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## MEMORANDUM

**DATE:** August 17, 2015  
**TO:** Paul Wyntergreen, City of Tillamook  
**FROM:** Steve Faust, AICP  
**CC:** David Helton, ODOT  
Susan Wright, Kittelson & Associates  
**RE:** Revised Memorandum #3: Land Use and Transportation Options

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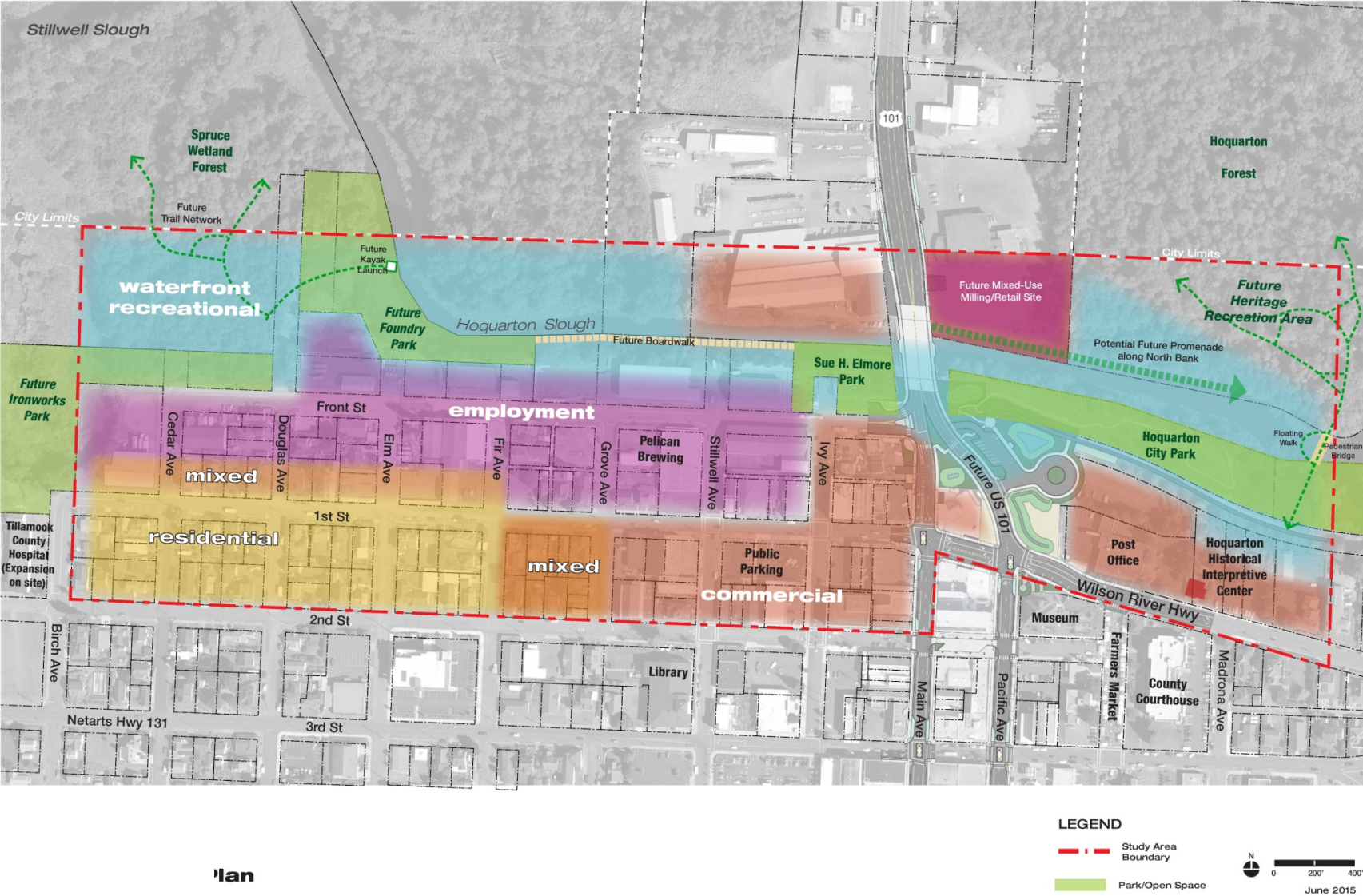
### Introduction

The purpose of the Hoquarton Area Plan is to guide future development in the Hoquarton Area to achieve a lively mixed-use waterfront district that provides access to and from city parks, employment centers, retail shops and residences. The land use and transportation concepts described in this memorandum are based on our analysis of existing and planned conditions in the area and comments from stakeholder interviews, the project website, two meetings of the Project Advisory Committee and two public forums.

In this memorandum, we attempt to balance a variety of land uses, to achieve the following objectives (see Exhibit 1):

- Guide infill development and redevelopment that provides flexibility and preserves and enhances the character of the area.
- Create a balanced transportation network that provides functional freight services integrated with safe pedestrian and bicycle circulation.
- Leverage opportunities created by private investment plans, the development of the City's Parks Master Plan and construction of the US 101/OR 6 intersection.

Exhibit 1. Hoquarton Area Plan: Focus Areas



### Draft Guiding Principles

The Plan is built around six guiding principles:

- ❖ Provide access to and enjoyment of the Hoquarton Waterfront
- ❖ Maintain and celebrate the area's unique native, commercial and industrial heritage
- ❖ Cultivate a diverse mix of businesses and shops to serve residents and visitors
- ❖ Employ strategies to attract and retain visitors
- ❖ Encourage a variety of housing options to support a diverse population and local workforce
- ❖ Provide safe travel routes for pedestrians, bicycles, automobiles and trucks within and through the area

We explore each of these guiding principles in the sections that follow. Each section includes a brief description of the current situation, options for achieving the guiding principle and examples from other areas.

### Plan Elements

#### ***Provide Access to and Enjoyment of the Hoquarton Waterfront***

The south bank of the Hoquarton has the potential to become a memorable green corridor through the City, acting as a recreational amenity, an important route for active transportation, a restored natural area, and a visual marker that welcomes visitors to Tillamook. It will serve not only as a linear connection but also as a green edge to downtown, visible at the end of most north-south streets.

The Hoquarton is part of the County Water Trail, approximately 200 miles of navigable waterways in the County and a National Recreational Water Trail since 2012.

The Hoquarton, part of the County Water Trail, approximately 200 miles of navigable waterways in the County and a National Recreational Water Trail since 2012. The Hoquarton is designated as a Tillamook Shoreland Planning area, with forested, freshwater wetlands

and significant wildlife habitats. In partnership with the Tillamook Estuaries Partnership and in cooperation with local property owners, the City plans to undertake riparian replanting of the northern banks of the Hoquarton to the immediate east and west of US 101. The plantings will enhance views from the boardwalks on the south side of the Hoquarton.

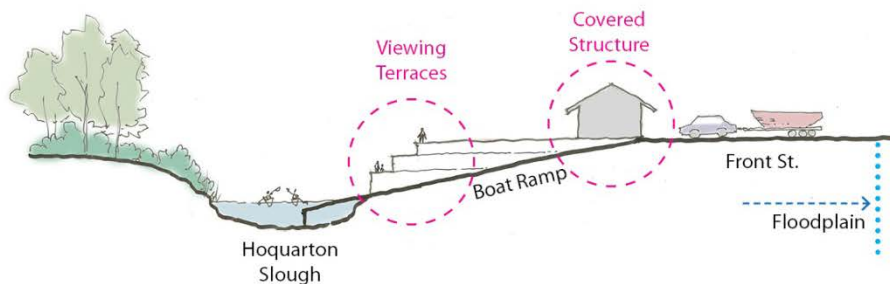


Sue H. Elmore Park renovations will include a terrace for people to sit and view the Hoquarton.



Sue H. Elmore Park will remain the primary public gathering space along the Hoquarton. Residents and tourists can now launch their motorboats, canoes, kayaks and, increasingly, stand-up paddleboards at Sue H. Elmore (or 'SHE') Park, but capacity is limited. As shown in Exhibit 2, Sue H. Elmore Park will be renovated to provide more clearly defined parking off of Front Street, while adding a shelter. Along the river's edge, the park will be re-contoured to improve habitat conditions and provide a terrace down to the water for people to sit and view the Hoquarton. Future improvements should include resurfacing and re-grading the boat ramp to make it more functional for a range of users. The City also should consider seeking funds to construct additional facilities at the park that may include restrooms, facilities for boaters and other play and interpretive elements.

## Exhibit 2. Sue H. Elmore Park planned improvements



While Sue H. Elmore Park will serve as the primary public gathering space along the Hoquarton, a series of linked trails and overlooks will create an integrated corridor of public access, similar to examples shown in Exhibit 3. An interpretive boardwalk will link this series of spaces, building from the existing interpretive walk east of US 101, which includes two cantilevered overlooks and a kiosk. From this area, a connection can be made to Goodspeed Park via an old Port of Tillamook Bay (POTB) rail spur. The POTB has granted an easement for this purpose.

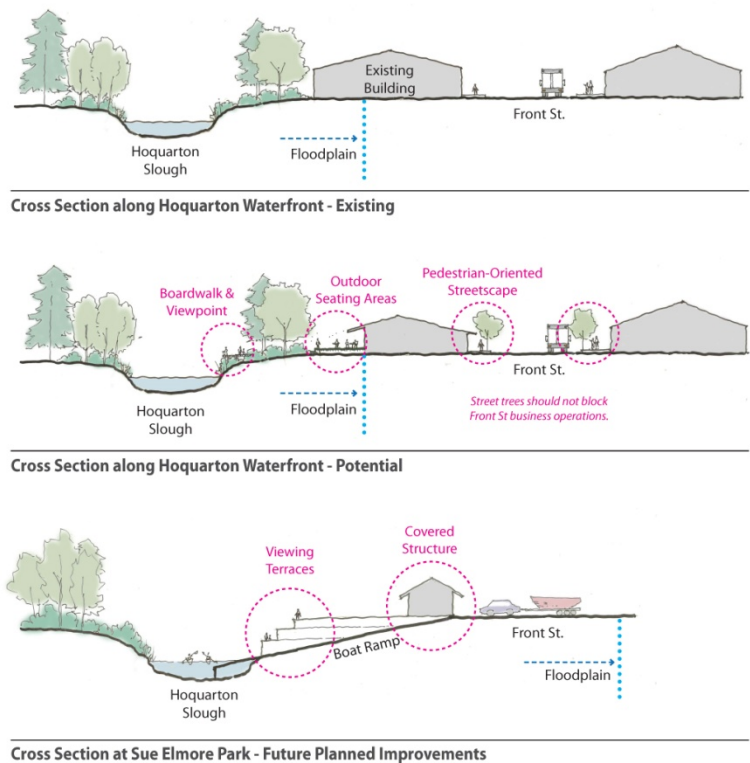
### Exhibit 3. Boardwalk and overlook opportunities



As part of ODOT's plan for the US 101 bridge and realignment, a new parking lot will be provided on the east side of 101. Crosswalks will help link spaces on both sides of 101 because the bridge cannot be raised high enough to allow pedestrian access underneath. Both riverbanks of the Hoquarton will be restored after bridge construction. To complement the restored Hoquarton and renovated Sue H. Elmore Park, welcome signage or artwork can be used at one of the future green spaces to highlight this new gateway to Tillamook.

A boardwalk or trail along the top of the Hoquarton's bank will extend west from Sue H. Elmore Park, either within an easement of roughly 20'-30' in width at the rear of existing private parcels or as part of future redevelopment of these parcels, although new code provisions will be required to create a framework for this greenway trail. A boardwalk 8-12' in width may be more resilient to winter weather and can be raised above the floodplain, but will be more expensive to construct, including railings and ramp or stair access. The boardwalk can connect a series of overlooks at the north ends of Elm, Grove and Stillwell Avenues, which could extend over the Hoquarton, providing views up and down the restored waterway. These overlooks could include interpretive signage. Given that Front Street runs parallel to the Hoquarton, we recommend that bicycles not be permitted along the boardwalk but encouraged to take Front to Stilwell and then head south to First Street to continue eastward. Exhibit 4 illustrates existing and potential future between the boardwalk and existing development along the Hoquarton.

Exhibit 4. Cross section of existing and potential waterfront development



**HOQUARTON WATERFRONT**  
HOQUARTON AREA PLAN



These recreational amenities can synergize to provide better access and enjoyment of the waterfront, as shown in Exhibit 5.



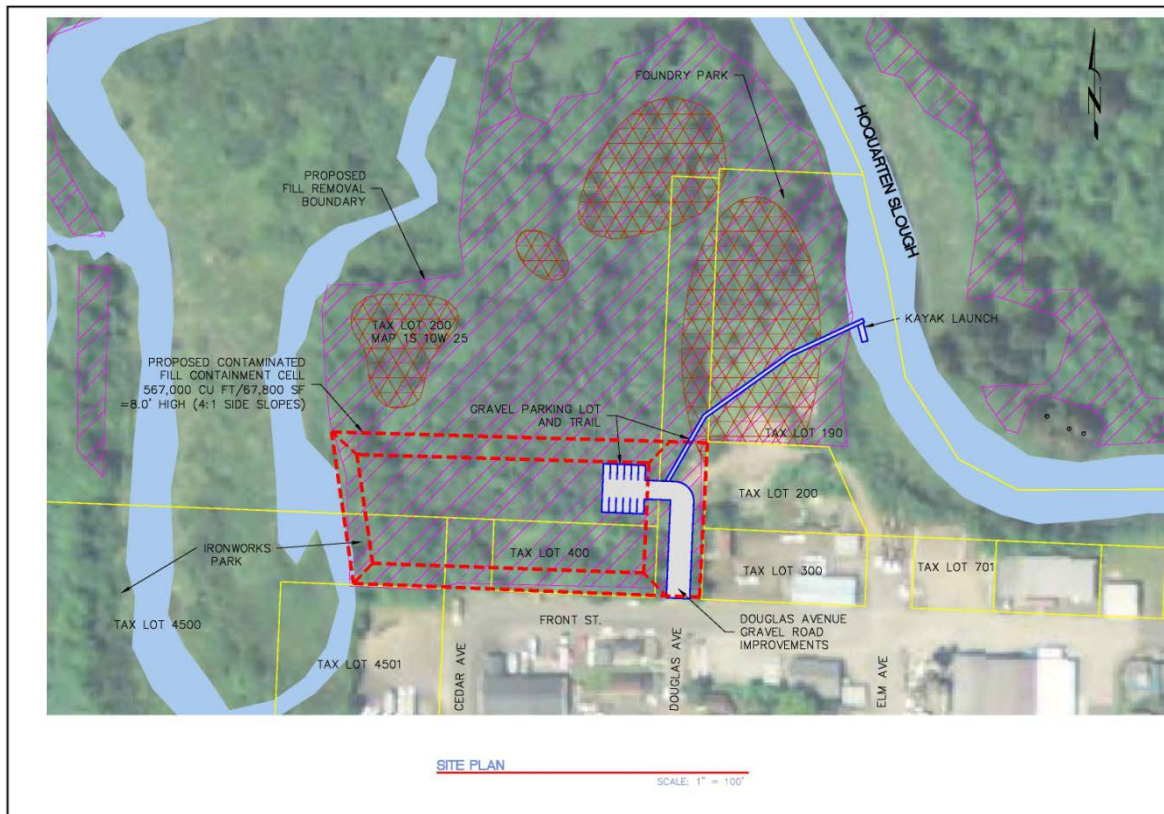
## Exhibit 5. Hoquarton waterfront opportunities



Beyond the Hoquarton, there are more than 40 acres of undeveloped public woodlands and wetlands within the study area, including Foundry Park. Many more acres, including the future Ironworks Park, lie beyond the study area boundary. These are part of the Heritage Recreation Area, which consists of properties given to the City by the Federal Emergency Management Agency (FEMA) and other private property owners within the historic core of the City along the Hoquarton.

The current 100-year floodplain extends across most of the northern part of this study area and restricts redevelopment. The Southern Flow Corridor project, coordinated by Oregon Solutions, FEMA and the Port of Tillamook Bay, will address this and other issues on the western edge of the City through extensive re-grading, fill removal, and wetland restoration north of Foundry Park. This will include moving contaminated fill at the Foundry Park site to an 8-ft high containment cell along Front Street. If it is not already proposed, the edges of this cell should be planted with native vegetation to avoid the appearance of a stark earthen wall along Front. The April 24, 2015 project plan (Exhibit 6) also provides some public mitigation for this cell, with the extension of Douglas Avenue north of Front Street to a new 12-space gravel parking lot, which will serve a short trail to the Hoquarton and a kayak launch. As detailed project design proceeds, further public access can be provided, extending the waterfront trail system beyond the urban context to link to this launch point and parking lot and further west into a restored, wilder setting with views of the incredibly scenic farmlands and coastal landscape beyond that creates such a vivid sense of place for Tillamook.

## Exhibit 6. Foundry Park – Old Mill Site Plan



### *Celebrate and maintain the area's unique native and industrial heritage*

The Killamook Tribe, a branch of the Salish people, settled in an area ranging from Cape Lookout north to Neahkanie. The Hoquarten served as an important water route for the Tribe and they hunted and fished in and around the area. Locally, a group lived in a village referred to as Tow-er-quuo-ton, believed to mean "the landing."

The first town plat, and historic birthplace of Tillamook, was for a city named "Lincoln." The name was later changed to Tillamook, meaning "place of the Elam tribe." As one of the first navigable waterways from Tillamook Bay to the City, the Hoquarten became a main route for vessels traveling to and from the Bay and the Pacific Ocean. Settlers in Tillamook were dependent on goods being brought in to the City via the waterway. The wharfs on Front Street along the Hoquarten served a lively milling and industrial base, while the opera house and other cultural activities occurred on First Street. The advent of the railroad recognized this by running a spur line down Front Street with double tracks. This was the case until the construction of t US 101 shifted the town center to the southeast.

While economic activities along Front Street have fluctuated over time, remnants of this industrial economy remain today. Front Street is characterized by a mix of industrial production centers, warehouses and commercial businesses, some of which manufacture products for export outside the region.



The City of Tillamook has an opportunity to honor the heritage of the Tillamook Tribe and capitalize on the industrial character of Front Street. As illustrated by examples in Exhibit 7, interpretation at overlooks could highlight the area's history, telling the story of the Tillamook Tribe and providing views of old pilings, which once supported lively docks and waterfront businesses such as the former Foundry.

#### **Exhibit 7. Hoquarton interpretive features**



Building on its industrial beginnings, the City could seek to attract specialty manufacturers and businesses that wish to locate within an active, mixed use district. Furthermore, encouraging more retail activities associated with existing uses along the street can support the City's desire to revitalize the Hoquarton area. Tillamook is well positioned to take advantage of several different strategies for achieving these means:

#### Promote a retail component to existing manufacturing and industrial business

Activities around Front Street are conducive to incorporating retail elements into existing businesses, which may attract new businesses interested in the same. Promoting a retail component to existing industrial and manufacturing businesses provides an opportunity to draw people to the area and foster interaction between craftsmen, locals and tourists, as shown in Exhibit 8. The Pelican Brewery sets an example for how production and retail can be coupled as a means of drawing visitors to the area.

#### **Exhibit 8. Promoting a retail component to manufacturing businesses**



#### Support the cottage industry and small business incubation

Vacant or underutilized parcels provide space for shared facilities for production and co-marketing of local products, helping support cottage industries and the incubation of small

businesses. Presence of these facilities can also support live-work arrangements, where personal living space is combined with professional workspace, as shown in Exhibit 9. Public recreational facilities can be integrated at “safe” points with showroom and retail aspects of a cottage industry incubator and other industrial start-ups.

#### Exhibit 9. Examples of live-work arrangements



#### Provide interpretive features to tell the story

The cultural significance of the Hoquarton and industrial heritage of Front Street is an important story for the area. Installing interpretive features can highlight Front Street’s role as the historic business district of Tillamook. These may include historical markers and photographs along Front Street that highlight important cultural and industrial events, activities or circumstances, as shown in Exhibit 10.

#### Exhibit 10. Examples of historical/industrial heritage features





## CASE STUDY: GRANVILLE ISLAND, VANCOUVER BC

***"From Industry to Artistry."*** Granville Island is a pioneering example of brownfield redevelopment through innovative provisioning of public space and re-use of industrial buildings. Originally occupying two sandbars in Vancouver's False Creek, Granville Island was first used by local First Nations people as a fish trading place. It turned into a thriving industrial site until the post-WWII economy before becoming derelict. After a significant planning process that was rooted in capturing a distinct identity for the island's revival, Granville Island reopened in 1979 as a public market. Today, it remains iconic for its successful adaptive reuse efforts due to five key elements: non-traditional retail space, on-site production of goods, an educational facility, sensitive landscaping and the capacity to host events.



### ***Cultivate a diverse mix of businesses and shops to serve residents and visitors***

Downtown Tillamook serves as a major retail center for residents and as a gateway to the Oregon Coast for visitors. Business owners in the area have been working through the Tillamook Revitalization Association, Chamber of Commerce and Oregon Main Street to create a cohesive downtown identity and organize coordinated events and promotions.

The City can build upon these successes by cultivating the Hoquarton's existing identity as a district with a mix of employment uses in proximity to recreational opportunities. Market conditions in Tillamook, combined with the competitive and comparative advantages of the Hoquarton area, suggest that a blending of commercial and retail development could be supported in the area. Key themes that the area could focus on include:

- **"Maker" businesses.** The Hoquarton has a unique mix of businesses not found elsewhere in the region. As mentioned in the previous section, the Hoquarton area could further cultivate this identity by attracting additional businesses that both produce goods but have an outward facing retail presence. The City should encourage these businesses to operate a retail component that increases brand awareness both for the business and for the area.
- **Tourism and service related businesses.** Potential businesses types that could support tourism include visitor services (leisure activities, hotels and restaurants), retail and personal services, and services for seniors, such as medical and recreation facilities. More information on these businesses is included in the section on Tourism.



- **Address seasonality.** The seasonal demand changes will impact the types of businesses that will locate in Tillamook. Many coastal communities are able to address seasonality through a variety of owner lifestyle changes, adaptations to weather (outdoor heaters, covered areas), and creating new demand drivers for the low season.

Stakeholder and public outreach has indicated that the area should attract additional commercial uses by using underutilized land and existing buildings. The key node for commercial development in this area, as shown in Exhibit 1, is along First Street between Grove and Main avenues. The Wilson River Highway on the eastern side of the study area is also an important retail node. Two important opportunity sites for near-term development include the Napa Auto Parts Store on the northwest corner of Second Street and Ivy Avenue, and the parking lot on First Street between Ivy and Stillwell avenues. Based on the area's comparative advantages, the region has a number of businesses that might be attracted to Tillamook, specifically the Hoquarton area:

#### Products

Given its proximity to downtown, this area is most likely to attract businesses that wish to co-locate a workshop/production space and a retail space.

- Specialty food production
- Forest products
- Agricultural services
- Specialty manufacturing (crafts, furniture)

#### Lodging

Tillamook's current lodging options cater mostly to budget travelers and have limited mid-range or upscale hotel options. Demand for hotel rooms in existing hotels could increase, given that the Mar Clair Inn will be demolished as part of the US 101/OR 6 Traffic Improvement project. With these changes, the Hoquarton area would be a candidate to increase the diversity of lodging options in the city. As the area matures, there could be an opportunity for small scale lodging options that serve a more upscale clientele. Depending on the results of further study and conversations with potential hoteliers, Tillamook could focus on bringing in one of a variety of potential lodging establishments to the area:

- Inns, hotels, and motels
- Hotels, potentially with large and flexible meeting space of approximately 7,500 sq. ft.
- Private vacation rentals

#### Service businesses

Potential businesses could include:

- Bike and kayak rental
- Coffee shops, restaurants
- Entertainment venue
- Kids' activities
- Healthcare
- Personal care

#### Retail businesses

- Bakery
- Book/gift/hobby store
- Discount store
- Garden center/home improvement

- Pet store
- Specialty food store (i.e. fish and seafood market)
- Sporting goods

### ***Employ strategies to attract and retain visitors***

With nearly one million visitors to the Tillamook Cheese Factory each year and five million trips down US 101 to Pacific Ocean beaches, Tillamook is well situated as a gateway to the region's scenic areas, recreational amenities and destinations. While Tillamook benefits from a strong regional tourism economy, there are opportunities to attract visitors to more local destinations. The rich history, cultural heritage and natural environment offer the opportunity to develop a cohesive identity for Tillamook. According to the Tillamook Coast Tourism Strategy<sup>1</sup>, target niche markets for the region may include:

- Birders and wildlife watchers
- Cyclists
- Meetings and conventions
- Outdoor recreationists: kayakers, fishing, off-road ATVs, photographers
- Quilters
- Reunions, weddings

Building upon the Tourism Strategy, stakeholders identified several themes for the City in relation to branding that can be highlight opportunities in the Hoquarton area and augment the existing brand. Branding these distinct qualities would help capitalize on new and existing attractions. The following section describes options for ways to brand each of the messages.

"Gateway to the Coast." Encourage new amenities, retail and other supportive uses for tourism that is generated by Tillamook's proximity to the ocean.

Recreation. Provide a hub for kayaking and biking, supported by the enhancement of new parks and trails.

Culture and History. Honor the history of Tillamook through Native American interpretive features and walking loops that link museums and historic structures. Enhance the industrial character of Front Street with interpretive features and images that speak to the history of the Hoquarton as a major center of commerce.

Artisan/Specialty Food. Capitalize on the Pelican Brewery, Tillamook Creamery and the Tillamook County Smokehouse and encourage retail activity to create a "food loop" that highlights local products.

A key component of this project is identifying the role of the Hoquarton within the greater City of Tillamook and the region. In its Rural Tourism Studios, Travel Oregon uses the following framework<sup>2</sup> to identify potential visitor attraction strategies:

- The Lure – the experience that motivates the visitor to actually come to your destination, something they can't find at home.
- Diversions – things visitors can do closer to home but will do in your destination because they are already there. These accelerate the brand.

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<sup>1</sup> Tillamook Coast Tourism 2025. September 2014. <http://www.destinationbranding.com/pub/doc/tillamook-tourism-strategy-final-summary-full.pdf>

<sup>2</sup> Travel Oregon Marketing Workshop. <http://industry.traveloregon.com/content/uploads/2015/02/RTS-POLK-COUNTYMarketingPresentation1.pdf>

- Amenities – things that make a visit comfortable.
- Ambience – historic buildings, public art, street entertainers, etc.

### Exhibit 11. Drawing Visitors





### Thinking regionally

In 2014, the Tillamook region developed an action plan for tourism over the next ten years. Many of the actions pertain to creating more inviting village and town centers in the Tillamook region to support the area's natural beauty and main draws. The table below shows some of the actions recommended in the strategy that connect directly with the Hoquarton area.

#### Tillamook Coast Tourism 2025 strategy actions pertaining to Hoquarton

Gateways and First Impressions	6.1 Support improvements to the attractiveness and sense of welcome at city gateways. 6.2 Introduce branded welcome signs at regional gateways. 6.3 Improve the curb appeal of businesses along main thoroughfares and gateways. 6.4 Encourage the beautification of US 101 between the Tillamook Cheese Factory and Downtown Tillamook. 6.5 Introduce a beautification program to improve the appearance of gateway communities.
Placemaking	6.6 Encourage the Tillamook County Arts Network to support a County 'Art in Store Windows' program. 6.7 Encourage the introduction of more pedestrian-friendly leisure precincts. 6.8 Encourage intensive landscaping and tree planting (not token) in most cities to better embrace the natural environment.
Wayfinding	6.9 Support the design and implementation of a comprehensive, countywide wayfinding signage system to address visitor needs. 6.10 Support improvements to Downtown Tillamook wayfinding and visitor-focused signage.
Dining and Local Food	6.11 Encourage the introduction of more dining options in waterside, forest and ocean view settings. 6.12 Attract and elevate the profile of high quality local restaurants and chefs. 6.13 Optimize use of, and promote, the quality of local fresh produce, seafood and artisan foods. 6.14 Encourage outdoor seating at restaurants and cafes.
Shopping	6.15 Encourage the expansion of locally owned, boutique and specialty stores. 6.16 Encourage collaboration and systems within villages to extend the opening hours of stores and restaurants
Lodging and Conferences	7.1 Develop strategies to increase the number and type of lodging establishments, as well as improve the standards of some operators. 7.2 Investigate the introduction of high quality, nature-based, 'boutique' lodging. 7.3 Investigate the market feasibility of establishing and sustaining conference centers in various regional locations. 7.4 Encourage the introduction of spa and wellness retreats. 7.5 Encourage the introduction of systems to ensure high standards of guest satisfaction at hotels, vacation homes and RV parks.

In addition, the City of Tillamook commissioned a brand strategy in 2014.<sup>3</sup> The result of that effort was a brand that embraces the area as Oregon's Dairylands. One of the objectives from the strategy was to get one out of every 10 people who visit the Tillamook Creamery to linger longer in the City of Tillamook. One of the key attractions listed in the strategy includes downtown Tillamook, with the following vision: "Quaint shops line the streets where there is bound to be something that catches the eye. Shoppers can come explore the unforgettable downtown area of a historical city."

The strategy identified several ways methods to encourage a more robust branding effort within the City of Tillamook, including: street signs and point of sale within local businesses.

The following section presents a set of options for building upon the area's assets and playing a key role in the region's tourism draw.

Drawing from Travel Oregon's framework, and with consideration of the Tillamook Coast Tourism 2025 initiative and City of Tillamook Branding Strategy, Exhibit 12 describes a set of options for enhancing the Hoquarton Area's tourism draw within the context of the region.

<sup>3</sup> City of Tillamook Brand Guide, 2014.

## Exhibit 12. Hoquarton Area Plan tourism options

Key Element	Description	Possible Focus Areas
The Lure	The experience that motivates the visitor to come to your destination, something they can't find at home.	<ul style="list-style-type: none"> <li>• Cheese Factory</li> <li>• Coastal beaches</li> <li>• Fishing</li> <li>• Guided tours</li> <li>• National Recreational Water Trail</li> <li>• Three Capes Scenic Drive</li> </ul>
Diversions	Things visitors can do closer to home but will do in your destination because they are already there. These accelerate the brand.	<p><b>Kids Activities</b></p> <ul style="list-style-type: none"> <li>• Partnerships with businesses for "hands-on" experiences</li> </ul> <p><b>Recreation</b></p> <ul style="list-style-type: none"> <li>• Enhancement of parks and trails; additional access points to nature</li> <li>• Hub for kayaking and biking</li> <li>• Places for people to take their dogs</li> </ul> <p><b>Shopping</b></p> <ul style="list-style-type: none"> <li>• Cool or unique retail stores</li> <li>• Independent retail featuring handmade, high-quality items</li> </ul> <p><b>Entertainment</b></p> <ul style="list-style-type: none"> <li>• Public entertainment</li> <li>• Nightlife after 6pm</li> </ul> <p><b>Dining and Specialty Food</b></p> <ul style="list-style-type: none"> <li>• Coffee shops</li> <li>• Retail activity to create a "food loop" that highlights local products, capitalizing on the Pelican Brewery, Tillamook Creamery, Werner Meats, and the Tillamook County Smokehouse</li> <li>• Seasonal carts</li> <li>• Waterfront eatery</li> </ul> <p><b>Cultural and historical heritage</b></p> <ul style="list-style-type: none"> <li>• Connections to local attractions</li> <li>• Emphasis on museum or interpretive center</li> <li>• Enhanced industrial character of Front Street with interpretive features and images that speak to the history of the Hoquarton as a major center of commerce</li> <li>• Native American interpretive features and walking loops</li> <li>• Pioneer history and stories</li> </ul>
Amenities	Features that make a visit comfortable	<ul style="list-style-type: none"> <li>• Amenities to support users of the Salmonberry Corridor</li> <li>• Bathrooms</li> <li>• Childcare</li> <li>• Free public internet access</li> <li>• Friendly and helpful people</li> <li>• Lodging at different price levels</li> <li>• Kiosks</li> <li>• Places to sit (especially for the older population)</li> <li>• Satellite visitor center for drivers arriving on Oregon 6. Could be coupled with another business (i.e. coffee shop)</li> <li>• Wayfinding: directional signage, pole banners</li> </ul>
Ambience	Historic buildings, public art, street entertainers, etc.	<ul style="list-style-type: none"> <li>• Architecture – old buildings, or creating nice ambience with new buildings</li> <li>• Clean streets and sidewalks</li> <li>• Flower baskets and landscaping</li> <li>• Iconic places to take pictures</li> <li>• Physical gateway feature</li> <li>• Sculptures and public art</li> <li>• Tillamook Coast branding</li> </ul>

## ***Encourage a variety of housing options to support a diverse population and local workforce***

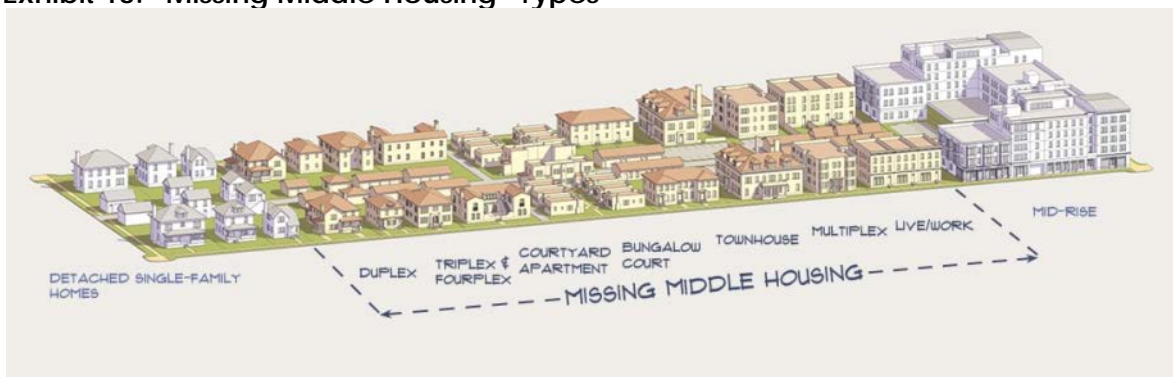
Nearly two-thirds of the housing stock in the City of Tillamook is single-family detached units, many of which were built at least 20 years ago. Our analysis of existing conditions showed similar sales price trends to other coastal cities, including Astoria and Lincoln City. Vacancy rates are low in the small number of apartment units within the city, many of which have income restrictions.

By 2030, Tillamook's population is forecasted to have increased by about 1,100 persons since 2010. Changing demographics, both within the city and throughout the county, will drive demand for different types of services, housing and development patterns. With an aging population, as well as an overall increase of residents and workers to the area, providing a variety of housing options will be an important component of Tillamook's future growth. Several issues will likely impact demand for housing within the city. The planned expansion of the Tillamook Regional Medical Center will increase the demand for new housing types, such as senior housing, assisted living facilities, long-term out-patient suites, visiting physician suites and short-term employee units. Also, local employers claim that affordable workforce housing is in short supply, forcing their employees to seek housing in neighboring communities.

Open house participants cited a need for a variety of housing options that could fit within the City and within the Hoquarton area. As shown in the preliminary concept for the Hoquarton area is shown in Exhibit 1. The area between First and Second streets is zoned primarily for single-family housing, though several multi-family units exist. This area could accommodate a greater density of housing, especially given its proximity to major destinations within the City, including the library, downtown, major grocery stores, and the hospital.

The potential to provide a greater variety of housing types through infill development is supported by the study area's proximity to services and amenities. There is a growing need for housing within the "Missing Middle," a term coined to describe the range of multi-unit or clustered housing types compatible in scale with single-family homes that help meet the growing demand for walkable urban living. Some of these housing types are shown in Exhibit 13.

### **Exhibit 13. "Missing Middle Housing" Types**



Source: Missing Middle Housing, a resource for policymakers and planners that offers information on how to integrate Missing Middle Housing into existing neighborhoods, explains how to regulate these building types, and pin-points the market demographic that demands them. <http://missingmiddlehousing.com/>



The City should consider some or all of the following types of housing when evaluating growth within the Hoquarton area (Exhibit 14):

#### Workforce Housing

The area could accommodate a range of homes at different densities. Housing types include:

- Townhomes, duplexes, and triplexes
- Condominiums and apartments including courtyard apartments, bungalow courts, and multiplexes
- Cottages/small lot homes that can provide the feel of a single-family home on a smaller floorplate.
- Live-work housing that allows people to operate a business out their home.

#### Senior Housing

The Hoquarton area could accommodate a range of housing types for seniors, especially seniors that value the area's proximity to recreation, downtown shops and key services. Housing types for seniors include "guest homes"/informal senior housing and independent living apartments.

#### Visitor Housing

Tillamook has a number of people who need short-term housing. There are not currently many desirable options available. Housing types could include extended stay hotel or apartments, bed and breakfasts and accessory dwelling units.

#### **Exhibit 14. Housing options**



***Provide safe travel routes for pedestrians, bicycles, automobiles and trucks within and through the area***




As mentioned in the introduction, one objective of the Hoquarton Area Plan is to create a balanced transportation network with safe pedestrian and bicycle circulation. Currently, the study area is served by a grid network and bisected into east and west subareas by US 101. The pedestrian network consists of sidewalks, multi-use paths and trails. Sidewalks conditions are good along US 101, but poor or lacking in other areas. There are no dedicated bicycle facilities, though plans indicate bikes will share lanes on Main and Pacific Avenues. The Tillamook Town Loop, operated by the Tillamook County Transportation District (TCTD), provides service at two stops within the study area and two just outside it; no shelters are provided at these stops. TCTD recently determined that the Post Office stop will move back to the Hoquarton House and the Front Street stop will be located by the easterly door of Marie Mills. The transit stop in Hoquarton Park, however, will include a shelter that doubles as an interpretive/ picnic shelter through an S-shaped design.




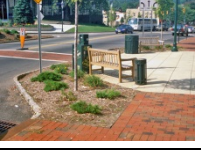


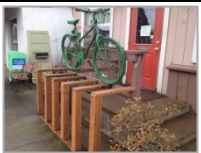


This section describes a variety of bicycle- and pedestrian-related treatment options for application in the Hoquarton Area Plan including those listed below.

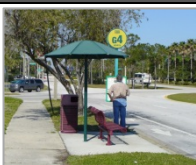
- Bicycle Facilities
- Pedestrian Facilities
- Pedestrian Crossing Treatments
- Streetscape Amenities

These options will be used throughout the development of cross-section alternatives within the Hoquarton Area Plan. Exhibit 15 summarizes the treatments by category. Appendix "A" provides more detail on each facility type, benefits and other considerations, and common applications.

**Exhibit 15: Treatment options**

Category	Treatment	Example	Potential Applications in the Hoquarton Area
Bicycle Facilities	Standard Bicycle Lane		<ul style="list-style-type: none"><li>• Front Street</li><li>• First Street</li><li>• Birch Avenue</li><li>• Third Street</li></ul>
	Bicycle Boulevard		<ul style="list-style-type: none"><li>• Front Street</li><li>• First Street</li><li>• Birch Avenue</li><li>• Second Street</li></ul>
	Shared Lane Roadway		<ul style="list-style-type: none"><li>• Front Street</li><li>• First Street</li><li>• Birch Avenue</li><li>• Second Street</li><li>• Elm Avenue</li><li>• Stillwell Ave</li></ul>

Category	Treatment	Example	Potential Applications in the Hoquarton Area
Pedestrian Facilities	Sidewalk		<ul style="list-style-type: none"> <li>Throughout study area</li> </ul>
	Shared-Use Street		<ul style="list-style-type: none"> <li>Front Street</li> </ul>
General Crossing Treatments	Rapid Rectangular Flashing Beacon		<ul style="list-style-type: none"> <li>Third Street/Stillwell Avenue</li> </ul>
	Bulb-Out/Curb-Extension		<ul style="list-style-type: none"> <li>Crossings of First, Second and Third Streets at Douglas Avenue, Ivy Avenue, and Stillwell Avenue</li> <li>Crossings of Douglas Avenue, Ivy Avenue, and Stillwell Avenue at First, Second and Third Streets</li> </ul>
	Raised Pedestrian Crossing		<ul style="list-style-type: none"> <li>Crossings of First, Second and Third Streets at Douglas Avenue, Ivy Avenue, and Stillwell Avenue</li> <li>Crossings of Douglas Avenue, Ivy Avenue, and Stillwell Avenue at First, Second and Third Streets</li> </ul>
	High Visibility Crosswalk		<ul style="list-style-type: none"> <li>Crossings of First, Second and Third Streets at Douglas Avenue, Ivy Avenue, and Stillwell Avenue</li> <li>Crossings of Douglas Avenue, Ivy Avenue, and Stillwell Avenue at First, Second and Third Streets</li> <li>Crossings along Second Street</li> </ul>
Streetscape Amenities	Bicycle Parking		<ul style="list-style-type: none"> <li>Commercial-focused streets such as First Street and Front Street</li> <li>Covered bike parking is preferred</li> </ul>
	Street Furniture		<ul style="list-style-type: none"> <li>Pedestrian-oriented streets such as First and Second Street</li> </ul>
	Lighting		<ul style="list-style-type: none"> <li>Front Street</li> <li>First Street</li> <li>Second Street</li> <li>Third Street</li> <li>Elm Avenue</li> <li>Stillwell Avenue</li> </ul>

Category	Treatment	Example	Potential Applications in the Hoquarton Area
	Transit Stop Shelters		<ul style="list-style-type: none"> <li>• Front Street at Marie Mills</li> <li>• US 101 at Hoquarton Park</li> <li>• OR 6 at Hoquarton House</li> <li>• Coordinate with Tillamook County Transportation District</li> </ul>

### Streetscape Improvements

For the benefit of both residents and tourists – and with an eye to the extensive future trail and boardwalk network in the vicinity – the Hoquarton area’s streetscape should prioritize pedestrian comfort in the zone between buildings and the curb. This can be accomplished using street trees, furnishings, wide and accessible sidewalks, and other measures. Street trees should be consistently spaced (generally around 25 feet on center). Appropriate species are identified in the City’s Tree Ordinance. Furnishings - such as benches, trash receptacles, and planter boxes - can help to create a cohesive and attractive streetscape. Finally, the pedestrian realm should be well-defined and separated from vehicular traffic. For example, bollards at ends of rights-of-way could indicate the transition to pedestrian-only zones on the Hoquarton. Additionally, curb bump-outs at intersections and painted crosswalks should be implemented where possible, especially along Front Street where north-south streets intersect.

Along Front Street, the streetscape may require a unique treatment that recognizes the enduring industrial character of that street and allows for continued truck maneuvering to and from businesses on Front. Currently there are few curbs and gutters, so it would be interesting to consider a future design for Front that remains curbless, adding different toned materials or striping and signage to indicate the pedestrian zone, adding trees only at corners so as not to impede loading requirements for businesses. There are several precedents for this (show photos). Speeds should remain low on Front, perhaps enforced with lower limits to improve safety on the curbless street.

### Street Design Alternatives

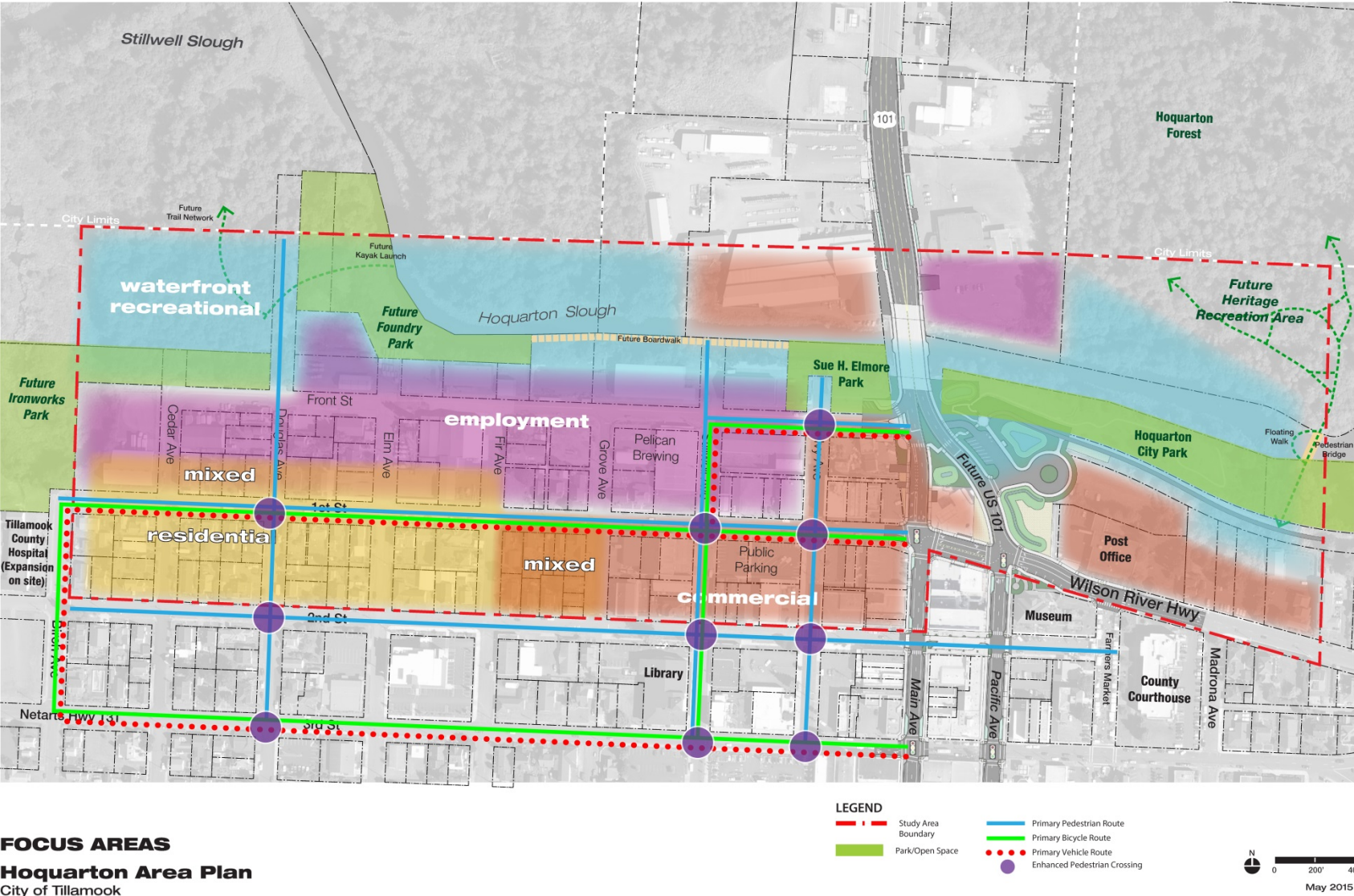
As described above, each street within the Hoquarton area has a variety of bicycle and pedestrian treatments that could be appropriate. The following section provides cross-section alternatives based on the multi-modal functional plan map illustrated in Exhibit 15. The final Plan will use aerial views of specific areas to illustrate preferred treatments. Exhibit 16 shows the proposed primary pedestrian, bicycle, and vehicle routes throughout the area; however, all streets need to accommodate each mode in some manner. As shown, bicycle routes are proposed along the following roadways:

- Front Street between Main and Stillwell Avenues
- Stillwell Avenue between Front and First Streets
- First Street between Main and Birch Avenues
- Birch Avenue between First and Third Streets
- Third Street between Birch and Main Avenues

Douglas, Ivy and Stillwell Avenues are proposed as primary north-south pedestrian routes that provide access to the Hoquarton and proposed boardwalk between Sue H. Elmore Park and the future Foundry Park. Improvements to Ivy Avenue will address encroachments between Front and First Streets. In addition, First and Second Streets are proposed as primary east-west pedestrian routes based on the commercial nature of First Street and the connection to the future Festival Street on Second Street.



Exhibit 16: Hoquarton area functional classification



### East-West Roadways

There are four primary east-west roadway connections within the Hoquarton Area, as follows:

- Front Street includes light industrial and commercial land uses along its south frontage and access points to the Hoquarton along its north frontage. As shown in Exhibit 16, Front Street is intended to house employment-inducing land uses.
- First Street is an existing and proposed connection for westbound vehicles on Wilson River Highway 6, as well as those traveling southbound on US 101 to westbound on Netarts Highway 131. As shown in Exhibit 16, First Street has primarily commercial land uses east of Grove Avenue and residential land uses west of Grove Avenue.
- Second Street is a one-way street westbound from Main Avenue to Grove Avenue and a two-way street west of Grove Avenue. Commercial land uses front Second Street along the one-way section.
- Third Street primary east-west route from Tillamook to Netarts west of Main Avenue. East of Main Avenue, Third Street is a one-way eastbound street and part of the Wilson River Highway 6 couplet serving local traffic as well as eastbound traffic from the Netarts Highway and US 101 to the Portland Metro area.

The following section proposes cross-section alternatives based on the proposed functional plan map in Exhibit 16 and the potential future land uses and existing public right-of-way widths.

### Front Street

Front Street includes light industrial and commercial land uses along its south frontage and access points to the Hoquarton along its north frontage. Exhibits 17 through 21 illustrate potential cross-section alternatives that provide multi-modal access while accommodating the light industrial uses along the corridor.

### **Exhibit 17: Front Street Cross-Section from Stillwell Avenue to US 101 – Alternative 1 (60 Feet Right-of-Way)**

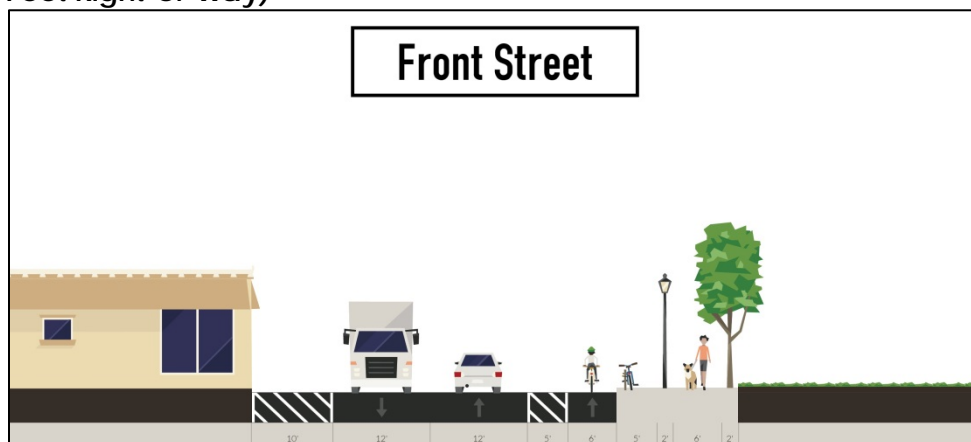


Exhibit 18: Front Street Cross-Section from Stillwell Avenue to US 101 – Alternative 2 (60 Feet Right-of-Way)

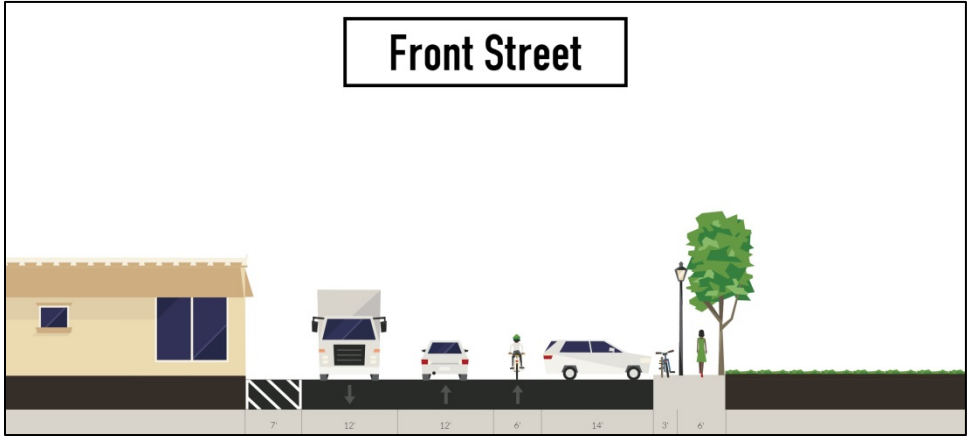


Exhibit 19: Front Street Cross-Section from Stillwell Avenue to US 101 – Alternative 3 (60 Feet Right-of-Way)

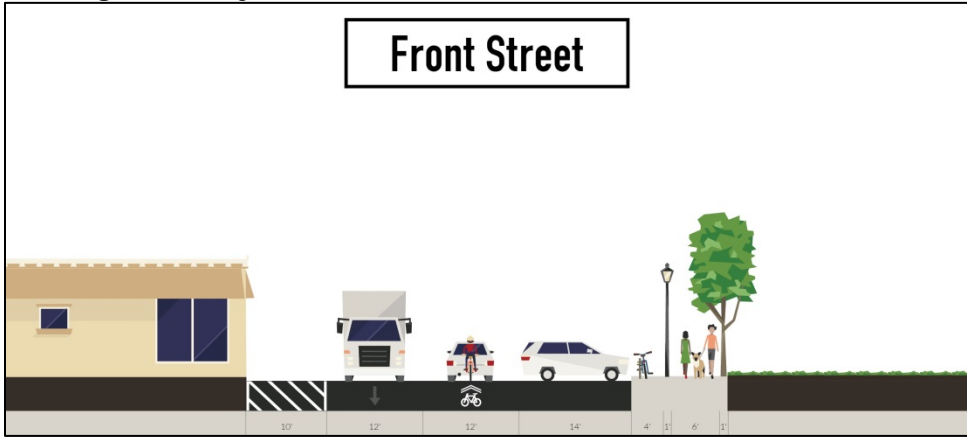
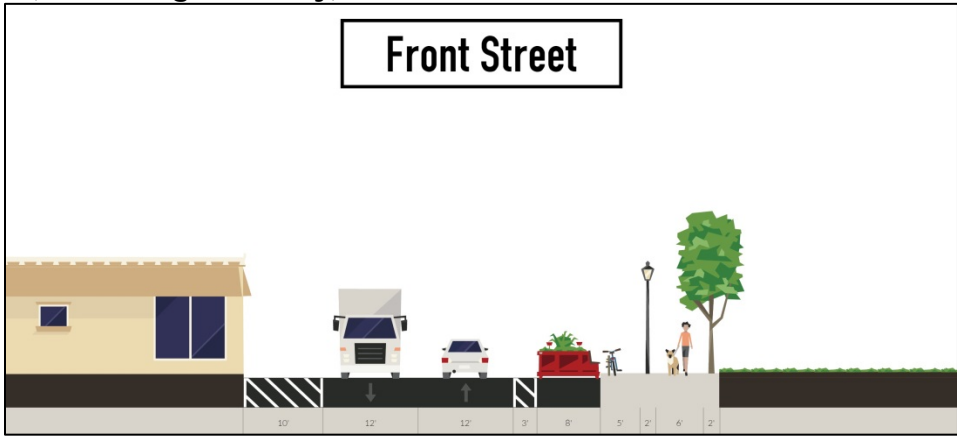
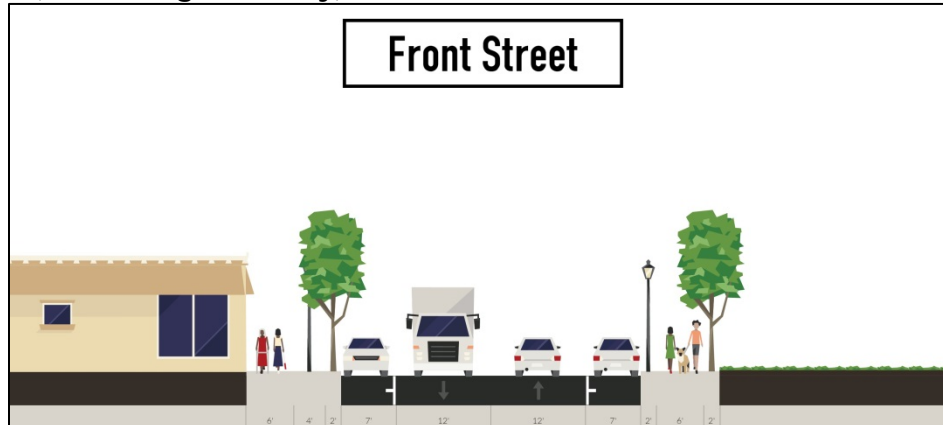


Exhibit 20: Front Street Cross-Section from Stillwell Avenue to Cedar Avenue – Alternative 1 (60 Feet Right-of-Way)



**Exhibit 21: Front Street Cross-section from Stillwell Avenue to Cedar Avenue – Alternative 2 (60 Feet Right-of-Way)**



First Street

First Street serves as the connection for motorists from southbound US 101 and eastbound Wilson River Highway 6 to westbound Netarts Highway 131. Exhibit 22 and Exhibit 24 provide cross-section alternatives that maintain the existing vehicle connection, while providing multi-modal facilities assuming commercial land uses. Exhibit 23 and Exhibit 25 assume residential land uses such as what's currently proposed west of Grove Avenue. As shown, bike facilities are proposed westbound and follow the primary vehicle connection from Wilson River Highway 6 to Highway 131. Third Street to the south is proposed to serve as the eastbound counterpart for cyclists.

**Exhibit 22: First Street Cross-section - Alternative 1 Commercial (60 Feet Right-of-Way)**

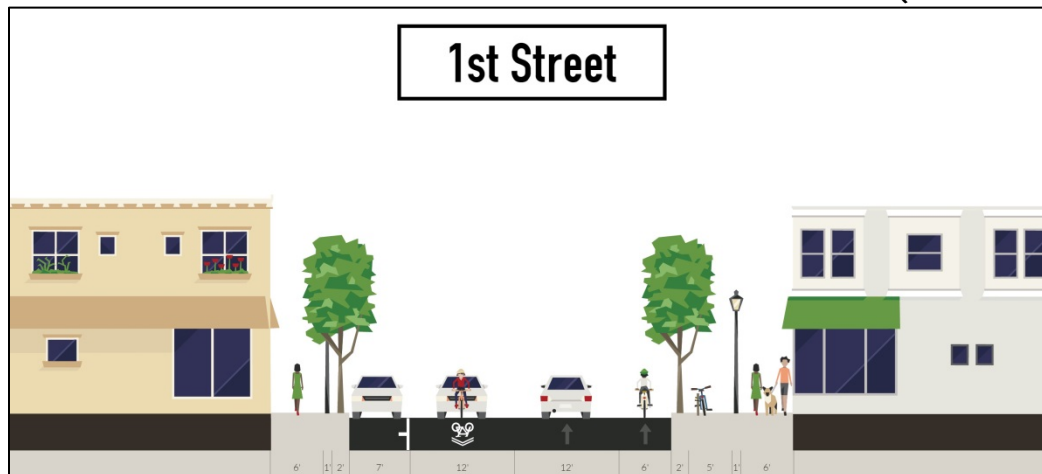




Exhibit 23: First Street Cross-section - Alternative 1 Residential (60 Feet Right-of-Way)

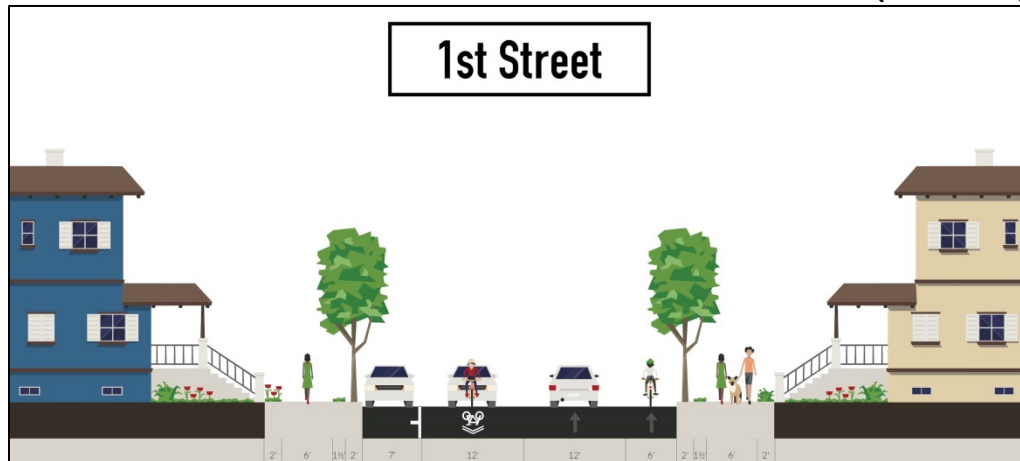


Exhibit 24: First Street Cross-section - Alternative 2 Commercial (60 Feet Right-of-Way)

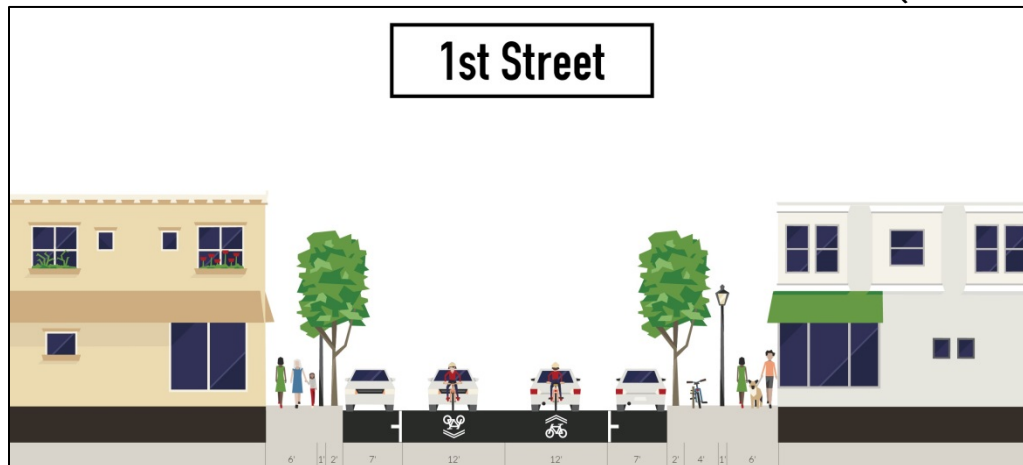
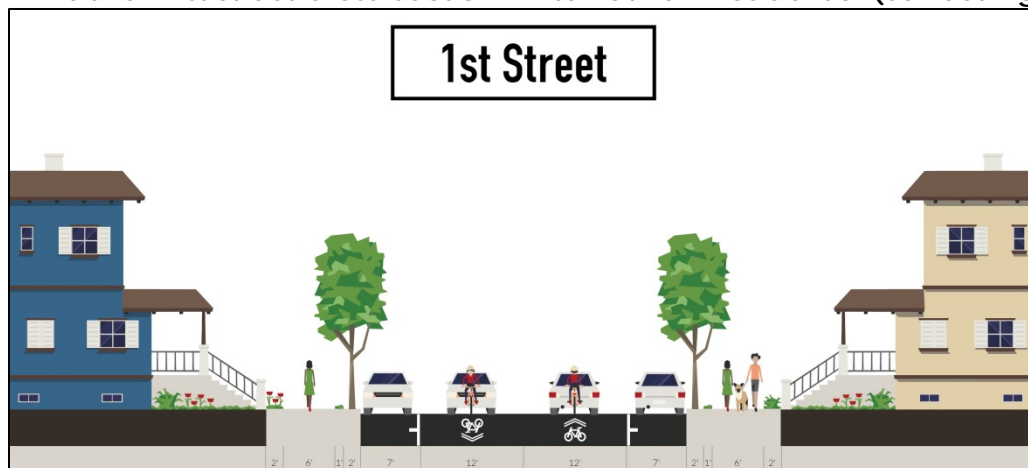


Exhibit 25: First Street Cross-section - Alternative 2 Residential (60 Feet Right-of-Way)

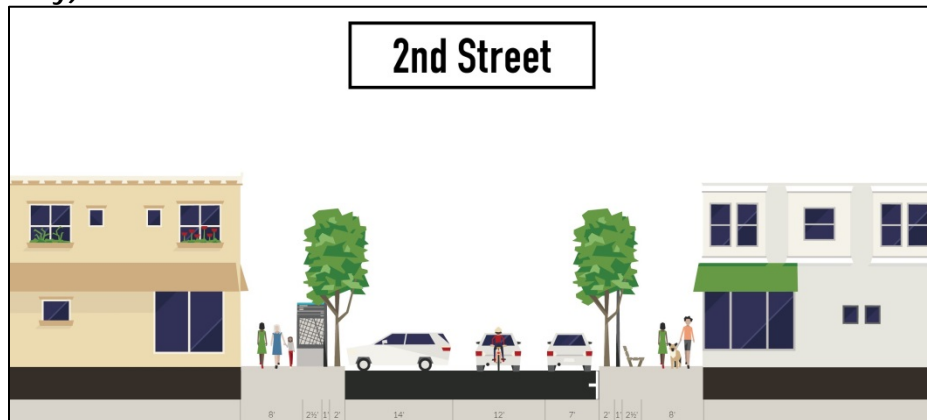


## Second Street

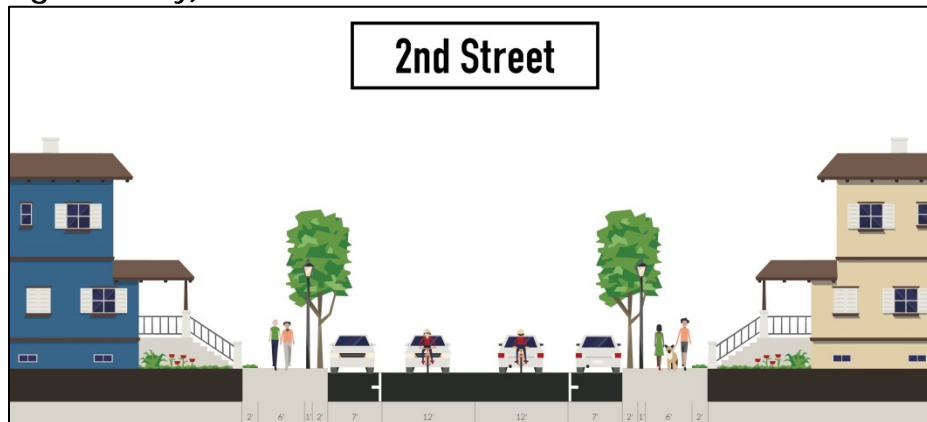
Second Street is a one-way westbound street between US 101 and Grove Avenue and a two-way street between Grove Avenue and Birch Avenue. It is a relatively low-volume street compared to First Street and Third Street and has two view sheds at each

terminus which include the Tillamook County Hospital to the west and the Tillamook County Pioneer Museum to the east. The east end of Second Street between Main Avenue and Pacific Avenue is also planned to be a festival street. As such, Second Street is proposed as a pedestrian-oriented corridor. Exhibit 26 and Exhibit 27 illustrate possible cross-sections for Second Street.

**Exhibit 26: Second Street Cross-section from US 101 to Grove Avenue (60 Feet Right-of-Way)**



**Exhibit 27: Second Street Cross-section from Grove Avenue to Birch Avenue (60 Feet Right-of-Way)**



### Third Street

Though outside the study area, Third Street is a main east-west route for motorists from Netarts to Tillamook and is Netarts Highway 131 west of Main Avenue and Wilson River Highway 6 east of Main Avenue. Exhibits 28 through 30 illustrate potential cross-section alternatives for Third Street. As shown, bike facilities are proposed eastbound. First Street to the north is proposed to serve as the westbound counterpart for cyclists. Parking can be accommodated with a dedicated bicycle lane proposed along one side of Third Street.

Exhibit 28: Third Street Cross-section - Alternative 1 from US 101 to Grove Avenue (60 Feet Right-of-Way)

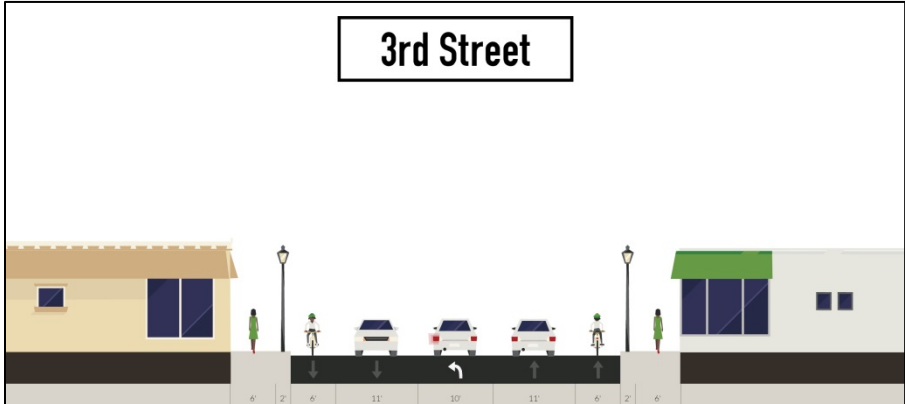


Exhibit 29: Third Street Cross-section - Alternative 2 from US 101 to Grove Avenue (60 Feet Right-of-Way)

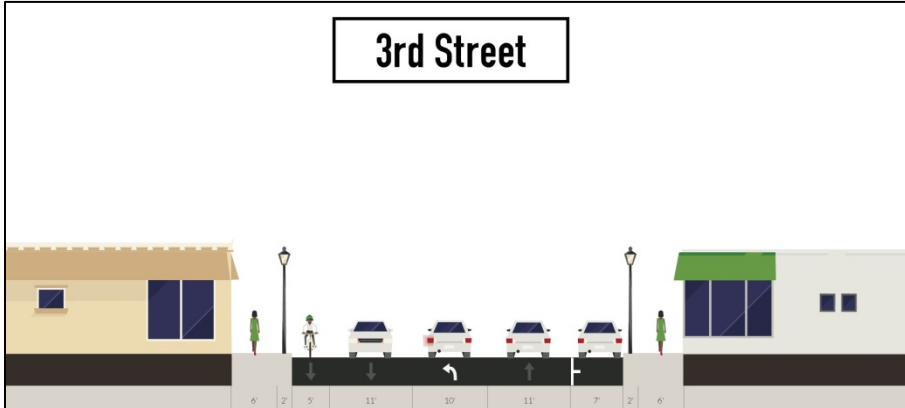
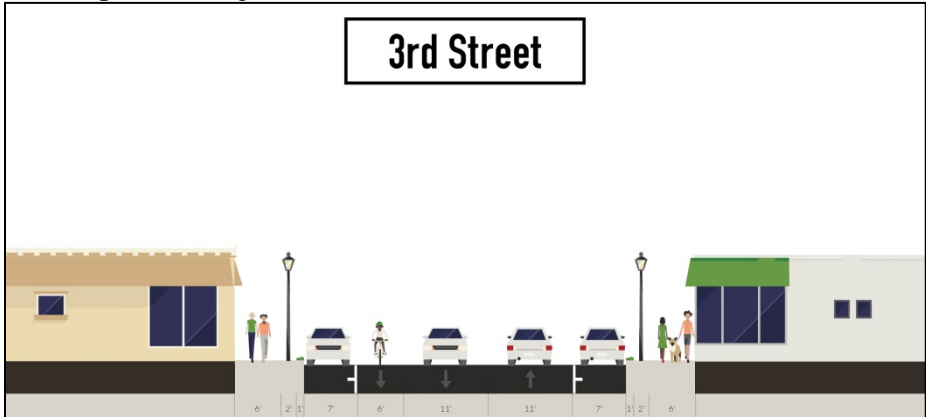


Exhibit 30: Third Street Cross-section - Alternative 1 Grove Avenue to Birch Avenue (60 Feet Right-of-Way)



## Next Steps

Comments gathered at the May 27 Project Advisory Committee meeting and June 11<sup>th</sup> public workshop will be used to modify the land use and transportation concepts for the draft Hoquarton Area Plan. The revised content will be presented at a joint Planning Commission and City Council work session scheduled for August 20, 2015.

Tasks include but are not limited to:

- Revise Focus Area Map and project boundaries
  - Employment area will extend down to First between the western study area boundary and Fir Street (replacing the mixed designation).
  - Designate the Hoquarton frontage of the commercial parcel northeast of the US 101 bridge as waterfront recreational.
- No changes recommended to Guiding Principles
- Revise exhibits 4 and 5 to align with final circulation plan.
- Revise exhibit 6 to reflect recent Army corps submission with comments about expanded elements.
- Prepare Master Plan Map
- Prepare Circulation Map, aerial perspectives and cross sections as needed:
  - OR 6 – no bike lanes east of US 101
  - Front Street US 101 to Stillwell – westbound bicycle lane; shared lane for eastbound/southbound bicycles to Sue H. Elmore Park
  - Front Street west of Stillwell – shared lanes; present on-street loading and parking options
  - First Street US 101 to Stillwell – explore westbound bicycle lane option
  - First Street west of Stillwell – westbound bicycle lane; parking recommended on south side of street, but north side as an alternative
  - Second Street – pedestrian improvements
  - Third Street – eastbound bicycle lane to Stillwell, then north to Fourth Street and east across US 101
- Revise text and exhibits to align with preferred street, sidewalk and streetscape designs.
- Reorganize Plan Elements into the following geographic subareas and prepare sub-area renderings as needed:
  1. East of US 101, southern to northern study area boundary
    - Future mixed-use milling/retail site
    - Hoquarton Park, pedestrian bridge to future Heritage Recreation Area trails
    - Potential Future Promenade along north bank
    - Crosstown Connection – pedestrian/bicycle circulation
    - Outcomes of US 101/OR 6 redesign
    - New parcel description and potential uses
    - Hoquarton Historical Interpretive Center
    - Potential new connection from OR 6 to new parcel
    - Traffic circulation, transit stops
    - Opportunities move utilities underground
  2. US 101 to Stillwell, southern (Second Street) to northern study area boundary
    - Native plantings to rehabilitate north bank
    - Gateway signage and/or artwork



- Wayfinding signage:
    - Bike route
    - Truck route
    - Attractions
    - Public parking
  - Sue H. Elmore Park planned and potential improvements
  - Resurface/regrade boat ramp
  - Interpretive signage, artwork and reconstructions for native heritage and natural features
  - Southbank boardwalk
  - Crosstown Connection – pedestrian/bicycle circulation
  - Restore historic creamery tower
  - Pedestrian improvements; connection from downtown to Hoquarton along Ivy Street
  - Streetscape, street trees, screening/fencing
  - Traffic circulation, transit stops
  - Parking detail
  - Opportunities move utilities underground
  - Examine use of alleys for pedestrians paths and activity centers
  - Preferred business mix
3. Stillwell to Birch, First Street to northern study area boundary
- Interpretive signage, artwork and reconstructions for native heritage and natural features
  - Southbank boardwalk
  - Native plantings to rehabilitate north bank
  - Future Ironworks and Foundry Parks
  - Native plantings along Front Street near Ironworks and Foundry Parks
  - Opportunities to incorporate retail into existing businesses
  - Cottage industry incubator; live/work space
  - Historic interpretive features – Hoquarton Industry
  - Preferred business mix
  - Traffic circulation, transit stops
  - Parking detail
4. Stillwell to Birch, First Street to Second Street
- Residential transition:
    - 3-story mixed-use
    - 2-story mixed use
    - Courtyard apartments
    - Townhouses

We also will begin preparing a strategy to implement the plan, including Transportation System Plan amendment recommendations (Memo #4), Comprehensive Plan and land use code amendments (Memo #5), proposed projects and funding and phasing strategies (Memo #5). Implementation strategies will be presented to the PAC and at a public workshop in fall 2015. All of the elements described above will be included in the draft Hoquarton Area Plan, scheduled for completion in early 2016.

## **Appendix A. Treatment Options Summary**

Appendix A provides a toolbox of bicycle- and pedestrian-related treatment options for implementation in the Hoquarton Plan area, including:

- Bicycle facilities
- Pedestrian facilities
- General crossing treatments
- Streetscape amenities

For each treatment, an image, description, benefits, constraints, typical applications, and design considerations are provided.

### **Bicycle Facilities**

The bicycle treatment options are organized from highest level of protection to lowest level of protection. Typically, the treatments that provide the most protection will have the highest appeal to a wide variety of users. For example, bicycle treatments are commonly categorized by the level of separation they provide bicyclists from motor vehicles. Separated facilities have been found to attract more bicyclists of a variety of ages and abilities and are generally considered “lower stress” facilities. However, separated facilities must be carefully designed to allow for safe crossings and turning movements for both motor vehicles and bicyclists at intersections.

#### **Standard Bike Lane**

A standard bike lane is an on-street facility that provides space designated for bicyclists, separated from vehicles by pavement markings.



#### **Benefits**

- Provides a designated facility for bicyclists using the minimum pavement width.
- Provides increased visibility for bicyclists.
- Relatively inexpensive treatment when pavement width is available.

#### **Constraints**

- Can position bicyclists in the “door zone” if located adjacent to parked vehicles without a buffer.
- Motorists may illegally park in the lane if not adequately signed and enforced.
- Does not provide physical protection or horizontal buffer from vehicles and therefore does not attract bicyclists of all levels.

### Typical Applications

- Arterials, collectors, and other non-local streets with speeds higher than 25 mph or over 3,000 average daily motorized traffic volumes.
- Streets without sufficient right-of-way or pavement width for buffered bike lanes or separated bike lanes (SBLs).

### Design Considerations

- Typical bike lane width is 6 feet, with 5 feet in constrained locations. A minimum 4-foot width can be used on constrained segments where on-street parking is not present.
- Green pavement markings or striping can add visibility and awareness in “conflict areas” or intersections where bicycle and vehicle travel paths cross.

### Bicycle Boulevard

Bicycle boulevards are low-volume, low-speed streets where bicycles and motorized vehicles share road space, but where bicycle movements are prioritized and optimized through use of motorized vehicle restrictions, traffic calming elements, and intersection crossing treatments.



### Benefits

- Typically does not require additional right-of-way.
- Can create a comfortable space for bicyclists of all levels.
- Enhances connectivity of the network for bicyclists.

### Constraints

- Bicycle boulevards may reduce through routes for motorized vehicles
- Some treatments, such as traffic circles or chicanes, may be expensive.

### Typical Applications

- Local routes parallel to larger, higher-traffic roadways, such as arterials or collectors.
- Low-traffic neighborhood routes that can enhance the bicycle network connectivity.

### Design Considerations

- A variety of traffic calming elements can be employed, including speed humps, traffic circles, chicanes, median barriers, and traffic diverters in order to keep traffic volumes low and minimize through-traffic.



- Consider providing “bicycle-only” through movements at intersections, where motorists are required to turn off the bicycle boulevard.
- Include shared lane markings and wayfinding signage for bicyclists.
- Recommended for streets with posted speeds of 25 mph or lower and volumes less than 3,000 average daily motorized traffic.

### Shared Lane Roadways

Shared lane roadways include roadways without separate bicycle facilities on which bicycle travel is not prohibited. Most roadways, with the exception of some limited access freeways, are “shared lane roadways” if they do not have a different type of bicycle facility. Shared lane roadways that are part of a designated bicycle network may include shared lane markings (“sharrows”) or signage to indicate the legal presence of bicyclists in the travel lane.

#### Benefits

- Allows for bicycle travel when other treatments are not feasible.
- Low- to no-cost.

#### Constraints

- Does not provide any separation from vehicles.
- Without additional traffic-calming treatments, it is likely to attract only strong and fearless bicyclists.

#### Typical Applications

- Rural roadways without shoulders often use “share the road” signage to indicate to road users that bicyclists may be present.
- Sharrows are typically used in urban or suburban locations on bicycle network links where other facilities are not present.

#### Design Considerations

- Sharrows should be placed at least 4 feet from the edge of the curb or on-street parking.

## **Pedestrian Facilities**

### Sidewalks

A sidewalk is a dedicated pedestrian facility adjacent to the roadway and separated from traffic by a curb.



### Benefits

- Provides pedestrians with a dedicated physically-separated space.
- Provides means of mobility for people using wheelchairs, people with strollers, or others who may not be able to travel on an unpaved surface.

### Constraints

- Adding a concrete curb and sidewalk to streets adds a substantial expense to the overall construction cost.

### Typical Applications

- Typically provided on urban (non-rural) and residential streets, with the exception of limited access freeways.
- Typically added to streets in urbanizing areas as development occurs.

### Design Considerations

- Typically 6 to 8 feet wide. Sidewalks should be constructed at least 5 feet wide, with a minimum of 4 feet of clear width, excluding a shy distance of 1.5 feet from the curb and any adjacent obstructions.
- A landscaped buffer is preferable in residential areas and in locations with higher traffic speeds and volumes.
- Wider sidewalks of 12 to 20 feet can be beneficial in commercial or “town center” areas in order to accommodate higher pedestrian volumes, street furniture, pedestrian scale lighting, business signage, bike parking, transit stops, and other amenities.

### Shared-Use Street



### General Crossing Treatments

#### Rapid Rectangular Flashing Beacon (RRFB)

These crossing treatments include signs that have a pedestrian-activated “strobe-light” flashing pattern to attract motorists’ attention and provide awareness of pedestrians and/or bicyclists that are intending to cross the roadway.



#### Benefits

- Provides a visible warning to motorists at eye level.
- Increases motorists yielding behavior at crossing locations over round yellow flashing beacons (80 to 100 percent compliance).
- Allows motorists to proceed after yielding to pedestrians and bicyclists.

#### Constraints

- Flashing beacons must be activated by pedestrians.
- Motorists may not understand the flashing lights of the RRFB, so compliance may be lower than with a traffic signal.

#### Typical Applications

- Midblock crossings with medium to high pedestrian or bicycle demand and/or medium to high traffic volumes.
- Locations where multi-use paths intersect with roadways.

#### Design Considerations

- The push button to activate the RRFB should be easily accessible by pedestrians, wheelchair users, and bicyclists (if applicable).
- Consider adding a push button in the median island for crossings of multi-lane facilities.

#### Bulb-Out/Curb Extensions

An extension of the curb or the sidewalk into the street (in the form of a bulb), usually at an intersection, that narrows the vehicle path, inhibits fast turns, and shortens the crossing distance for pedestrians.



#### Benefits

- Shortens crossing distances for pedestrians.
- Reduces motorist turning speeds.
- Increases visibility between motorists and pedestrians.
- Enables permanent parking
- Enables tree and landscape planting and water runoff treatment.

#### Constraints

- Can only be used on streets with unrestricted on-street parking.
- Physical barrier can be exposed to traffic.
- Greater cost and time to install than standard crosswalks.
- Can present turning radius problems to large vehicles.

#### Typical Applications

- Mid-block or intersection pedestrian crossings on streets with unrestricted on-street parking.
- Streets with on-street parking where pedestrian volumes  $\geq 20$  pedestrians per hour, ADT  $\geq 1,500$  vehicles per day, and average right-turn speeds  $\geq 15$  mph.

#### Design Considerations

- Include a narrow passage for bicyclists to prevent conflict with vehicles.
- Provide accessible curb ramps and detectible warnings.
- Include landscaping on the curb extension to differentiate path for pedestrian travel, especially for pedestrians with vision impairments.

#### Raised Pedestrian Crossing

Raised pedestrian crossings bring the level of the roadway even with the sidewalk, providing a level pedestrian path and requiring vehicles to slow. Raised crossings can be used at midblock crosswalks or intersections.





#### Benefits

- Provides a better view for pedestrians and motorists
- Slows down motorists.

#### Constraints

- Can be difficult to navigate for large trucks, snow plows, and low ground clearance vehicles.
- Relatively expensive.

#### Typical Applications

- Raised crosswalks are typically provided at midblock crossings on two-lane roads where pedestrian volumes  $\geq 50$  pedestrians per hour and speed control is needed.
- Raised crosswalks may be provided at intersections where low-volume streets intersect with high-volume streets or where a roadway changes character (such as from commercial to residential).
- Raised crosswalks should not be used on transit routes or where there are steep grades or curves.

#### Design Considerations

- Raised crosswalks should be even with the sidewalk in height and at least as wide as the crossing or intersection.
- Provide detectable warnings for pedestrians where they cross from the sidewalk in to the crossing area.
- Consider drainage needs and provide appropriate treatments.
- Use colored asphalt as opposed to brick or decorative surface materials to make the crossing smoother for those with mobility impairments.

#### High Visibility Crosswalk

High visibility crosswalks consist of reflective roadway markings and accompanying signage at intersections and priority pedestrian crossing locations.



#### Benefits

- Communicates potential for pedestrian crossings to motorists.
- Designates a preferred crossing location for pedestrians.
- Motorists are required to stop for pedestrians entering crosswalks.
- Low cost.

#### Constraints

- Can be more effective with other types of traffic control (signals, stop signs).
- At uncontrolled locations (midblock), motorist compliance is not as high as with other treatments.

#### Typical Applications

- High visibility crosswalks are typically applied at intersections of arterials, collectors, and/or other facilities with moderate to high vehicle volumes and speeds.
- Can be applied at mid-block locations, especially in conjunction with other treatments.

#### Design Considerations

- Crosswalk striping can vary, and may include continental striping (top photo), ladder striping, zebra striping (bottom photo), etc.
- Can be constructed with paint or thermoplastic material.
- Minimum width is 6 feet, but wider crossings are preferred in areas with high number of pedestrians.

### Streetscape Amenities

#### Bicycle Parking

Devices and/or areas that allow secure bicycle parking, often located at areas of high bicycle and pedestrian traffic such as bus stations, shopping centers, schools, and multi-use trails.



#### Benefits

- Provides a secure location to store and lock bicycles.
- Relatively inexpensive and easy installation.
- Encourages community bicycle use and makes local attractions/businesses more accessible to bicyclists.

#### Constraints

- Requires space in potentially busy areas, such as sidewalks.
- May remove on-street parking space if located on the roadway.

#### Typical Applications

- Typically provided at areas of high bicycle and pedestrian traffic such as bus stations, shopping centers, schools, and multi-use trails.

#### Design Considerations

- The size and design of the bicycle rack can vary based on the estimated number of users and available space.
- Covered bicycle parking can provide protection from the weather for parked bicycles and people as they lock and unlock bikes. Bike lockers can provide additional security.
- If possible, bicycle racks should be placed immediately adjacent to the entrance/location they serve.
- Rack should not be placed to block the entrance of a building or inhibit pedestrian flow.
- Racks should be easy to find, convenient, and secure.

#### Street Furniture

*Street furniture includes pedestrian seating, information/ wayfinding structures, and trash cans. Street furniture can be used to enhance the pedestrian experience and encourage pedestrian activity on a street.*



#### Benefits

- Encourages walking and sense of comfort and security for pedestrians.
- Relatively inexpensive and easy installation.
- Encourages foot traffic and can make local attractions/ businesses inviting.

#### Constraints

- Requires space in potentially busy areas, such as sidewalks.

#### Typical Applications

- Typically provided at areas of high bicycle and pedestrian traffic such as bus stations, shopping centers, schools, and multi-use trails.
- Street furniture and pedestrian-scale lighting is usually provided on corridors with commercial activity and anticipated high-pedestrian use.

#### Design Considerations

- Street furniture should not be placed to block the entrance of a building or inhibit pedestrian flow.
- The type and size of street furniture should be based on the available space and anticipated demand.
- Street furniture should be accessible to all users.

#### Lighting

*Lighting can be used to enhance the pedestrian experience and encourage pedestrian activity on a street.*





*Ft Lauderdale, FL*

### Transit Stop Shelters

Transit stop shelters help protect passengers waiting to load the bus from the elements and provides a great level of comfort. They also increase the visibility of transit stops and attractiveness for riders.



*Portland, OR*

### Benefits

- Provides protection from the elements and a place to sit for people waiting for transit.

- Provides a prominent visual cue about where the transit stop is located.

#### Constraints

- Costs more than a simple signed bus stop.
- Require additional sidewalk width beyond a standard 6-foot width.

#### Typical Applications

- Typically provided at bus stops with higher levels of activity or those that serve major transfer points, senior communities, schools, or major trip generators.
- May be paired with other bus stop amenities, like benches and bicycle parking.
- Shelters can be fully enclosed or just an overhead canopy, although semi-enclosed shelters are most common.

#### Design Considerations

- The style of the transit stop shelter can depend on the preferences of the local jurisdiction.
- At stops with a high number of daily boardings (i.e. over 100), a larger shelter or multiple shelters should be considered.
- Shelters should be cleaned and maintained regularly.
- Shelters should have transparent sides for greater visibility and panels should be resistant to fading or clouding.