR PREFERRED ALTERNATIVE[6]

Treatment	Source	Crash Reduction Factor
H11: Left Turn Lane on Single Major Road Approach: Urban, Signalized Intersection (3-leg)	ODOT CRF	7%
H48: Convert 4-Lane Roadway to 3-Lane Roadway with Center Turn Lane (Road Diet)	ODOT CRF	29%
Provide a Left-Turn Lane on One Major Road Approach: Urban, Unsignalized Intersection (4-leg)	HSM	27%

Reducing the number of lanes on a roadway provides an expected reduction in crash of nearly 30%. A similar crash reduction could be observed in the future when West Marine Drive is converted to the preferred alternative cross-section between Columbia Avenue/Bond Street and the Smith Point Roundabout. However, there is not sufficient research available on the safety impacts of this specific reconfiguration, and thus there are no documented CRF values available to quantify the precise crash reduction. The preferred alternative will have safety benefits along the entire corridor, including the key intersections of Hamburg Avenue and Portway Street. Spot locations could see a crash reduction as high as 27%, depending on site specific crash patterns and lane configuration.

[6] American Association of State Highway and Transportation Officials. *Highway Safety Manual Part D.* 2010.

Driving Conditions

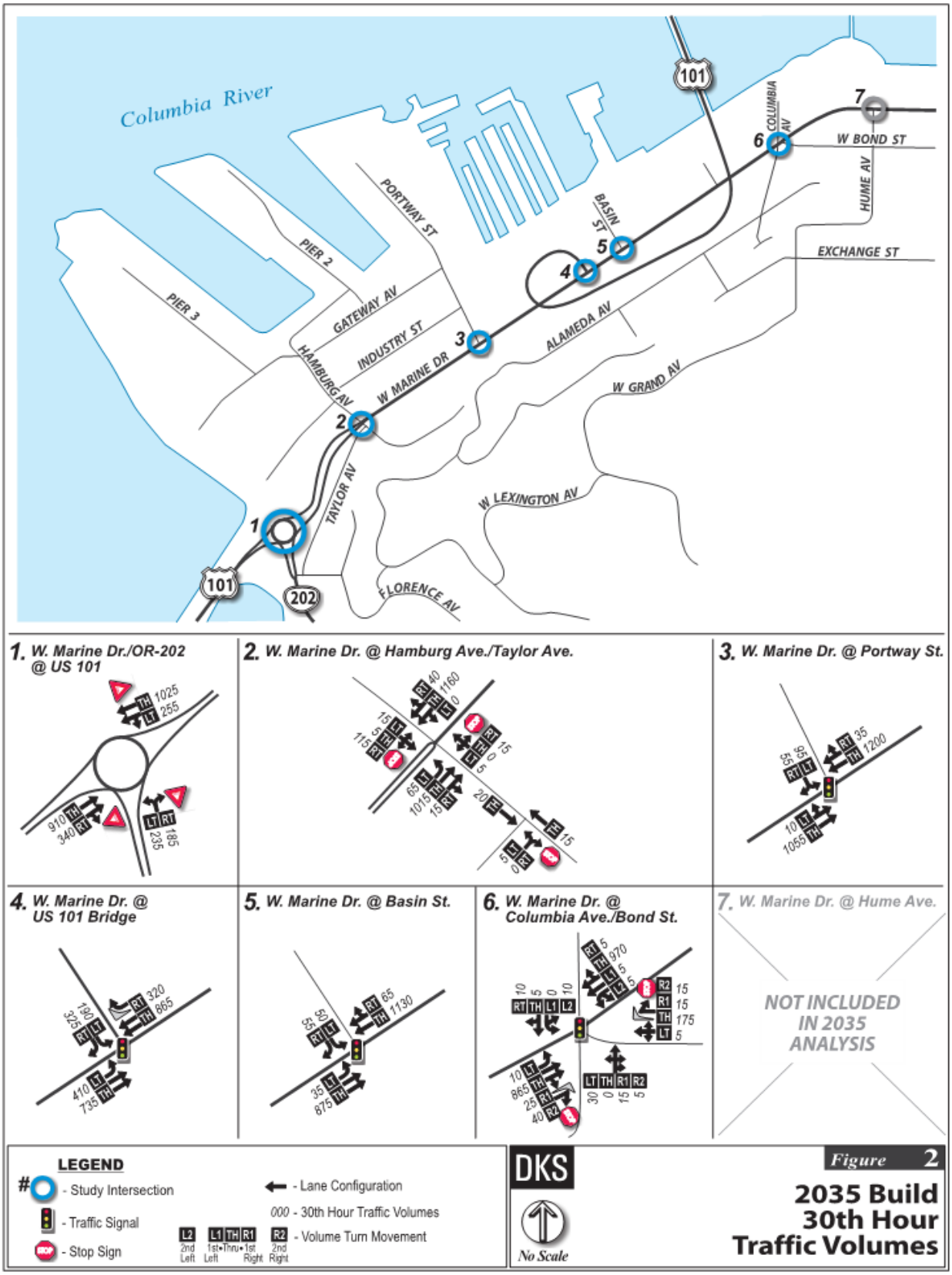
Study intersections are compared to mobility targets and standards intended to maintain a minimum level of efficiency for motor vehicle travel. Two methods to gauge intersection operations include volume-to-capacity (v/c) ratios and level of service (LOS). All of the study intersections are under state jurisdiction and must comply with the v/c ratios in the Oregon Highway Plan (OHP). Study intersections that do not meet the planning level mobility targets shown will require mitigation strategies that are also identified below.

Future Build Motor Vehicle Volumes

Future year 2035 30th highest hour (30HV) build traffic volumes were developed at the study intersections based on the future baseline traffic volumes[7] and estimated diversion from the corridor obtained from the Astoria-Warrenton regional travel demand models. The 2035 Regional Financially Constrained model was modified to estimate potential diversion resulting from the preferred alternative lane reconfiguration. This model includes the preferred alternative reconfiguration (a four-lane West Marine Drive between Hamburg Avenue and Columbia Avenue/Bond Street and a three lane West Marine Drive between Columbia Avenue/Bond Street and 8th Street) and assumes Bond Street is opened to two-way traffic.

Bond Street is the only parallel route available for diverted traffic patterns east of the study area. Approximately 100 westbound and 70 eastbound vehicles are expected to divert to Bond Street during 30th highest hour conditions. An additional 50 westbound and 80 eastbound vehicles were forecasted to reroute to other local routes in conjunction with OR-202 by 2035. The 2035 future build volumes can be seen below in Figure 2. The 2035 through traffic volumes are lower on West Marine Drive compared to the existing traffic volumes and the future baseline volumes as the diverted traffic volume exceeds total growth along the corridor.

[7] Memorandum 3: Baseline Transportation Conditions, Astoria Uniontown Reborn Master Plan, DKS Associates, November 7, 2018.


Columbia River
101
COLUMBIA AV
W BOND ST
HUME AV
EXCHANGE ST
BASIN ST
PORTWAY ST
PIER 2
PIER 3
GATEWAY AV
INDUSTRY ST
HAMBURG AV
W MARINE DR
ALAMEDA AV
W GRAND AV
TAYLOR AV
W LEXINGTON AV
FLORENCE AV
202
1. W. Marine Dr./OR-202 @ US 101
2. W. Marine Dr. @ Hamburg Ave./Taylor Ave.
3. W. Marine Dr. @ Portway St.
4. W. Marine Dr. @ US 101 Bridge
5. W. Marine Dr. @ Basin St.
6. W. Marine Dr. @ Columbia Ave./Bond St.
7. W. Marine Dr. @ Hume Ave.
NOT INCLUDED IN 2035 ANALYSIS
LEGEND
- Study Intersection
- Traffic Signal
STOP - Stop Sign
- Lane Configuration
000 - 30th Hour Traffic Volumes
L2 2nd Left
L1 TH R1 1st Thru 1st Right
R2 2nd Right
- Volume Turn Movement
DKS
No Scale
Figure 2
2035 Build 30th Hour Traffic Volumes

2035 Preferred Alternative Build Motor Vehicle Conditions

The 2035 traffic operations were analyzed for the West Marine Drive corridor under the preferred alternative. This analysis included the preferred alternative for the Astoria Uniontown study area which assumed that West Marine Drive was reconfigured to a four-lane cross-section between the Smith Point Roundabout and Columbia Avenue/Bond Street. The build analysis also included the proposed roadway reconfiguration between Columbia Avenue/Bond Street and 8th Street which is assumed to be constructed by 2035. The proposed cross-section was analyzed using the 2035 build traffic volumes which included potential diversion along the corridor from the lane reductions.

2035 Preferred Alternative Intersection Operations

Future 2035 intersection operations for the study intersections are summarized in Table 3. Most study intersections are expected meet their mobility target by 2035, even with the proposed reconfiguration. The intersection or movement v/c ratios again increase by approximately 0.3 at most locations compared to baseline intersection operations. The mobility targets are still marginally exceeded at the intersection of West Marine Drive/Columbia Avenue/Bond Street which could be mitigated through a longer cycle or turn restrictions at this location. The southbound movement at the intersection of West Marine Drive and Hamburg Avenue continues to operate over capacity in 2035 under the preferred alternative with a v/c ratio of 1.55 which is largely driven by left turning vehicles. The southbound left turn lane could be restricted at this location since left turning vehicles have the option to turn left at Portway Street. This turn restriction was previously identified as a possible solution in the Astoria TSP. Restricting the left turn movement would reduce the v/c ratio below the mobility target and could be considered as a solution at this intersection in the future although it is expected that drivers would naturally select different routes as delay at this location increased.

TABLE 3: 2035 PREFERRED ALTERNATIVE STUDY INTERSECTION TRAFFIC OPERATIONAL ANALYSIS

	Location	Mobility Target	Preferred Alternative 2035 Conditions		
			Volume/ Capacity*	Delay (seconds)*	Level of Service *
1	West Marine Dr/OR 202/US 101 Business (Smith Point Roundabout)	0.90 v/c	0.79	5.3	A
2	West Marine Dr/Hamburg Ave	Highway movements - 0.90 v/c, Non-highway movements - 0.95 v/c	0.64/**1.55**	12.6/ >100	B/F
3	West Marine Dr/Portway St	0.90 v/c	0.8	10.5	B
4	West Marine Dr/US 101 Bridge	0.85 v/c	0.78	30.1	C
5	West Marine Dr/Basin St	0.85 v/c	0.68	5.3	A
6	West Marine Dr/Columbia Ave	0.85 v/c	**0.89**	39.5	D

Note: * At signalized locations the V/C ratio, LOS and delay reported as intersection average, and at un-signalized locations, the V/C ratio, LOS and delay reported as worst major/ minor movement.

2035 Preferred Alternative Intersection Queuing

In addition to the intersection operations, vehicle queuing was assessed at study area intersections for 30th highest hour conditions. Queuing analysis was conducted using SimTraffic and Sidra (Smith Point roundabout), which estimates the 95th percentile vehicle queue lengths, or the queue length that would not be exceeded in 95 percent of the queues formed during the peak hour. Queuing patterns are generally consistent between the preferred alternative and baseline transportation conditions with additional queueing observed under the preferred alternative.

The lane reductions along West Marine Drive in tandem with expected growth in vehicle volumes are expected to exacerbate queueing issues in 2035 compared to the baseline scenario. The 2035 baseline and preferred alternative conditions showed queueing could exceed available storage space at the West Marine Drive/US 101 Bridge intersection, a major junction connecting Oregon and Washington. Southbound left and right turn lane queues generally had sufficient storage space from the two-lane bridge approach, however, the westbound through queue spilled through the adjacent Basin Street intersection. Queuing issues at the West Marine Drive/US 101 Bridge are only one part of larger queueing issues along the corridor under the preferred alternative; additional queueing was observed under the preferred alternative near the Columbia Avenue/Bond Street intersection. By 2035, eastbound queues extend back from the Columbia Avenue/Bond Street intersection to the Smith Point Roundabout. East of the Columbia Avenue/Bond Street intersection, eastbound traffic flows freely towards downtown which would help clear the queues of traffic beyond the Columbia Avenue/Bond Street intersection. Similarly,

westbound vehicle queues extend approximately from Columbia Avenue/Bond Street to 3rd Street. While queues do become longer for eastbound traffic, this increase is largely driven through reduced storage space for eastbound vehicles at signalized intersections between Columbia Avenue/Bond Street and the Smith Point Roundabout. While this would decrease the effective storage length, long green times for eastbound through vehicles and a lack of downstream traffic signals before downtown keep eastbound vehicle queues moving, reducing the perception of queue length for drivers.

However, queues along other portions of the study corridor generally remained short despite the proposed reconfiguration. Most eastbound left turns, westbound left turns, or minor street approaches had queues shorter than 250 feet, and many of these movements had queues less than 100 feet, consistent with the baseline conditions.

2035 Preferred Alternative Travel Times

Travel times provide another metric to compare the performance of two alternatives under congested conditions. Under the preferred alternative, travel times are expected to increase approximately three minutes for eastbound traffic between Hamburg Avenue and Columbia Avenue/Bond Street; conversely, westbound travel times are only expected to increase by less than 30 seconds. Most of the delay for both westbound and eastbound traffic arises from the Columbia Avenue/Bond Street intersection, a location that is expected to slightly exceed its mobility target by 2035. Movements that are approaching their capacity at this location contribute to greater delay and queueing along the corridor, particularly when additional vehicle storage space for eastbound traffic is removed.

While travel times do noticeably increase for eastbound traffic through the Astoria Uniontown area, this analysis is based on PM peak summer volumes in Astoria which do not represent average conditions along West Marine Drive. Consequently, the expected increase in travel times is expected to be more modest than three minutes and is not expected to be noticeable for local residents who rely on West Marine Drive.

Evaluation of Preferred Alternative

The preferred alternative is evaluated against the project transportation evaluation criteria in Table 2. This evaluation is intended to demonstrate that the preferred alternative addresses the project evaluation criteria and facilitate discussion of potential refinements to the preferred alternative to better address the criteria.

Table 2. Evaluation of the Preferred Alternative

Criteria	Evaluation
Issue #1: Unsafe Pedestrian Crossings on Marine Drive	
Addresses known pedestrian crossing issues on Marine Drive	The preferred alternative does not identify specific pedestrian crossing treatments but does provide opportunities to add them in the center median area.
Improves safety at crossings for pedestrians through proven treatment methods	The preferred alternative provides an opportunity to include a raised refuge in the center median at the existing Bay Street crossing and other priority locations.
Issue #2: Port of Astoria Traffic Concerns	
Alternative measures to increase capacity and turning movements for road users, especially Port activity	The preferred alternative would reconfigure one eastbound travel lane to a two-way left-turn lane. This would reduce eastbound capacity and increase left turning capacity at intersections and driveways.
Preserves existing transportation system to the Port Astoria	No facilities would be closed with the preferred alternative.
Supports and improves safety for all users around the Port of Astoria	The preferred alternative includes a two-way left-turn lane to improve safety and remove left turning vehicles from the through travel lanes.
Issue #3: ODOT Performance Targets	
Meets ODOT intersection performance targets during future 2035 peak periods	Most study intersections are expected meet their mobility target by 2035, even with the proposed reconfiguration. The mobility targets are marginally exceeded at the West Marine Drive/Columbia Avenue/Bond Street intersection.
Issue #4: Parking on Marine Drive	
Preserves parking with roadway configuration	The preferred alternative aimed at retaining on-street parking where possible. Parking would be maintained in all locations except for approximately five parking spaces on the south side of West Marine Drive between Hamburg Avenue and Portway Street. Several parking spaces could also be impacted between Basin Street and Columbia Avenue/Bond Street to accommodate the necessary lane tapers to provide a raised median at the Bay Street pedestrian crossing (Cross Section F).

Mitigates impacts to existing on-street parking	No mitigations to existing on-street parking have been identified.
Issue #5: Limited Access to Commercial and Recreational Districts	
Improve pedestrian access	The preferred alternative retains the existing curb-to-curb width of the corridor. Wider sidewalks and planting strips with trees could be added to benefit the pedestrian oriented district between Basin Street and Columbia Avenue/Bond Street.
Improve bicycle access	The preferred alternative maintains the existing westbound bike lane and adds a continuous eastbound bike lane.
Improves access to and identification of commercial or recreational areas through signage, crossings, and wayfinding programs	The preferred alternative does not identify specific treatments but does provide opportunities to add them in the center median and sidewalk areas.
Issue #6: Unsafe nonmotorized Access between Uniontown and Alameda	
Promotes a more walkable, safe, and accessible transportation environment	The preferred alternative would provide continuous sidewalk facilities on both sides of the corridor.
Improves or creates access to/between Uniontown and Alameda	The preferred alternative would provide continuous sidewalk facilities on both sides of the corridor. Wider sidewalks and planting strip buffer could be added with minor widening.
Improves facilities for those using mobility devices	The preferred alternative would include reconstruction to enhance accessibility for pedestrians along the corridor by upgrading pedestrian ramps for ADA compliance.
Enhances the active transportation network	The preferred alternative would provide continuous sidewalk and bike lane facilities on both sides of the corridor. There is an opportunity to provide enhanced crossings with a raised refuge in the center median area.
Issue #7: Problematic Traffic Patterns	
Addresses known access issues on state highways or major arterials	The preferred alternative does not identify specific changes to access on West Marine Drive. The is an opportunity to restrict turn movements at the Hamburg Avenue intersection to improve operations and safety.

Reduces personal vehicle reliance on system for shorter, local trips	The preferred alternative improvements for walking, biking and transit trips would reduce vehicle trips.
Improves efficiency of current transportation system	The preferred alternative would not affect the overall efficiency of the transportation system.
Issue #8: Numerous and Closely Spaced Driveways on Marine Drive	
Supports more safe and efficient access to businesses and residences along Marine Drive	The preferred alternative would reconfigure one eastbound travel lane to a two-way left-turn lane. This is expected to reduce crashes by removing left turning vehicles from the travel lane at intersections and driveways.
Improves safety for pedestrians and bicyclists around driveways	The preferred alternative would provide continuous sidewalk and bike lane facilities on both sides of the corridor.
Issue #9: Safe and Convenient Transit	
Enhances public transportation services (e.g., new routes, shelters, ADA compliance)	The preferred alternative would support planned long-range transit service improvements including two reconfigured bus routes and new shelters at high ridership locations.
Improves bicycle and pedestrian connections to public transportation stops	The preferred alternative would provide continuous sidewalk and bike lane facilities on both sides of the corridor.
Enhances transportation options to underserved areas.	The preferred alternative would support planned long-range transit service improvements.
Issue #10: Inadequate Lighting for Pedestrians	
Improves visibility and safety, especially for those with disabilities	The preferred alternative could include the installation of street lighting at both Hamburg Avenue and Hume Avenue (both unsignalized intersections).
Minimizes impacts to natural resources	There are no identified natural resources along the study corridor.

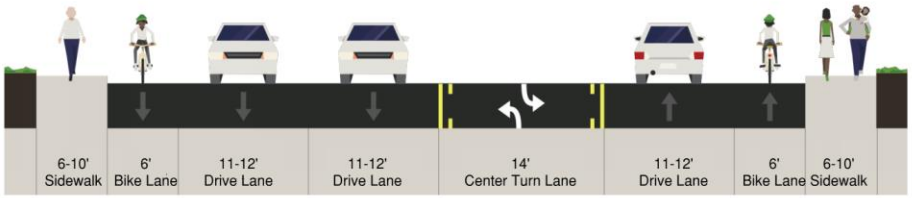
Issue #11: Lack of Safe and Convenient Bicycle Facilities	
Enhances access to and encourages use of the Oregon Coast Bike Route (OCBR)	The preferred alternative would maintain the existing westbound bike lane and add a continuous eastbound bike lane.
Creates connections between Marine Drive and the Astoria Riverwalk	The preferred alternative does not include bike facilities off the West Marine Drive corridor. It is assumed bicycles with share the roadway with vehicles on low speed/low volume streets between West Marine Drive and the Astoria Riverwalk.
Creates enhanced east-west bicycle route accessible to more users	The preferred alternative would maintain the existing westbound bike lane and add a continuous eastbound bike lane.

Appendix

Note: All cross-sections are conceptual in nature; specific roadway and sidewalk configurations will be determined during the design process based on available ROW

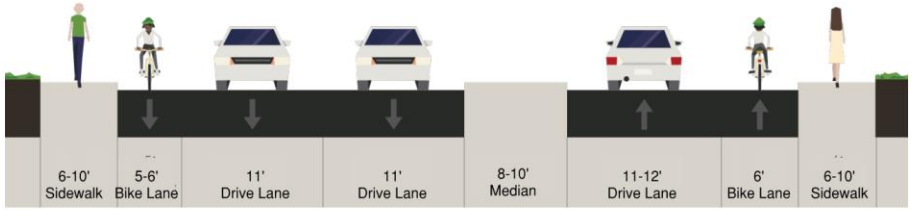
Cross Section A

Note: 10' Sidewalk could include landscape buffer to be determined during the design process

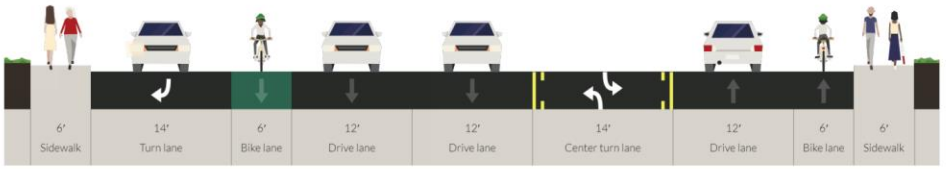


Cross Section B

Note: 10' Sidewalk could include landscape buffer to be determined during the design process

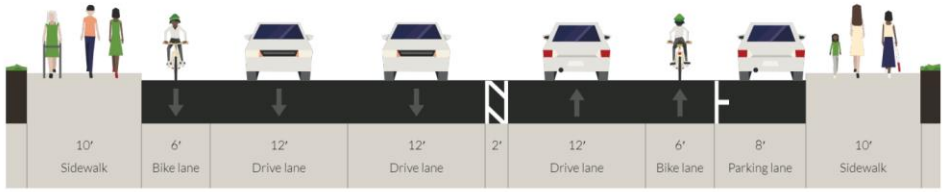


Cross Section C



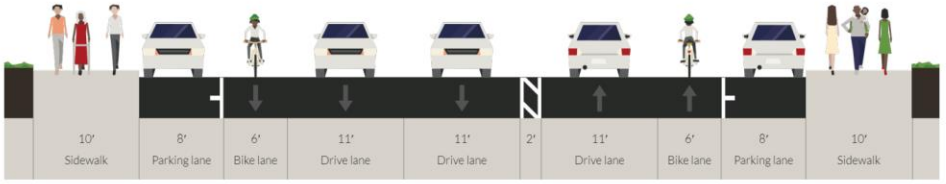
Cross Section D

Note: 10' Sidewalk could include landscape buffer to be determined during the design process



Cross Section E

Note: 10' Sidewalk could include landscape buffer to be determined during the design process



Note: All cross-sections are conceptual in nature; specific roadway and sidewalk configurations will be determined during the design process based on available ROW

Cross Section F

Note: 10' Sidewalk could include landscape buffer to be determined during the design process