NOTICE OF CITY COUNCIL MEETING

The City Planning Commission of the City of King City will hold a Planning **Session** at 9:30 AM, Wednesday, January 27, 2021, by teleconference at City Hall 15300 SW 116th Ave, King City, Oregon 97224 – Please see instructions below.

Posted Date: January 22, 2021, at 3:00 PM

Location: (teleconference – Email comments to rsmith@ci.king-city.or.us)

The King City Planning Commission will hold a meeting on January 27, 2021, at 9:30 AM.

Commissioner will be calling into the meeting via conference call. Members of the public will be able to listen to the meeting on the teleconference line or watch the meeting via video link. Minimal staff will be in the City Hall Conference Room, 15300 SW 116th Ave, King City, Oregon 97224. To avoid the potential spread of the COVID-19 virus, members of the public will not be allowed in the room. The packet can be found online at: http://www.ci.king-city.or.us/departments/planning_commission/planning_commission_agenda_and_minutes.php#outer-958

The City has taken steps to utilize current technology to make meetings available to the public without increasing the risk of exposure. The public can participate by emailing public comments to City Recorder at rsmith@ci.king-city.or.us or leaving a voicemail that can be played during the meeting. The audio/Video recording of the meeting will be posted to the City website within two to three days after the meeting.

Join Zoom Meeting
https://us02web.zoom.us/j/86389216368?pwd=OTVRbisrQzZUbWtBY3JrZEV4N3BuUT09

Meeting ID: 863 8921 6368
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One tap mobile
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+13462487799,,86389216368# US (Houston)

Dial by your location
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Meeting ID: 863 8921 6368
Find your local number: https://us02web.zoom.us/u/kcmzLyzBXH

Find your local number: https://us02web.zoom.us/u/kcq7heOpuI

Live broadcast coverage of the King City Council Meetings can now be seen on TVCTV cable channel 30 and live-streaming on MACC TVCTV's YouTube page.

{Next Page for Agenda}

AGENDA	Action Item
*****PLANNING SESSION*****	
	Time:
9:30 AM **1. CALL TO ORDER**	
2. ROLL CALL	
3. APPROVAL OF MINUTES: NONE AT THIS TIME	
9:35 AM 4. **TO CONSIDER:**	
4.1 Master Plan Update	Discussion
4.2 Development Code Update in Accordance with HB 2001/2003 • Presentation By Urbsworks	Discussion
4.1 Transportation System Plan (TSP) Update • **Overview of the TSP Process and Public Involvement** o Project Goals o Summary of public feedback to date	Discussion
10:35 AM **5. STAFF'S REPORT**	
11:00 AM **6. CITY MANAGER'S REPORT**	
11:15 AM **7. COMMISSIONER'S REPORTS**	
11:45 AM **8. ADJOURN**	M S A
	Time:

The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired, or for other accommodations for persons with disabilities, should be made at least 48 hours in advance of the meeting to Ronnie Smith, City Recorder, 503-639-4082.

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M=Motion S=Second A=Action

Date 21_0119 **| Subject** King City Community Dev. Code HB2001 | **To** Keith Liden **| From** Marcy McInelly | **Copy** Pauline Ruegg

KING CITY MIDDLE HOUSING –OVERVIEW

Project Overview

- King City Community Development Code (CDC) project will update the Comprehensive Plan and CDC so they fully comply with House Bill 2001 for Housing Choices. The objective of these updates is to further expand the range of middle housing types, including duplexes, triplexes, quadplexes, townhouses and cottage clusters, which are allowed and encouraged by the city.
- Updates resulting from this project will be incorporated into the larger city-led project to update the CDC overall. In addition to complying with HB 2001, the update will improve the code organization to facilitate necessary amendments over the next several years related to the TSP and Beef Bend South planning efforts.
- The City has established a Technical Advisory Committee (TAC) to advise the consultant team on deliverables. Members include the city manager, the city attorney, city engineer, building official, and the Department of Land Conservation and Development (DLCD). There will be regular points of review with the TAC throughout the project.
- Key outcomes of this project include:
    - More logical and consistent structure for residential zones and other zones.
    - A CDC that allows for a wide range of middle housing options citywide.
    - A streamlined review and approval process with clear and objective standards for middle housing.
    - Dimensional standards and design criteria that are consistent and fairly applied to all types of residential construction.
    - Comprehensive Plan and CDC amendments that allow and encourage middle housing types.

Key Dates/Project Timeline

- The project began in December and will be completed in May.
- The city will provide updates at each Planning Commission meeting between now and the end of the project in May.
- The City anticipates having hearings-ready amendments at the end of this project (May 2021) and will present them to the Planning Commission in June of 2021.

Planning Commission Involvement

Following is a summary of each task and the anticipated role of the Planning Commission:

- **Task 1: Code Audit –** a detailed audit conducted of the CDC and Comprehensive Plan to identify areas of inconsistency with HB 2001. *The PC will review the Code Audit to understand issues*.
- **Task 2: Draft Amendments –** draft amendments to the CDC and Comprehensive Plan will resolve issues identified through Task 1. *The PC will review preliminary amendments and provide feedback. The PC will be informed of public involvement*.

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- **Task 3: Refinement of Amendments –** a formal public review of draft amendments will be coordinated with the TSP and Master Plan projects. *The PC will hold up to two sessions to accept comments and recommendations on the public drafts.*
- **Task 4: Public Hearing –** comments and recommendations received through Task 3 will be reconciled into hearing-ready amendments. *The PC will review revised amendments and make recommendations to the City Council.*

Task 1: Code Audit

- A detailed audit was conducted of the Comprehensive Plan and CDC to identify their consistency with the requirements of HB 2001. A summary memo identifies relevant plan/CDC sections and notes potential amendment considerations if improvements are required.
- The team is currently finishing Task 1 and incorporating TAC comments on the Code Audit into draft amendments.
- Highlights of the findings include:
    - Amendments will be necessary in all seven (7) of the city's land use districts that allow residential uses. This includes:
        - Small Lot and Attached Residential (R-9)
        - Single Family Residential (SF)
        - Apartments and Townhouses (AT)
        - Attached Residential (R-12)
        - Multi-Family Residential (R-15)
        - Multi-Family Residential (R-24)
        - Neighborhood Mixed-Use (NMU)
    - Changes will include permitting additional housing types as allowed uses; amending development standards including minimum lot sizes, density, setbacks, lot coverage, and height; potential addition of new or different design standards for middle housing.
    - There is limited potential for development of new residential uses given that King City is largely built-out.

Task	Timeline and Task Deadlines						
	2020	2021					
	D	J	F	M	A	M	J
Header							
Task 1: Plan / CDC Audit	Dec. 31	*Jan. 27**					
Task 2: Draft Plan / CDC Amendments			Feb. 26 *Feb. 24**				
Task 3: Public Involvement and Refinement				Mar. 31 *Mar. 24**			
Task 4: Public Hearing Draft Amendments					*Apr. 28**	May 31 *May 26**	*June 23**

Planning Commission meeting/hearing dates

Date 19 January 2021

Subject King City HB 2001 Code Update

To Keith Liden, City of King City

From Marcy McInelly, Pauline Ruegg (Urbsworks, Inc.) and Jamin Kimmell, AICP (Cascadia Partners).

CODE AUDIT | CITY OF KING CITY MIDDLE HOUSING PROJECT CODE UPDATE

PROJECT OVERVIEW

The King City Middle Housing Code Update Project will update the Comprehensive Plan and Community Development Code (CDC), so they fully comply with Oregon House Bill 2001 for Housing Choice (HB 2001). The objective of these updates is to further expand the range of middle housing types allowed and encouraged. Updates resulting from this project will be incorporated into the larger City-led project to update the overall code. That effort will improve overall code organization and facilitate necessary amendments over the next several years related to the TSP and Beef Bend South planning efforts. The revised code will be more logical and have a consistent structure for all zones while also allowing more housing types citywide.

House Bill 2001 Introduction

HB 2001 is a landmark legislation in the history of planning and zoning in Oregon. The intent of HB 2001 is to expand the range of middle housing types allowed statewide. Historically these housing types existed but were outlawed in many areas through single-family zoning. Most western US cities and suburban areas, including King City, were built after regulations were adopted in the mid-19th century dictating the size of residential lots; the form and shape of dwellings; the types and numbers of households that could live in them; and requirements for providing parking on-site. In effect, single family zoning created large areas with only one kind of housing, which many Americans could not afford. These neighborhoods became monocultures of housing, and by extension, monocultures of people, segregated by age, race, income, and household type.

HB 2001 seeks to re-dress this approach to residential zoning. The law, passed by the 2019 Oregon Legislature, defines middle housing types (duplexes, triplexes, quadplexes, townhouses, and cottage clusters) and requires updates to local laws that currently limit these housing types. The Bill requires cities within the Portland metro area to allow duplexes on every lot where a detached single detached dwelling is allowed and to allow triplexes, quadplexes, townhouses, and cottage clusters in areas zoned for residential uses that allow for single detached dwellings.

Plan and Code Audit Summary

The purpose of this memorandum is to summarize the key findings and implications of a preliminary review of the King City Comprehensive Plan and CDC, which is Title 16 of the King City Municipal Code. The memo will guide implementation of the requirements associated with HB 2001. The code audit reviewed King City's CDC and Comprehensive Plan to determine which districts must come into compliance with the law. Amendments will be necessary to all seven of the City's land use districts that allow residential uses. Changes will include permitting additional housing types as allowed uses; amending development standards including minimum lot sizes, density, setbacks, lot coverage, and height; potential addition of new or different design standards for middle housing.

The degree and nature of these changes to each of the City's seven districts will vary widely. King City's residential zoning districts were developed over time, and many do not share a common format or approach. All zones permit residential uses through defined housing types and include development standards such as minimum/maximum density levels, minimum lot sizes, building setbacks, and height standards.

OVERVIEW OF STATE POLICY FRAMEWORK

The intent of HB 2001 is to support the development of a wider range of housing types, especially housing types that tend to be more affordable. The law requires cities requires cities within the Portland metro area—applicable to the City of King City—to allow duplexes on every lot where a detached single detached dwelling is allowed and to allow triplexes, quadplexes, townhouses, and cottage clusters in areas zoned for residential uses that allow for single detached dwellings. The concept of middle housing refers to a wide range of housing types of a scale and density that fall between single detached dwellings and multi-unit apartment buildings. For the last half-century these housing types have often been prohibited by municipal zoning codes, which is why middle housing is often called "missing middle housing."

Middle housing can be more affordable and meet the housing needs of many younger people, older people, and households who cannot afford a large, detached house. National, regional, and local trends support middle housing. The last three censuses have shown that the American household is changing, dramatically diverging from the "typical" household defined as two-parents with 2.5 children. Key trends include: the aging of baby boomers; millennials growing up and forming households; shrinking household sizes; geographic redistribution of populations between the suburbs and cities; and growth of minority populations. The recession forced a shift away from homeownership, and younger generations entering the housing market are likely to rent longer. These trends, individually and combined, point to a demand for a range of housing, including rental and home ownership options. The sizeable retirement community in and around King City further bolsters the need for smaller and more affordable housing types.

Administrative Rules

The Department of Land Conservation and Development (DLCD) was tasked with creating a set of administrative rules that specify in detail how local governments will satisfy the broad intent of HB 2001. The rules were incorporated on December 9, 2020 as Division 46 of Chapter 660 of the Oregon Administrative Rules (OAR 660-046, "Middle Housing"). These rules are referred to as "Division 46" or "middle housing rules" in this memo. Division 46 can be found online at https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=5988. The administrative rules which guide implementation establish specific and detailed guidelines (referred to as minimum compliance) to ensure the intent of the law is carried out in local zoning regulations.

Model Code

The legislation also tasked DLCD with preparing a Model Code for middle housing. The Model Code has two primary purposes. It serves as both a "benchmark" and a "backstop":

- **Benchmark:** The Model Code provides a benchmark against which local middle housing regulations can be compared to establish compliance with HB 2001. The administrative rules specify when the provisions of the Model Code will be used as a benchmark for compliance.
- **Backstop:** If a city does not adopt middle housing regulations that comply with Division 46 by June 30, 2022, then the Model Code automatically supersedes any existing, local regulations that apply to middle housing.

Additionally, a city could elect to adopt the Model Code in its entirety in order to comply with Division 46. Provisions of the Model Code are referenced in this memo; however, this memo primarily focuses on evaluating the King City Community Development Code against Division 46. The Model Code represents one set of regulations that comply with Division 46, but there are other ways for a city to be in compliance. A summary of those follows.

Pathways to Compliance

There are four different ways to comply with Division 46:

- Adopt the **Model Code**
- Adopt code updates to meet the **minimum compliance** standards outlined in Division 46
- Adopt standards (about lot size and density) that meet specific **performance metrics.** An analysis and findings will be required to demonstrate an equitable distribution on lots throughout the city to ensure the new standards still meet the intent of HB 2001.[1] Other relevant minimum compliance standards beyond lot size and density standards must also be adopted.
- Adopt **alternative standards** (about siting and design). Other relevant minimum compliance standards beyond siting and design standards must also be adopted. An analysis and findings will be required to demonstrate that those standards will not cause an "unreasonable costs or delay" and will actually produce more middle housing compared to the Minimum Compliance standards. The state will also require routine check-ins using a set schedule a means of reporting to ensure substantial production of middle housing is occurring.

It is important to note that the City has fewer options for regulating duplexes compared to other middle housing types. HB 2001 requires cities to allow duplexes on every lot where a detached single detached dwelling is allowed. To that end, the City must either meet the Minimum Compliance standards or adopt provisions of the Model Code that apply to duplexes.

This initial review primarily assesses whether existing code provisions meet the Minimum Compliance pathway. It is assumed that the City would prefer a King City-specific solution and would likely not adopt the Model Code in whole but may choose to select specific standards to address certain areas of interest to the City. Adopting new alternate lot and density standards requires detailed spatial analyses to meet the Performance Metrics In order to demonstrate the percentage of lots allowing each type of middle housing citywide. Adopting Alternative Standards requires an economic analysis to determine increased production of middle housing compared to the minimum compliance standards. Given the cost and time associated with these pathways, the consultant team does not recommend that the City conduct these analyses until after it has determined that using the Minimum Compliance standards or Model Code standards is neither feasible nor desirable.

[1] Triplexes must be allowed on 80% of lots and parcels. Quadplexes must be allowed on 70% of lots and parcels. Townhouses must be allowed on 60% of lots and parcels. Cottage clusters must be allowed on 70% of lots and parcels.

PLAN AND CODE AUDIT: KEY FINDINGS AND IMPLICATIONS

The code audit is organized as follows:

- Overview of Comprehensive Plan Findings
- Definitions: Middle Housing Types
- Applicability: Where do the Requirements Apply?
- Locations: Where Must Middle Housing be Allowed in Applicable Areas?
- Siting and Design: How Can the City Regulate the Form of Middle Housing?
- Special Provisions for Conversions of Single Detached Dwellings

Overview of Comprehensive Plan Findings

The King City Comprehensive Plan provides policy guidance on land use housing policy including responding to Statewide Planning Goal 2 Public Involvement and Goal 10 Housing. The Comprehensive Plan also identifies land use designations (including residential uses) and provides guidance on the future development of residential uses to meet housing needs per the *City of King City Housing Needs Analysis*, completed in 2018. The stated goal of limiting gross population densities to 12 persons and 8 dwelling units per acre meets the minimum density requirements noted in HB 2001. The Comprehensive Plan states that, "as the City updates its Zoning Code it will consider revisions to residential densities to allow for a smoother transition from County Plan designations. The City will also modify the Zoning Code to allow for needed housing types, so that such housing is allowed in one or more zoning districts (Ord. O-95-05 § 1, 1995)." The policy further states that, "the City shall allow for a variety of housing types to meet the needs of all its residents." Any updates to the CDC should be in keeping with these policies, therefore no amendments are necessary. Given that Washington County will also be updating its Community Development Code in order to comply with HB 2001 requirements, the transition from county to city zoning designations should be further eased.

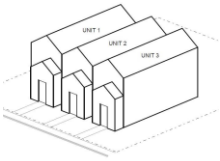
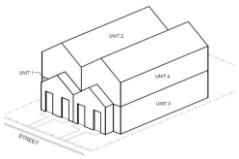
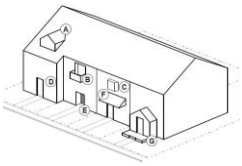
The Comprehensive Plan includes policies related to the West King City Planning Area and the Town Center Plan. The West King City Planning Area Goals include providing a variety of housing types and affordable housing choices, including promoting home ownership. The average densities of 10 units per net developable residential acre do not need to be modified. The housing types will need to be amended to reference the additional middle housing types as defined in the HB 2001. For example, the R-9 Small Lot and Attached Residential designation will need to be amended to permit middle housing types. The Single-Family Residential land use designation will need to be removed. The Medium Density Residential land use designation may also be amended to permit middle housing types.

Comprehensive Plan policies related to the Neighborhood Mixed-Use Zone (NMU) will require minor amendments. The listed permitted uses will need to be amended to include triplexes, quadplexes, townhomes, and cottage clusters. Duplexes are already a permitted use. The dimensional requirements for Single-Family Attached Units meet the requirements for townhomes. The table will need to be updated with minimum lot sizes for other middle housing types. Any standards that are stipulated for middle housing may not be more restrictive than those noted for single detached dwellings.

Definitions: Middle Housing Types

For the purpose of House Bill 2001 the state defines middle housing to include duplexes, triplexes, quadplexes, townhouses, and cottage clusters. Division 46 provides precise definitions for each housing type. To comply with Division 46 rules, the City must understand how they relate to existing definitions in the King City Community Development Code. Table 1 compares the definition in Division 46 with the terms defined in King City code. King City permits residential uses through defined housing types. It is worth noting that while ADUs are not a defined type of middle housing per HB 2001, they are also a relevant housing type in King City. ADUs are already a permitted use (Chapter 16.178).

Table 1. Middle Housing Definitions

This table compares OAR Division 46 Middle Housing definitions with current King City Community Development Code (CDC) terms		
OAR Division 46 Definition		**King City CDC Term(s) and Definition**
	Duplex Two attached dwelling units on a Lot or Parcel. A city may define a Duplex to include two detached dwelling units on a Lot or Parcel.	Duplex A structure that contains two primary dwelling units on one lot. The units must share common walls, floors or ceilings. *Note:* CDC requires units to be attached, while Division 46 would allow for detached units.
	Triplex Three attached dwelling units on a Lot or Parcel. A city may define a Triplex to include any configuration of three detached or attached dwelling units on one Lot or Parcel.	Dwelling, multi-family A structure that contains three or more dwelling units which share common walls, floors or ceilings with one or more than two dwelling units on one lot. *Note:* CDC would require units to be attached, while Division 46 would allow for detached units.
	Quadplex Four attached dwelling units on a Lot or Parcel. A city may define a Quadplex to include any configuration of four detached or attached dwelling units on one Lot or Parcel.	
	Townhouse A dwelling unit that is part of a row of two or more attached dwelling units, where each unit is located on an individual Lot or Parcel and shares at least one common wall with an adjacent dwelling unit.	Dwelling, single-family attached A dwelling unit, located on its own lot, that shares one or more common or abutting walls with one or more dwelling units. It does not share common floors or ceilings with other dwelling units
	Cottage Cluster A grouping of no fewer than four detached dwelling units per acre with a footprint of less than 900 square feet each that includes a common courtyard. A city may allow Cottage Cluster units to be located on a single Lot or Parcel, or on individual Lots or Parcels.	Dwelling, single-family detached A detached dwelling unit located on its own lot. *Note:* This definition would apply if a cottage cluster is subdivided with individual lots for each unit. If all cottages are on one lot, then there is not a clear definition in the CDC.

Applicability: Where Do the Requirements Apply?

Residential Zones that Allow Single Detached Dwellings

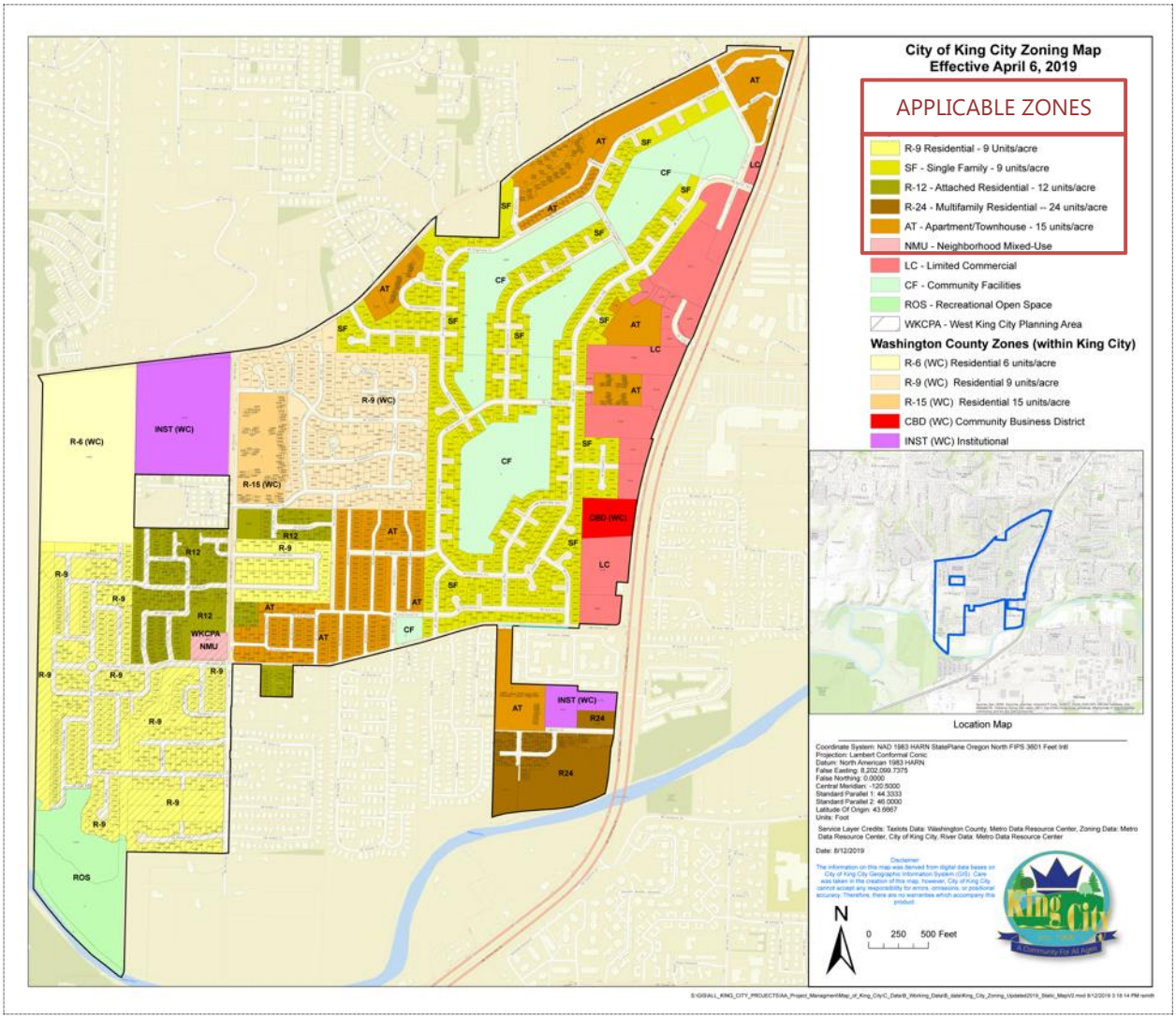
Division 46 applies to any zoning district in which (1) residential uses are the primary use and which implements a residential comprehensive plan designation and (2) the zone allows single detached dwellings. In King City, the term "zone" would apply to any of the land use districts established in Article III of the CDC. The following land use districts meet the two criteria for applicability of Division 46:

- Single-Family Residential Zone (SF)
- Apartments and Townhouses Zone (AT)
- Small Lot and Attached Residential Zone (R-9)
- Attached Residential Zone (R-12)
- Multi-Family Residential Zone (R-15)
- Multi-Family Residential Zone (R-24)
- Neighborhood Mixed-Use Zone (NMU)

There are several properties within the City of King City that remain under Washington County zones (R-6, R-9, R-15, CBD, and INST). Their location is shown in Figure 1 and Figure 2. These zones were not reviewed as part of this audit. For properties with Washington County zoning, the City administers the Washington County Community Development Code relating to permitted/conditional uses and development standards associated with these county zoning districts. It is assumed that the county will amend these zoning districts to comply with HB 2001. It is anticipated that these properties will eventually be rezoned into a corresponding King City zone.

The City has some discretion to limit where middle housing is allowed in the residential zones that currently allow single detached dwellings. This is primarily achieved through the minimum lot sizes identified in Division 46: duplex minimum lot area must be no greater than single detached minimum lot area; triplex minimum lot area must be no greater than 5,000 square feet, or single detached minimum lot area, whichever is more; quadplex and cottage cluster minimum lot area must be no greater than 7,000 square feet, or single detached minimum lot area, whichever is more; townhouse minimum lot area must be no greater than 1,500 square feet. Additional means of limiting middle housing are reviewed below in the section Locations: Which Lots Must Allow Middle Housing (pg. 13) and Siting and Design: How Can the City Regulate the Form of Middle Housing (pg. 15). The City can also limit or prohibit middle housing, under certain conditions, in Goal-Protected Areas and Master Planned Communities. A discussion of these two defined conditions follows.

Figure 1: Applicable Areas of King City Land Use Districts



Allowed Limitations: Goal-Protected Areas

Division 46 does allow the City to prohibit or limit middle housing in areas that are protected by existing Statewide Planning Goals, under certain conditions. In King City, these protections are implemented through Chapter 16.140: Floodplain and Drainage Hazard Areas and Chapter 16.142: West King City Planning Area - Goal 5 Safe Harbor Review. Table 2 summarizes a preliminary review of these chapters for compliance with Division 46.

Table 2. Goal-Protected Areas

Goal-Protected Areas	Applicable King City Code Chapters and Notes
Goal 5: Natural Resources · Must apply same regulations to duplexes as to single-family dwellings. · May limit other middle housing on significant resource sites.	Chapter 16.142, West King City Planning Area - Goal 5 Safe Harbor Review, regulates natural resources in West King City. This chapter complies with Division 46 because it does not limit middle housing any differently than single-family dwellings.
Goal 5: Historic Resources Must allow all middle housing types on properties where single-family detached dwellings are permitted.	Not applicable. The King City code does not include any historic resource protections.
Goal 7: Natural Hazards · May limit or prohibit middle housing in floodplains or other hazard areas even if single dwellings are allowed using restrictions on use, density and occupancy. Must justify restrictions on middle housing.[2]	Chapter 16.140, Floodplain and Drainage Hazard Areas, limits or prohibits residential development in floodplains. 16.140.020(B)(1)(h) and (B)(2)(b) regulate driveways to single-family residences in floodplains. It is unclear how these provisions would apply to middle housing. Division 46 allows cities to limit middle housing more strictly than single-family housing in floodplains, so the provisions are in compliance. However, they should be amended to clarify how they apply to middle housing. 16.140.020(C)(2)(a) allows one detached dwelling in floodplains if within the UGB. As with above, amendment of this provision is recommended to clarify if any middle housing types are permitted.

[2] Other hazard areas identified in an adopted comprehensive plan or development code; provided the Medium or Large City determines that the development of Middle Housing presents a greater risk to life or property than the development of detached single-family dwellings from the identified hazard. According to OAR 660-046-0010(3)(b), "greater risk" includes but is not limited to actions or effects such as:

i. Increasing the number of people exposed to a hazard;
ii. Increasing risk of damage to property, built, or natural infrastructure; and
iii. Exacerbating the risk by altering the natural landscape, hydraulics, or hydrology.

Goal-Protected Areas	Applicable King City Code Chapters and Notes
	16.140.070 (Supplemental criteria for dwellings) uses the term "dwelling", which is not defined in the code. It is unclear how this would apply to middle housing. It is recommended to amend this section to clarify. 16.140.120 (Criteria for multi-family, institutional and commercial development parking) would apply to triplex, quadplex, and potentially to cottage clusters. The standards are in compliance because middle housing may be limited in flood hazard areas. However, it may make sense to clarify how these standards would apply to middle housing if definitions of housing types are amended. It is also not clear if this section would apply to townhouses.

Allowed Limitations: Master Planned Communities

Division 46 allows large cities to treat master-planned communities somewhat differently than other residentially zoned areas. These areas are typically on the urban fringe and may be called "master plans," "specific plans," or "area plans." Division 46 allows cities to regulate or limit middle housing in areas defined as "master planned" in the following ways. If a city adopted a master plan before January 1, 2021, the city may limit the development of middle housing other than duplexes as long as the entire master planned area achieves a net density of at least 8 dwelling units per acre. These limitations may only be applied to portions of the area not developed as of January 1, 2021. If a city adopts a master plan after January 1, 2021, the city must allow the development of all middle housing types per Division 46. The city must plan to provide water, sewer, stormwater, and transportation services that accommodate at least 20 dwelling units per acre if located within a metropolitan service district boundary.[3]

To be classified as a master-planned community, a site must be over 20 acres in size, within or adjacent to the City, and must have a proposed or adopted master plan. Two areas within King City's planning jurisdiction may meet the definition of a "master planned community" under Division 46: West King City (located between SW 131st Avenue and the western city limit) and the King City Master Plan Area (formerly Urban Reserve Area 6D. to the west of the city). These two areas are identified in Figure 2 below. While there are two additional areas over 20 acres in size that were planned as subdivisions, the King City Civic Association (KCCA) and Highlands Area, they do not appear to meet the definition of "master planned community." As such these areas would be treated like the other zoning districts in the City that allow singe detached dwellings, and middle housing could not be limited or prohibited.

[3] If a proposed middle housing development exceeds the planned service capacity of a master plan, the city may require the applicant to demonstrate sufficient provision of public services. A city may also require a mix of two or more middle housing types within portions of a master plan and designate areas exclusively for other housing types such as multi-family residential structures or manufacture home parks.

West King City

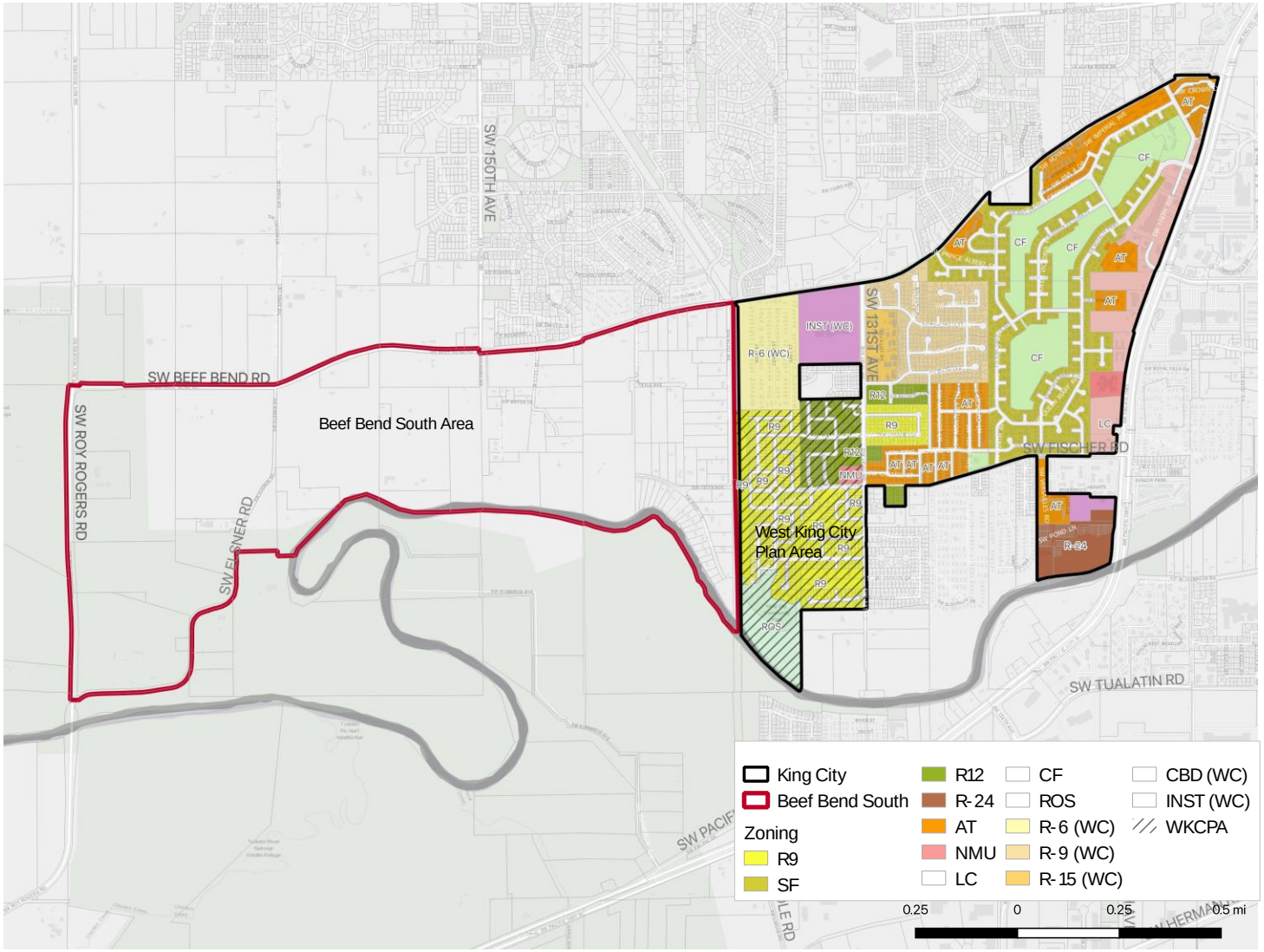
The West King City Planning Area is an adopted plan that guides development in the West King City area. The plan was adopted into the City's comprehensive plan in 2002 and is over 20 acres in size. As such, it appears to meet the criteria to be defined as a "master planned community". Further, it appears that the density provisions of the planning area would allow for at least a minimum overall net density of 8 units per acre.[4] Duplexes must be permitted on every lot where a single detached dwelling is permitted and generally must be subject to the same or less restrictive standards as single detached dwellings. In any areas that are already developed, the City may not restrict middle housing types any differently than it does in developed neighborhoods throughout the City. Thus, redevelopment or conversions of single detached dwellings to middle housing must be allowed in a manner that complies with the Division 46 standards.

King City Master Plan Area (Beef Bend South)

King City Urban Reserve Area 6D (Beef Bend South) consists of 528 acres located immediately west of King City. A Concept Plan for this area was approved by City Council in 2018, and in December 2018 Metro approved including this area in the Metro Urban Growth Boundary (UGB). King City initiated a more detailed master planning process in late 2020. The master plan will be based on the concept plan which identified an average density of 12 units per acre and called for permitting middle housing (along with other housing types). Based on the outcome of the Master Plan, the City will amend the Comprehensive Plan and Community Development Code to support and implement the Master Plan. Portions of the Beef Bend South area not developed as of January 1, 2021, must permit duplexes on every lot where a single detached dwelling is permitted; all other middle housing types must be allowed as either new development or redevelopment. This is already a stated goal of the Concept Plan and will be addressed as part of the current master planning process.

[4] Planning Goal #4, "Housing Types and Densities", identified in the King City Comprehensive Plan, states that the West King City Planning Area will allow for a minimum net residential density of 10 units per acre in accordance with Metro UGM Functional Plan.

Figure 2. Applicability of Master Planned Communities Provisions to West King City



Allowed Uses: What Zones Must Allow Middle Housing?

The intent of HB 2001 is that middle housing types be allowed broadly in most residential zones. Division 46 specifies that middle housing types must be allowed and subject to the same approval processes as single detached dwellings in that zone. The table below summarizes the relevant allowed uses in each zone, identifies the middle housing types that would be classified within that use, and identifies whether the existing use regulations and approval procedures comply with Division 46.

Complying with Division 46 will require varying degrees of change for different residential zones. In all zones, compliance will imply a shift in the current policy intent of the zone to some degree. The zones could be separated into three categories based on the magnitude of this policy shift:

- **Significant policy shift**: SF
- **Moderate policy shift**: R-9
- **Minor or no policy shift**: AT, R-12, R-15, R-24, NMU

Table 3. Allowed Uses

This table compares King City current allowed uses, or housing types, with those that OAR (Division 46) will require in each applicable zone.

P = Permitted use N = Use not permitted [N/A] = Use/housing type not listed

King City Use Category		**Dwelling, Single Family Detached**	**Duplex**	**Dwelling, Single-Family Attached**	**Dwelling, Multi-Family**	**None**
Division 46 Middle Housing Type(s)		**N/A**	**Duplex**	**Townhouse[1]**	**Triplex/Quadplex[1]**	**Cottage Cluster**
Applicable Zones	**SF**	P	N	N	N	[N/A]
	AT	P	P	P	P	[N/A]
	R-9	P	P	P	N	[N/A]
	R-12	P	P	P	P	[N/A]
	R-15	P	P	P	P	[N/A]
	R-24	P	P	P	P	[N/A]
	NMU	P	P	P	P	[N/A]

Complies with Division 46 **Does not comply with Division 46**

1 Townhouses, triplexes, and quadplexes, where allowed, would also be subject to Site Plan Review (Chapter 16.152). Middle housing types must be allowed under the same approval processes as single detached dwellings. Single detached dwellings are not subject to Site Plan Review. Amendments are needed so these housing types are exempt from Site Plan Review or subject to the same process as single detached dwellings.

The most significant change in terms of allowed uses will be to the Single-Family Residential (SF) zone. Currently this zone does not permit any middle housing types. All other residential zones in the City allow at least some or all middle housing types. It is worth noting that while implementation of code amendments will result in significant changes in how the City regulates residential development, the impacts in terms of actual development will be very limited. Changes will occur lot by lot, gradually over a long period of time. In addition, some existing residential developments may have covenants and restrictions that prohibit middle housing. At this time, the state recognizes the issue, but allows their continued enforcement. However, HB 2001 does require local government to prohibit future restrictions to middle housing for new development.

King City has very little vacant, unconstrained buildable residential land. According to the most recent HNA, there are 3.8 acres of vacant, unconstrained land; 2.3 acres in the Limited Commercial Plan Designation (which permits multi-unit housing as well as commercial development) and 1.5 acres in Residential Plan Designation with a total capacity of 40 new dwelling units. Existing zones in the City will see very limited development or redevelopment of new residential uses with the exception of the future Beef Bend South URA area.

Locations: Which Lots Must Middle Allow Middle Housing?

The City has some discretion in regulating where and how middle housing can be developed. Conventionally, the locations and lots where middle housing types are allowed have been regulated either through minimum lot size, maximum density, and location-based criteria, such as limiting duplexes to corner lots.

These standards are often barriers to broader development of middle housing, however. For this reason, the Minimum Compliance standards of Division 46 establish specific requirements for minimum lot size and maximum density standards that a city can apply to middle housing.

Division 46 does not provide discretion to the City to limit the location of duplexes. The City must allow duplexes on every lot where a single detached dwelling is allowed, including any existing, non-conforming lots where a single detached dwelling would be permitted and allow conversion of, or addition to, any existing non-conforming single detached dwellings into duplexes, provided it does not increase non-conformance.

The minimum lot area standards of the applicable zones are summarized below in Table 4. Very few of the City's existing minimum lot size standards meet the Minimum Compliance Standards of the administrative rules. This means that the City will need to allow middle housing on much smaller lots and at higher densities than is currently allowed in these zones. Many other development standards, however, do generally comply with the middle housing rules. These are discussed in more detail in the following section.

It is important to note that the City is not strictly required to satisfy the Minimum Compliance standards. Alternatively, it may choose to adopt different standards for minimum lot size and maximum density if the City is able to meet the Performance Metric; the City must demonstrate that forms of middle housing other than duplexes are allowed on specific percentages of lots that are not excluded per the allowed limitations.[5] As previously mentioned, choosing this approach will require the City to conduct a detailed analysis of all allowable middle housing types on specific percentages of all lots or parcels in the City, a time and resource-intensive process.

The table below compares King City current minimum lot sizes within each applicable zone with the minimum lot sizes that OAR 46 (Division 46) requires for specific Middle Housing types.

[5] See footnote 1 defining the percentage of lots citywide per each housing type.

Table 4: Minimum Lot Area or Minimum Site Size (square feet)

[N/A] = No minimum lot area listed or the housing type is not allowed

King City Use Category		Dwelling, Single Family Detached	Duplex	Dwelling, Single-Family Attached	Dwelling, Multi-Family		None
Division 46 Housing Type(s)		N/A	Duplex[1]	Townhouse[2]	Triplex[3]	Quadplex[3]	Cottage Cluster[3]
Applicable Zones	SF	4,000	[N/A]	[N/A]	[N/A]	[N/A]	[N/A]
	AT	5,000	5,000	2,500	7,500	10,000	[N/A]
	R-9	2,400	4,400	2,000	[N/A]	[N/A]	[N/A]
	R-12	2,000	3,600	1,600	4,800	6,400	[N/A]
	R-15	5,000	10,000	[N/A]	20,000	20,000	[N/A]
	R-24	5,000	10,000	[N/A]	20,000	20,000	[N/A]
	NMU	1,600	3,000	1,500	4,500	6,000	[N/A]

Complies with Division 46 | **Does not comply with Division 46**

1 Duplex minimum lot area must be no greater than single detached minimum lot area.

2 Townhouse minimum lot area must be no greater than 1,500 square feet

3 Triplex minimum lot area must be no greater than 5,000 square feet, or single detached minimum lot area, whichever is more

4 Quadplex and cottage cluster minimum lot area must be no greater than 7,000 square feet, or single detached minimum lot area, whichever is more

Siting and Design: How Can the City Regulate the Form of Middle Housing?

Height, Setbacks, and Lot Coverage

Maximum height, minimum setbacks, maximum lot coverage, and other related standards, establish the basic building envelope on a given lot. The Minimum Compliance standards prohibit cities from applying more restrictive standards to middle housing than single detached dwellings. An underlying premise of the rules is that middle housing types can be constructed within a similar building envelope as a single detached dwelling, but the units would be smaller. This is intended to produce middle housing projects that are more compatible with the basic form and scale of single detached dwellings. Additionally, smaller dwelling units also tend to be more affordable, so allowing more units within a similar building envelope is consistent with the overall intent of HB 2001 to provide more affordable housing options. Once permitted in residential zones across King City, residents (both owners and renters) would have increased choice in where they live, rather than having their choices limited to a handful of moderate to higher density residential districts.

In the zones where middle housing types are currently permitted, most of the existing King City height, setback, and lot coverage standards that apply to middle housing types are not more restrictive than what applies to single detached dwellings. Zones that do not permit middle housing will need to be updated with

similar standards. So long as any proposed standards apply an equivalent or less restrictive standard to middle housing than what applies to single detached dwellings, the Minimum Compliance standards can be satisfied.

However, some standards are applied differently to single detached dwellings than middle housing types. A list of these standards is provided below in Table 5.

Table 5. Dimensional Standards

King City Use Category		R-9	R-12	R-15 / R-24	NMU
Standards	**Minimum Lot Width**	30' for single-family dwelling, 48' for duplex[1], 24' for single-family attached dwelling[2]	28' for single-family dwelling, 48' for duplex[1], 24' for single-family attached dwelling[2]	None	40' for single-family dwelling, 48' for duplex[1]
	Front Yard Setbacks	Same for all residential types	Same for all residential types	15' for single-family dwelling and duplex, 20' for multi-family	Same for all residential types
	Side Yard Setbacks	Same for all residential types	Same for all residential types	5' for single-family dwelling and duplex, 20' for multi-family, 30' side or rear setback for single-family attached or multi-family dwellings abutting more restrictive zoning district[3]	Same for all residential types
	Complies with Division 46		**Does not Comply with Division 46**		

1 Lot width for duplexes is not specifically addressed in Division 46, however, the City may not require a larger minimum lot size for a duplex. Because the minimum lot depth for a duplex and single-family are equivalent (60'), this standard effectively requires a larger lot size for duplexes. No matter how lots are measured, the City may not require larger lots for duplexes than for single detached dwellings.

2 Minimum lot width for single-family attached dwelling must be no more 20' under Minimum Compliance Standards.

3 Front yard and side yard setbacks are higher than required for single-family dwellings. The requirement for 30' setback adjacent to more restrictive zoning districts also is not required for single-family dwellings.

Off-Street Parking

Alongside lot size and density restrictions, minimum off-street parking requirements have typically been one of the most significant barriers to developing middle housing types. Off-street parking consumes site area that may otherwise be used for housing and constrains design options on a site. Dedicating site area and

constructing parking adds to the cost of housing development and, in some cases, can render a project (especially smaller projects) economically infeasible.

To address this issue, the Division 46 Minimum Compliance standards for off-street parking limit the number of parking spaces that a city may require for each middle housing type. Generally, the standards equate to requiring no more than 1 space per dwelling unit. For triplexes and quadplexes on smaller lots, the standards set a lower limit depending on the size of the lot.

King City currently requires 1 space per unit for all housing types. A garage/carport and driveway with a length of 18' or more count as a parking space. Table 6 below compares the Minimum Compliance standards for off-street parking to the City's equivalent requirement for each middle housing type. The City's standard generally meet the Minimum Compliance Standards, with the exception of the standard that would apply for triplexes or quadplexes on smaller sites.

The Minimum Compliance Standards require that the City scale down parking standards for triplexes and quadplexes on smaller lots. For example, under the current minimum lot size standards, a quadplex could be built on 6,400 square feet in the R-12 zone. The City must only require 3 parking spaces for a quadplex on that size lot, rather than the 4 spaces that would be required today.

Table 6. Minimum Off-Street Parking Requirements

<table>
<tr><td rowspan="2">Lot Size of Development Site</td><td colspan="5">Middle Housing Type (Division 46 terms)</td></tr>
<tr><td>Duplex</td><td>Triplex</td><td>Quadplex</td><td>Cottage Cluster</td><td>Townhouses</td></tr>
<tr><td colspan="6">Division 46 Minimum Compliance Standards: City cannot require <u>greater</u> than:</td></tr>
<tr><td>Less than 3,000 sf</td><td rowspan="4">2 spaces (total)</td><td>1 space (total)</td><td>1 space (total)</td><td rowspan="4">1 space per unit</td><td rowspan="4">1 space per unit</td></tr>
<tr><td>3,000 - 5,000 sf</td><td>2 spaces (total)</td><td>2 spaces (total)</td></tr>
<tr><td>5,000 -7,000 sf</td><td rowspan="2">3 spaces (total)</td><td>3 spaces (total)</td></tr>
<tr><td>7,000 sf or greater</td><td>4 spaces (total)</td></tr>
<tr><td colspan="6">Applicable King City Minimum Off-Street Parking Requirements: Development must provide <u>no less than</u>:</td></tr>
<tr><td>All Sites</td><td>2 spaces (total)</td><td>3 spaces (total)</td><td>4 spaces (total)</td><td>1 space per unit</td><td>1 space per unit</td></tr>
<tr><td></td><td colspan="2">Complies with Division 46</td><td></td><td colspan="2">Does not comply with Division 46</td></tr>
</table>

Design Standards

Division 46 allows jurisdictions to apply design standards to middle housing. The Minimum Compliance standards provide three options for applying design standards to middle housing:

- **Model Code**: Adopt the applicable design standards in the Model Code.
- **Less Restrictive than the Model Code**: Adopt design standards that are less restrictive than those in the Model Code.

- **Single Detached Standards**: Apply the same clear and objective standards as applied to single detached dwellings. The standards must scale with attributes of the buildings' form such as height or bulk or street-facing façade and not by the number of dwelling units or other features that scale with the number of units such as entrances.

While all King City zones include development standards, only the R-9, R-12, and NMU zones have design standards. These design standards primarily address front facades of buildings. The King City code generally regulates design features differently than the Model Code, and it includes standards which may be more restrictive than the Model Code in some respects. The King City does apply the same or similar standards to middle housing as apply to single detached dwellings, however, in some cases those standards are more restrictive for middle housing and/or they scale by the number of dwelling units and not by other, form-based attributes. Table 7, below, summarizes the design standards that apply in each zone and whether they comply with Division 46.

A set of amendments will also be needed to design-related requirements in zones R-9, R-12, and NMU. In most cases, the amendments to these standards can be fairly straightforward because they largely will need to involve modifying which housing types are subject to the standard, and not modifying or eliminating the standard itself. The City has some discretion to apply new or different design standards to middle housing within the confines of the administrative rules.

Table 7. Applicability of Design Standards to Middle Housing Types

	King City Use Category	**Dwelling, Single Family Detached**	**Duplex**	**Dwelling, Single-Family Attached**	**Dwelling, Multi-Family**		**None**
	Division 46 Housing Type(s)	**N/A**	**Duplex**	**Townhouse**	**Triplex**	**Quadplex**	**Cottage Cluster[3]**
Applicable Zones	**SF**	None	[N/A]				
	AT	None	None				[N/A]
	R-9	16.84.050[1]			[N/A]		
	R-12	16.94.050[1]					[N/A]
	R-15	None	None				[N/A]
	R-24	None	None				[N/A]
	NMU	16.102.050[1]					[N/A]

Complies with Division 46 | **Does not comply with Division 46** | **Housing type not permitted**

1 Certain design standards in these sections do not comply with the requirement that middle housing be subject to the same design standards as single-family dwellings. These sections all include standards for garage width and open space which are different for middle housing than for single-family dwellings. In some cases, the standards are more restrictive for middle housing. Minor amendments are needed to bring these standards into compliance.

In addition to the standards noted above in the each of the zone districts, a number of general design-related requirements must be amended to comply with Division 46:

- Chapter 16.152 - Site Plan Review, includes a number of design-related requirements that apply to townhouses and multi-family developments and not to single detached dwellings. These are found in Section 16.152.110 - Approval standards, and they include buffering, private, open space, crime prevention, and other design-related standards,
- Chapter 16.124 – Landscaping and Beautification, includes buffering/screening requirements in Section 16.124.110 where a landscaped buffer is required for multi-family developments but not for single detached developments.
- Chapter 16.132 – Parking and Loading, has general provisions in Section 16.132.020(I) that require parking spaces to be marked with paint for all uses except single detached dwellings and duplexes. Middle housing must be subject to the same design and dimensional standards for parking as single detached dwellings.
- Chapter 16.136 – Circulation and Access, has residential access standards in Section 16.136.030, that vary for single detached dwellings, duplex, or single attached dwellings compared to multi-family dwellings.

Special Provisions for Conversions of Single Detached Houses

Division 46 requires cities to treat conversions or additions to existing single-unit dwellings to create middle housing differently than new development or wholesale redevelopment of middle housing. The intent is to not discourage conversions by applying standards that, while they may be feasible to comply with on a vacant site, would cause an unreasonable barrier on a site where an existing structure is to be kept and converted or added to.

Division 46 requires cities to provide for the following allowances for conversions of single-unit dwellings. Table 8 below identifies the Division 46 requirements and compares them to applicable King City provisions. Unlike the provisions above, there are no alternatives to these requirements.

Table 8. Conversion Standards Comparison

Division 46 Requirement	Applicable King City Provisions
Existing, Non-Conforming Situations Cities must allow additions to, or conversion of, single family dwelling, if it does not increase nonconformance with applicable clear and objective standards, unless increasing nonconformance is otherwise permitted by the development code.	16.160.050(B) allows for non-conforming structures to be modified, expanded, or enlarged so long as it does not increase non-conformance. This would not require amendment except as noted below. 16.160.050(C) allows for modifications of developments that exceed residential density so long as the number of dwelling units is not increased. This standard would prohibit conversion of a single-family dwelling to a duplex on a lot that is smaller than the minimum lot size. Amendments needed.

Division 46 Requirement	Applicable King City Provisions
Public Works Exceptions If exceptions to public works standards, such as frontage improvement requirements, are allowed for a single-family dwelling, the same exception must also be granted for conversion or addition to a single-family dwelling to create middle housing.	No exceptions to public works standards were identified that apply to single-family dwellings.
Exempt from Design Standards Cities are not permitted to apply architectural design standards to middle housing types created through conversion or addition to a single-family dwelling.	No applicable provisions, amendments needed.
Existing Single-Family Dwelling in a Cottage Cluster: Cities must allow for an existing single-family dwelling to be retained as a unit in a cottage cluster development, under certain conditions.	No applicable provisions, amendments needed.

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King City TSP

Fall Outreach and Engagement Summary

Prepared for

The City of King City
Oregon Department of Transportation
DKS

Prepared by

JLA Public Involvement, Inc.

November 2020

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Introduction

ODOT and King City conducted outreach activities between September 14 and October 30, 2020 to solicit feedback from the community for King City's Transportation System Plan (TSP). This feedback will help the City and its consultants create a TSP that addresses planned growth in King City and help respond to the changing transportation needs of King City residents.

Outreach activities were amended to encourage community feedback during the COVID-19 pandemic and included a variety of online engagement opportunities and a mail-in survey.

Feedback received through this outreach period will be considered as King City creates an integrated, multimodal TSP.

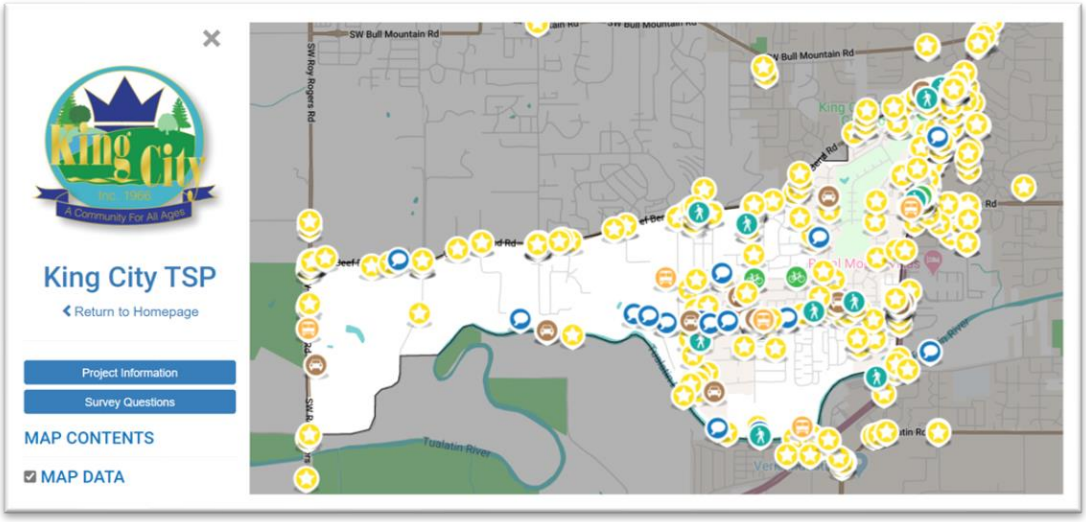
Overall Participation and Notification

To gather feedback on the proposed TSP, the project team developed an **online open house and mail-in survey** and hosted an **in-person tabling event** to gather community feedback.

Overall, the project team received **survey responses and talked with over 450 people**. Of those comments, 169 people responded to the survey in the online open house and 236 responded via the mail-in survey. Additionally, approximately 50 people attended the in-person tabling event, 709 comments were submitted with the comment map, and 4 comments were received via email.

Community members were informed about the online open house through the following:

- Newsletter with mail-in survey to residents within the City of King City boundaries
- Email to stakeholder and interested parties list
- Posts to the King City Facebook pages, Twitter, Nextdoor, and Instagram
- Posts on the project website



Outreach Opportunities

Online Open House

The online open house was intended to provide community members with information about the TSP and the opportunity to provide feedback on King City's current transportation system. This online event included a feedback map and online survey.

The feedback map was the main feedback tool included in the online open house, which asked participants to use the map to tell the project team where they were experiencing transportation issues and identify important destinations (such as schools, businesses, or parks).

Tabling Event

The project team held their first in-person tabling event to gather community input about King City's Transportation System Plan (TSP) on Thursday, October 8th and talked to **approximately 50 community members.** The purpose of the tabling event was to make the community aware of the project and to solicit feedback on transportation in King City.

The event was successful, especially considering that the event was hosted during the pandemic and included several CDC recommended distancing measures. Participants shared their thoughts on potential TSP improvements and more generally about transportation in King City. People who decided to participate were able to speak with City staff and the Mayor of King City, Ken Gibson, ODOT staff, and engagement specialists from JLA Public Involvement.

Newsletter with Mail-in Survey

A newsletter was distributed to all residents within King City boundaries that included two sections: an informational section and a feedback section.

With the informational section, the newsletter aimed to introduce residents to the project. With the feedback section, recipients could respond to a series of questions that mirrored the online survey and mail it into the project team.

Feedback Summary

Feedback Map, Survey Questions, and Tabling Event

This section summarizes the feedback received through the virtual workshop/public event and the mail-in survey. The graphs for each section include only the responses from the virtual workshop, the newsletter did not contain those questions.

Feedback Map

Participants in the online open house and mail-in survey were given the opportunity provide feedback on locations that could use improvements on a map of King City. Participants submitted a total of **709 location comments**. Comments from both are summarized below.

Important Destinations

Participants submitted **395 comments** that identified important destinations in King City and the surrounding areas. The following is a summary of the most commonly mentioned locations:

- **Beef Bend Road**
  - **Intersection of Beef Bend and Highway 99W** (King City Plaza and adjacent businesses)
  - **Deer Creek Elementary School**
  - **Intersection of Beef Bend and Roy Rogers** (residences and access to Hillsboro)
- **Fischer Rd**
  - **Intersection of Fischer Road and Highway 99W** (residences, businesses/shopping, and access to and from King City)
  - Intersection of Fischer Road and 131st Avenue (residences)
- **Intersection of Durham Road and Highway 99W** (residences, Tigard Town Square, businesses/shopping, access to Bridgeport, access to the hospital)
- King City Community Park
- Intersection at Royalty Parkway and Highway 99W
- Intersection at Tualatin Road and 124th Avenue (access to Fred Meyer, I-5, Tualatin, and the coast)

Challenging and/or Dangerous Locations

Participants submitted **268 comments that identified challenging and/or dangerous locations** in King City and the surrounding areas. The most common locations and the issues raised by participants include:

- **Beef Bend Road**
  - **Pedestrian concerns** included narrow sidewalks, sidewalk gaps, and a lack of pedestrian crossings
  - **Intersection of Beef Bend Road and Highway 99W**
    - Heavy traffic
    - Signals are too short and/or not coordinated well to support the flow of traffic
    - Lack of bike infrastructure
    - Unsafe driving behavior
  - **Intersection at Beef Bend Road and 131st Avenue**
    - Inconsistent speeds
    - Lack of sidewalks
    - Speed limits are too high
    - Lack of sufficient lighting

        - Too busy
        - Unsafe driving behavior around pedestrians
        - Landscaping and streetscape restrict visibility
- **Fischer Road**
    - **Intersection at Fischer Road and Highway 99W**
        - Driveway conflicts
        - Congestion
        - Signals need better coordination
        - Lack of sidewalk access
        - Pedestrian signals are too short
    - **Intersection at Fischer Road and 131st Avenue**
        - Congestion
        - Unsafe driving behavior
        - Lack of sidewalk connectivity
- **Intersection at Durham Road and Highway 99W**
    - Signal timing is too long
    - Unsafe driving behavior and speeding
    - Perceived high frequency of collisions
    - Lack of pedestrian safety or driver awareness
    - Difficult to cross as a bike or pedestrian
- Intersection at Royalty Parkway and Highway 99W
    - Needs a left turn signal
- Intersection at Tualatin Road and 124th Avenue
    - Lane changes are dangerous
    - Signal need better coordination
- Intersection at Bull Mountain Road and Highway 99W

Survey Responses

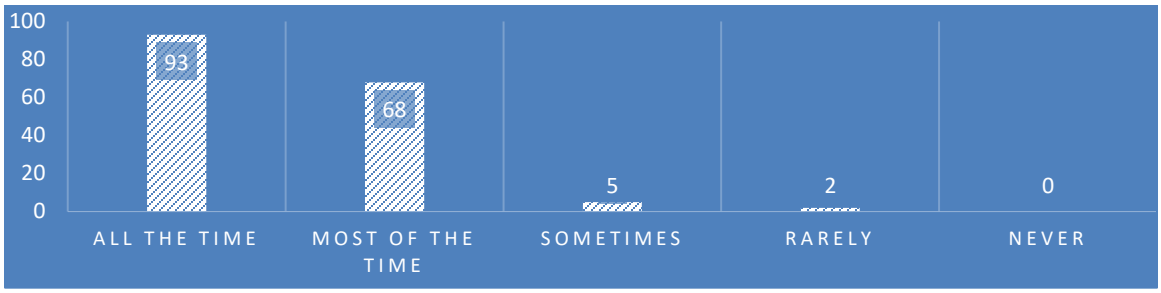
Participants from both the online open house and the mail-in survey were given the opportunity to ask a series of questions related to their perspectives and use of the transportation system in King City. Some questions were not included on the mail-survey due to its limited space, but participants were also provided the online open house link if they wished to respond to the full survey. Feedback is summarized below.

1. *How do you usually get from one place to another?*

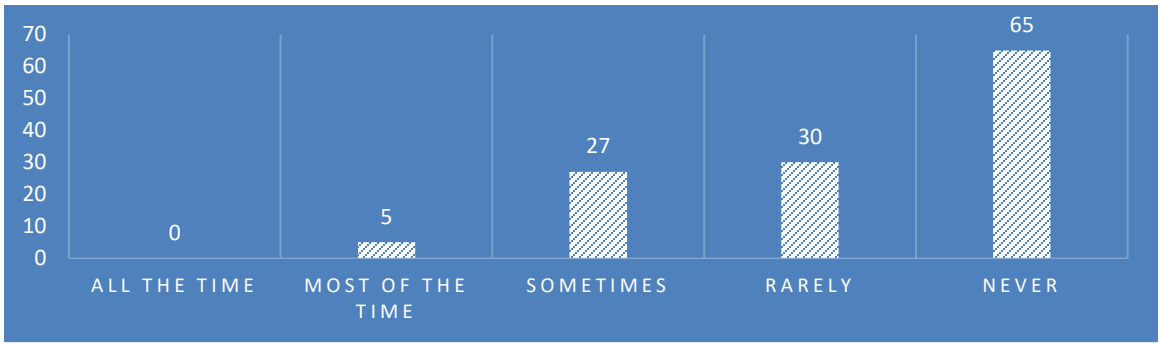
The project team wanted to know how people are currently getting around King City. **Of the people that responded to the questions related to this topic, the majority travel by car.**

Online open house participants were asked how they most commonly get around and how frequently they travel by each mode of transportation.

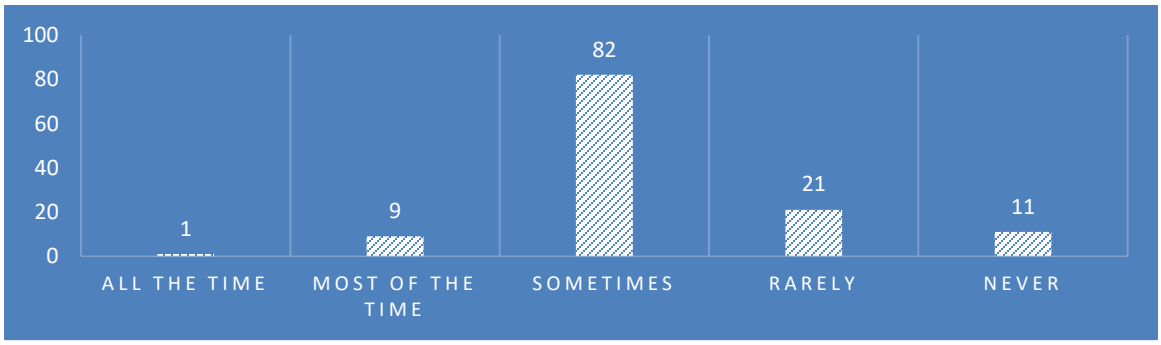
How often do you drive by car? *(Online survey responses only)*



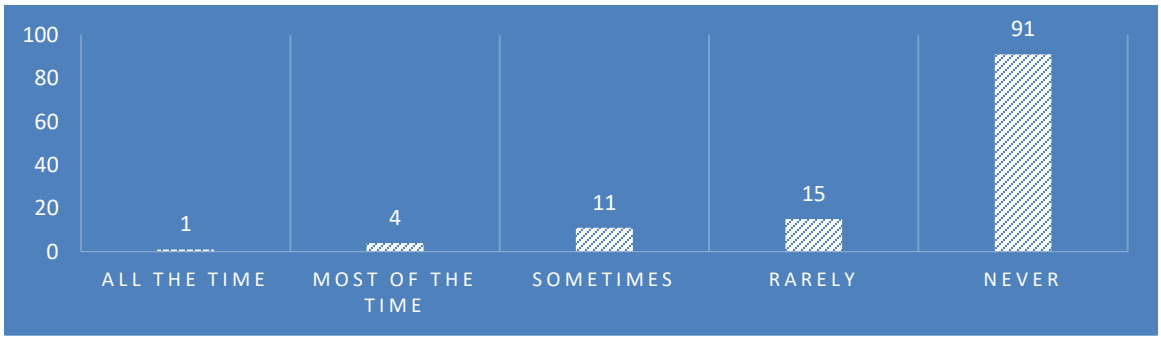
How often do you ride a bike? *(Online survey)*



How often do you walk? *(Online survey)*

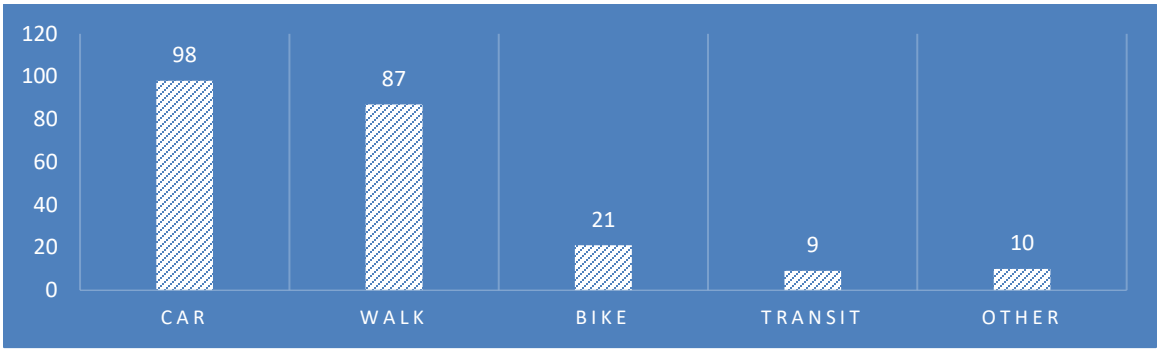


How often do you use transit? *(Online survey)*



What ways do you typically use to get around? *(Mail-in survey)*

Mail-in survey participants were asked to select all the ways they travel.

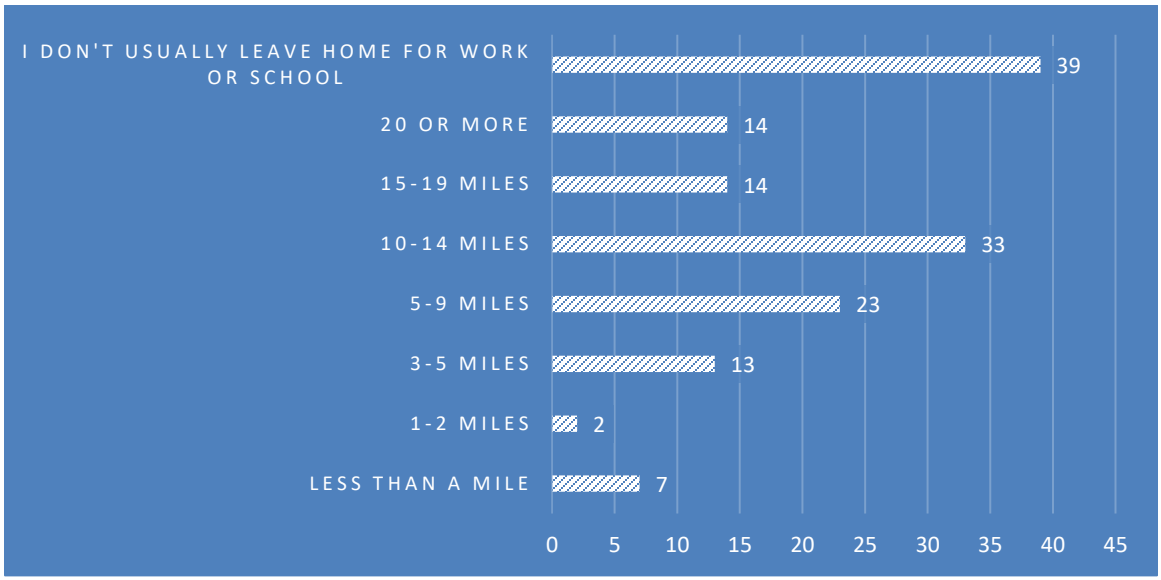


Participants from both the online survey and the mail-in survey were given the option to list other modes they use to get around. Other modes listed include:

- Golf cart
- Motorcycle
- Mobility scooter
- Rideshare (Lyft, Uber, etc.)

2. ***How far do you typically commute for work or school?*** *(mail-in survey only)*

Participants of the mail-in survey were asked how far they typically commute for work or school. Of the people that responded, **the largest group said they don't commute or leave home for work or school**. It is unknown how much of this response is due to stay at work orders during the pandemic. The second largest group of responses indicated that **people are traveling between 10 – 14 miles**, which may mean many people are traveling to nearby Portland for work.

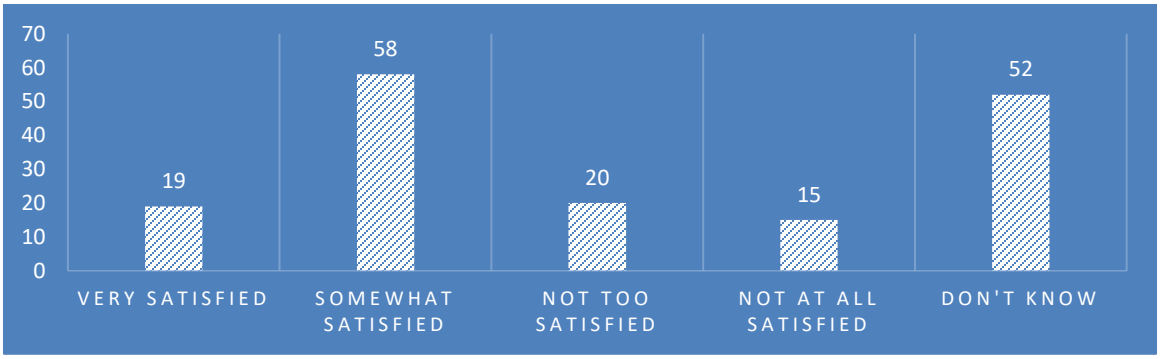


3. ***How satisfied are you with the roadway network and driving conditions for cars in King City?*** *(online survey only)*

Of the participants that responded to this question, **most people are satisfied with the current roadway network and driving conditions in King City**. This is consistent with the feedback received at the tabling event feedback.

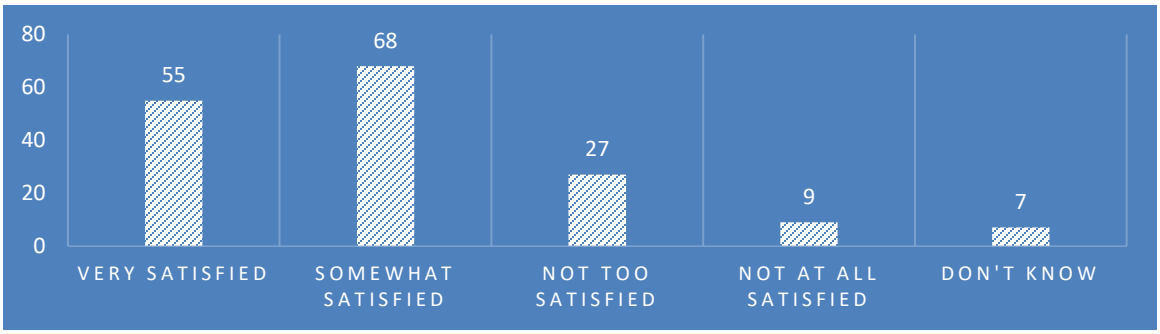
4. ***How satisfied are you with the conditions for bikes in King City?*** *(online open house only)*

Feedback on how satisfied participants are with the current conditions for biking in King City was mixed with a large number of people saying they are somewhat satisfied and almost the same amount of people saying they don't know, which may be due to how many people said they don't currently travel by bike.



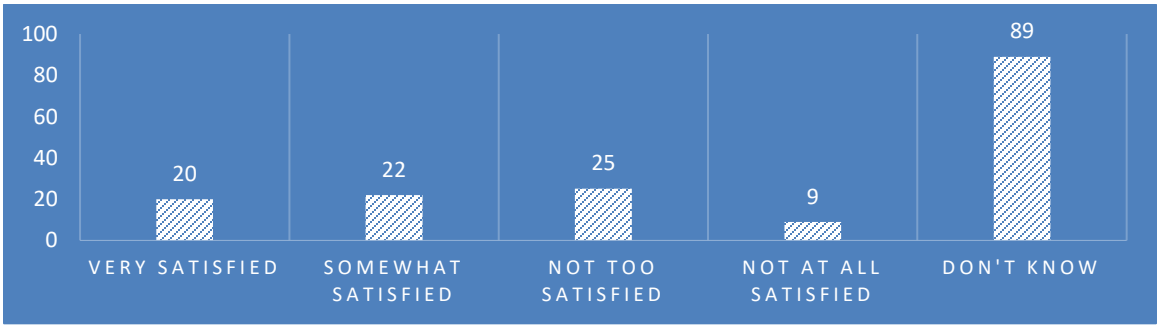
5. ***How satisfied are you with the conditions for walking in King City?*** *(online open house only)*

   Of the participants that responded to this question, **most people are satisfied with the current walking conditions in King City.**



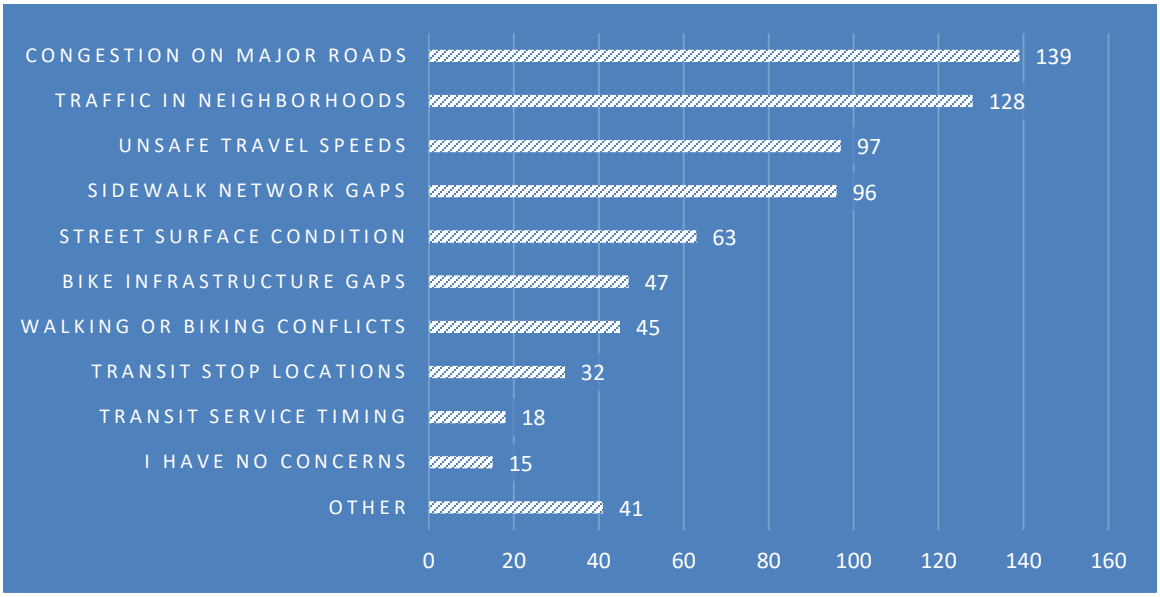
6. ***How satisfied are you with the transit service and connections in King City?*** (*online open house only)*

Feedback on how satisfied participants are with the current transit service in King City was mixed, with most people indicating that they don't know.



7. ***What are your main concerns with getting around in King City?*** (included with both surveys)

Participants responded that **congestion on major roads and traffic in neighborhood streets are their biggest concerns with getting around in King City today**. There were also a fair number of participants that indicated that unsafe travel speeds and sidewalk network gaps are a concern.

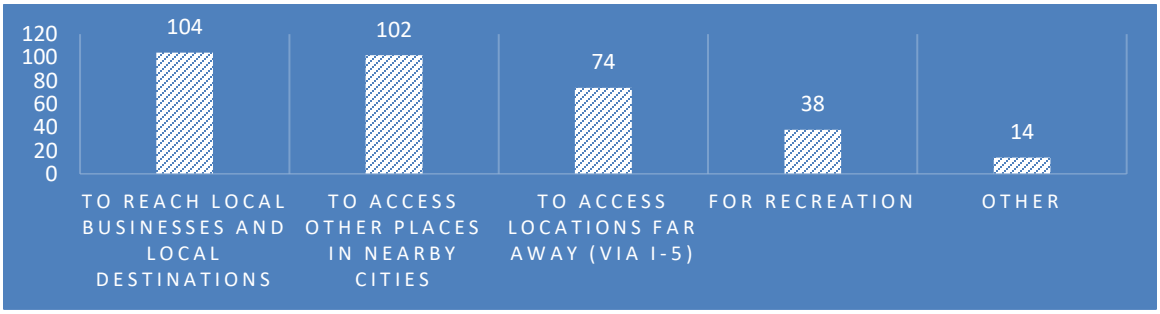


Of those that chose the option "other," common answers included:

- Concern about the impacts of extending Fischer Road
- Parking limitations and conflicts
- Lack of multiuse trails and paths
- Lack of general safety
- Limited infrastructure that does not support all modes
- Lack of inter-city transit options
- Golf cart mobility and access
- Increased development impacts

8. ***How do you usually use the King City transportation system?*** (online open house only)

There was almost an even split with the top response for how people usually use the King City transportation system. Today, people are using it to reach local businesses and destinations and to access other places in nearby cities.



For those that chose the option “other,” a majority responded with answers that indicated that they do not ride the bus or mainly use their car.

9. ***What should we consider as we develop this plan?*** *(included with both surveys)*
Key themes include:

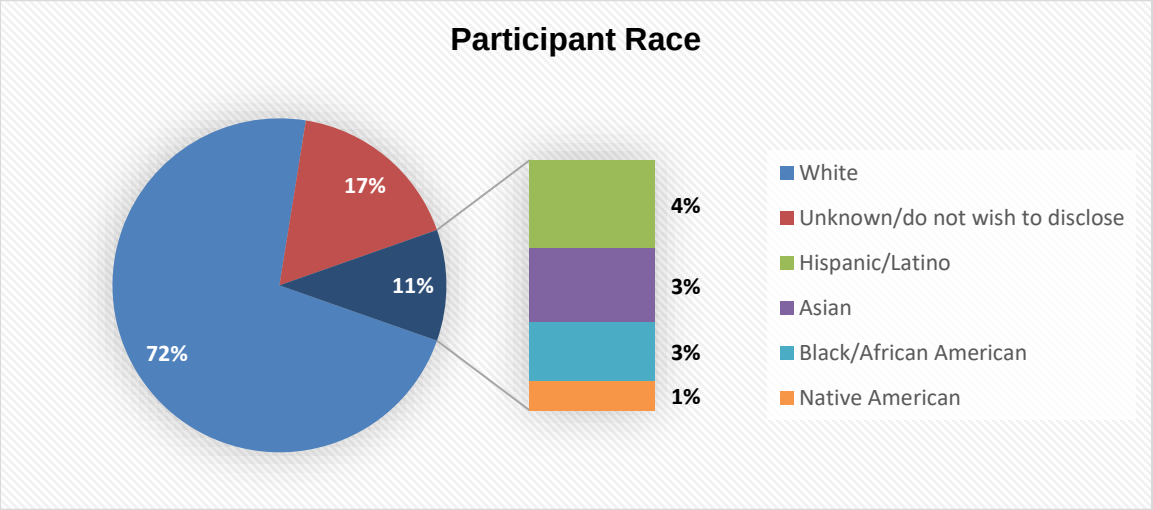
- **Strong opposition to the proposed extension of Fischer Road**
- **Desire for capacity and traffic improvements on major arterials and popular roads to support new development and address connectivity issues**
    - Improved signal coordination
    - Coordinate with adjacent jurisdictions
- **Demand for less traffic on neighborhood streets**
    - Reduced traffic through neighborhoods
    - Restriction of vehicle access through neighborhoods
    - Neighborhood speed reduction measures
- **Support for increased pedestrian safety, facilities, access, and connectivity**
    - Fill gaps in the sidewalk system
    - Pedestrian crossings on major arterials and popular roads to provide access and safety while walking
    - Improved walkability and mobility options for seniors and the disabled
    - Maintenance of existing pedestrian facilities
- Support for reduced speed limits and creating consistent speed limits on roads. Multiple comments asked to prevent the need for quick braking.
- Desire for connected multiuse (bike, pedestrian, etc.) paths throughout King City
- Support for safety improvements that protect users of all modes (specifically pedestrian, bike, and student safety)
    - Address issues related to unsafe user behavior (specifically drivers)
    - Increase police enforcement

Demographic Information

Participants from the online open house were asked a series of optional demographic questions. This information is useful to compare with the city's current demographics.

Race

The majority of participants identify as white, which the second largest group of participants selecting that their race is unknown or that they do not wish to disclose it.

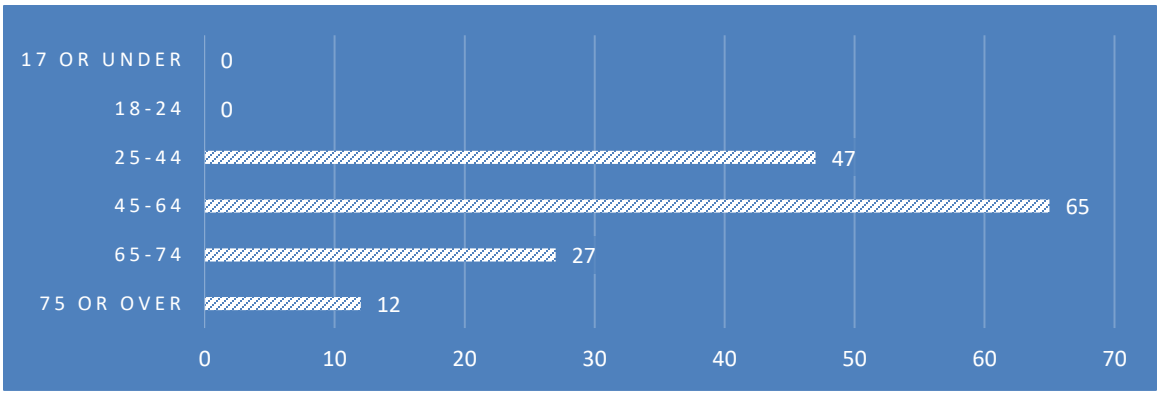


Language (other than English)

Participants were asked if they spoke any language other than English at home. **A majority did not respond indicating that they do not speak another language**, seven responded that they speak Spanish, four responded that they speak German, and three responded that they speak Bosnian. Answers that were submitted by only one participant each included: Chinese, Korean, Russian, Polish, and Tamil.

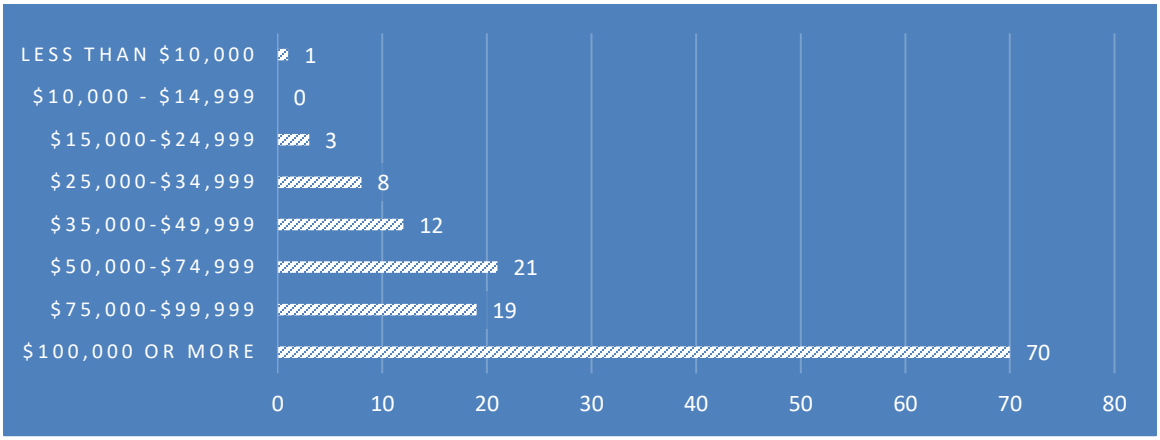
Age

Overall, the age of participants with the online survey are consistent with the average ages of community members in King City. Of those that responded, the largest group of participants are within the ages of 45 – 64. The second largest group of participants are between the ages of 25 – 44.



Household Income

The **majority of the online survey participants have a household income of $100,000 or more** a year, which is higher than the average household income in King City.



Appendix A: In-Person Tabling Event Summary

Date and Time: Thursday, October 8,2020, 3:00 – 6:00 PM

Location: King City Community Park, near the basketball court

Key Themes

Most folks were generally happy with the current transportation system in King City with 99W and a lack of safe bike lands and crosswalks being common exceptions. In terms of the TSP, many were concerned about extending Fischer Rd. into the Rivermeade Community and increased traffic in neighborhoods. Many (if not all) participants mentioned that they had either gotten the mailed survey and sent it or were going to mail it soon.

More details below for each key theme and specific comments from the public.

Fischer Rd Extension

- Rivermeade residents and city residents on Fischer between the power lines and 131st share concerns about the proposed extension and don't feel that the city is listening to them.
- Residents are concerned about increased traffic in their community – many describe their neighborhood as a calm and quiet neighborhood and don't want that to change. They don't want a major road going through their neighborhood.
- Many are worried that the neighborhood will change and look like Fischer between 131st and 99W.
- Some were worried about the impact to waterways and nature.
- Worried that people will speed along the extension, creating safety concerns.
- The extension may increase noise levels.
- There was general worry about over-population in the area.
- Folks are worried about "cut-through" traffic.

What to consider moving forward: We need to make a thorough explanation of the Fischer Rd. extension and have a detailed explanation of why we are doing the extension on-hand when we talk to the community. Consider creating more than one "Fischer" route west of the power lines to reduce traffic in Rivermeade. We also need to keep Washington County in the loop so that we are all on the same page.

Pedestrian and Bike Connections

- Several mentioned their interest in continuing to improve connections for pedestrians and cyclists, including trails.
- Several people mentioned that they get around by bike to do errands, but the bike paths were either dangerous or there were not enough to run all errands by bike.
- They like having biking trails and would like more.
- There are no bike paths between 150th and the 99W on Beef Bend Rd, making it dangerous for all. A designated bike path along this section of the road would be good.
- Crossing and walking along 99W is scary and dicey.

- Folks want running paths near nature; interconnected, regional trails between all the nearby cities; and, more formal trails along the river, there are informal trails right now that are dangerous.
- Someone mentioned that there are potholes in Gabriel Park and that it is not walkable.

What to consider moving forward: How can we create more safe sidewalks and crosswalks?

Traffic

- Roundabouts would be nice
- Folks are worried about "cut-through" traffic
- 131st at Fischer – need speed signs for cars
- There were a lot of concerns about 99W, including:
    - People avoid 99W as much as they can
    - Many expressed their frustration with 99W – it's like the strip in Las Vegas, you can't go anywhere in King City without it, and there is no parallel route.
- Widening Beef Bend: This would require more signalized (?) intersections.

What to consider moving forward: How can we minimize traffic in neighborhoods while creating more streets and connections within the City (and to neighboring cities)?

Safe Routes to School

- One parent mentioned the importance of safe routes to school and noted the problem with Deer Creek Elementary having students on the north side of Beef Bend with no safe way to cross the street.
- One community member said that there need to be more schools as the area grows

What to consider moving forward: Existing and potential attendance areas for the schools serving King City and the master plan area.

King City Community Park

- Love what the city is doing with the park
- Stairs down to the river near the community park would be nice, as well was more lighting and a boat launch
- Would be nice to have manmade paths under the electrical lines
- There needs to be better signage about how to get the King City Community Park – many people simply take the private road.

Questions / Ideas from participants:

- Could there be alternative boundaries for school districts? 150th? Halfway up to Bull Mtn?
- Could we include a wildlife preserve with the new development? Could we do a wildlife study about how much space wildlife will need?
- Could we extend Durham Rd? (instead of Fischer Rd. extension)

Other

- One participant said they were excited about the Master Plan growth.

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TRANSPORTATION VISION AND GOALS

DATE: December 4, 2020

TO: Project Management Team

FROM: Carl Springer and Kevin Chewuk | DKS Associates

SUBJECT: King City Transportation System Plan and Land Use Refinement
Transportation Vision and Goals (Task 5.1; Deliverable 5A) #20020-002

This memorandum provides a summary of what we have heard so far and provides options to consider for a transportation vision and goals. These initial vision and goals may be modified, removed, or added to through the planning process, shaped by input received from the project team, advisory committees, and the general public. This feedback process will be used to develop a recommended vision and set of goals for the TSP. After this process is complete, the vision and goals will be tied into the performance-based planning and programming framework, including Task 5.2 Transportation Objectives (Deliverable 5B), Task 5.3 Transportation Infrastructure Standards (Deliverable 5C), and 5.4 Transportation Performance Measures (Deliverable 5D).

SETTING DIRECTION FOR TRANSPORTATION PLANNING

Collectively, the transportation-related goals, objectives, and performance measures describe what the community wants the transportation system to do in the future, as summarized by a **vision statement**. A vision statement generally consists of an imaginative description of the desired condition in the future. It is important that the vision statement for transportation align with the community's core values.

Goals and objectives create manageable stepping stones through which the broad vision statement can be achieved. **Goals** are the first step down from the broader vision. They are broad statements that should focus on outcomes, describing a desired end state. Goals should be challenging, but not unreasonable.

Each goal must be supported by more finite **objectives**. In contrast to goals, objectives should be specific and measurable. Where feasible, providing a targeted time period helps with objective prioritization and

achievement. When developing objectives, it is helpful to identify key issues or concerns that are related to the attainment of the goal.

The solutions recommended through the TSP must be consistent with the goals and objectives. To accomplish this, **performance measures** are based on the goals and objectives will be developed. For the King City TSP, they will be used to inform the selection and prioritization of projects and policies for the plan by describing how well the alternatives considered support goal areas.

SAMPLE TRANSPORTATION VISION

By 2040, we envision a city with a smart and efficient transportation system that supports healthy and active citizens of all ages and abilities, who travel in a safe, accessible, and convenient manner, provides transportation options that allows all users to meet daily needs, and supports a competitive economy that increases affordability and provides for an enhanced environment.

SAMPLE TRANSPORTATION GOALS AND OBJECTIVES

ACCESSIBILITY AND CONNECTIVITY

The transportation system is convenient and accessible and connects people to destinations throughout the city and beyond.

SAFETY AND SECURITY

The transportation system is safe and secure for people of all ages and abilities.

HEALTHY PEOPLE AND ENVIRONMENT

The transportation system protects the natural, cultural, and developed environments and encourages healthy and active living for all through comfortable and convenient lower-polluting transportation alternatives.

EQUITY

The transportation system eliminates transportation related disparities and barriers and is affordable for all users.

RELIABILITY AND EFFICIENCY

Manage and optimize the transportation system to ease congestion so people and goods can affordably, reliably, and efficiently reach their destinations.

FISCAL RESPONSIBILITY

Strategically design, operate and maintain the transportation system to maximize assets and align system functionality with evolving character of the surrounding community.

COLLABORATION

The transportation system decisions are made in a transparent and collaborative manner, and the benefits and burdens of investments are distributed equally along all users.

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TRANSPORTATION OBJECTIVES

DATE: December 4, 2020

TO: Project Management Team

FROM: Carl Springer and Kevin Chewuk | DKS Associates

SUBJECT: King City Transportation System Plan and Land Use Refinement
Transportation Objectives (Task 5.2; Deliverable 5B) #20020-002

This memorandum provides a summary of what we have heard so far and provides options to consider for a transportation vision, goals, and objectives. These initial vision, goals, and objectives may be modified, removed, or added to through the planning process, shaped by input received from the project team, advisory committees, and the general public. This feedback process will be used to develop a recommended vision, and set of goals and objectives for the TSP. After this process is complete, the vision, goals, and objectives will be tied into the performance-based planning and programming framework, including Task 5.3 Transportation Infrastructure Standards (Deliverable 5C), and 5.4 Transportation Performance Measures (Deliverable 5D).

SETTING DIRECTION FOR TRANSPORTATION PLANNING

Collectively, the transportation-related goals, objectives, and performance measures describe what the community wants the transportation system to do in the future, as summarized by a **vision statement**. A vision statement generally consists of an imaginative description of the desired condition in the future. It is important that the vision statement for transportation align with the community's core values.

Goals and objectives create manageable stepping stones through which the broad vision statement can be achieved. **Goals** are the first step down from the broader vision. They are broad statements that should focus on outcomes, describing a desired end state. Goals should be challenging, but not unreasonable.

Each goal must be supported by more finite **objectives**. In contrast to goals, objectives should be specific and measurable. Where feasible, providing a targeted time period helps with objective prioritization and

achievement. When developing objectives, it is helpful to identify key issues or concerns that are related to the attainment of the goal.

The solutions recommended through the TSP must be consistent with the goals and objectives. To accomplish this, **performance measures** based on the goals and objectives will be developed. For the King City TSP, they will be used to inform the selection and prioritization of projects and policies for the plan by describing how well the alternatives considered support goal areas.

SAMPLE TRANSPORTATION VISION

By 2040, we envision a city with a smart and efficient transportation system that supports healthy and active citizens of all ages and abilities, who travel in a safe, accessible, and convenient manner, provides transportation options that allows all users to meet daily needs, and supports a competitive economy that increases affordability and provides for an enhanced environment.

SAMPLE TRANSPORTATION GOALS AND OBJECTIVES

ACCESSIBILITY AND CONNECTIVITY

The transportation system is convenient and accessible and connects people to destinations throughout the city and beyond.

OBJECTIVES FOR CONSIDERATION

- Increase the proportion of trips made by walking, bicycling, transit and carpooling.
- Complete all gaps in the bicycle and pedestrian networks, including trails.
- Increase household and job access to transit.
- Increase household and job access to low stress bike and walk networks.
- Increase travel options that serve popular destinations.
- Increase the number of jobs that households can reach within a reasonable travel time.

SAFETY AND SECURITY

The transportation system is safe and secure for people of all ages and abilities.

OBJECTIVES FOR CONSIDERATION

- Develop a local low stress bike and walk network.
- Reduce fatal and serious injury crashes for all modes of travel.
- Reduce crashes involving pedestrians and bicyclists.
- Ensure the pedestrian and bike throughways are clear of obstacles and obstructions.
- Provide attractive streetscapes that encourage appropriate traffic volumes, speeds, and safety for all users.

- Reduce the transportation system's vulnerability to natural disasters and climate change.

HEALTHY PEOPLE AND ENVIRONMENT

The transportation system protects the natural, cultural, and developed environments and encourages healthy and active living for all through comfortable and convenient lower-polluting transportation alternatives.

OBJECTIVES FOR CONSIDERATION

- Reduce vehicle miles traveled per capita.
- Improve public health by providing safe, comfortable, and convenient transportation options to meet daily needs and access services.
- Design all transportation facilities to be welcoming and attractive for all users.
- Increase household access to parks, open spaces and natural areas.
- Protect natural, cultural, and developed resources from the negative impacts of transportation.
- Reduce transportation-related air pollutants.

EQUITY

The transportation system eliminates transportation related disparities and barriers and is affordable for all users.

OBJECTIVES FOR CONSIDERATION

- Reduce household transportation costs.
- Develop a multimodal transportation system that allows all users to access employment, education and services.
- Promote transportation investments that have positive impacts and avoid, minimize, and mitigate negative impacts to all populations.
- Target infrastructure investments toward those with the greatest mobility needs.

RELIABILITY AND EFFICIENCY

Manage and optimize the transportation system to ease congestion so people and goods can affordably, reliably, and efficiently reach their destinations.

OBJECTIVES FOR CONSIDERATION

- Build an integrated and connected system of roadways, freight routes, transit and bicycle and pedestrian facilities.
- Build infrastructure and capacity to support electric vehicles and other emerging technologies to increase travel options.
- Leverage technological advances to increase efficiency of travel across all modes for all road users.
- Increase the number of people and businesses with access to travel information.

- Increase the number of households and businesses with access to outreach, education, incentives and other tools that increase shared trips and use of travel options.

FISCAL RESPONSIBILITY

Strategically design, operate and maintain the transportation system to maximize assets and align system functionality with evolving character of the surrounding community.

OBJECTIVES FOR CONSIDERATION

- Preserve and maintain transportation system assets to maximize their useful life and minimize project construction and maintenance costs.
- Develop a transportation system that is adaptable and flexible to changing needs and conditions.
- Align the function of transportation facilities with evolving character and design to preserve and enhance the surrounding community.
- Develop new revenue sources to prepare for increased travel demand.

COLLABORATION

The transportation system decisions are made in a transparent and collaborative manner, and the benefits and burdens of investments are distributed equally along all users.

OBJECTIVES FOR CONSIDERATION

- Make transportation investment decisions using a performance-based planning and programming framework that is aligned with the local and regional goals and supported by meaningful public engagement, multimodal data and analysis.
- Improve coordination and cooperation among the owners and operators of the transportation system.
- Engage a wider diversity of people to provide input at all levels of decision-making for developing and implementing the plan.

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TRANSPORTATION PERFORMANCE MEASURES AND PROJECT PRIORITIZATION FRAMEWORK

DATE: December 6, 2020

TO: Project Management Team

FROM: Carl Springer and Kevin Chewuk | DKS Associates

SUBJECT: King City Transportation System Plan and Land Use Refinement

Transportation Performance Measures and Project Prioritization Framework (Task 5.4; Deliverable 5D and 5E) #20020-002

This memorandum details the performance-based planning and programming framework for King City. It summarizes how the performance of the transportation system investments will be evaluated and monitored towards attainment of the long-term goals and objectives of the city and region and provides a framework for prioritizing transportation projects.

POTENTIAL PERFORMANCE MEASURES

The King City TSP employs a performance-based approach, focusing on measurable outcomes of the investments the City chooses to make to the transportation system. The approach allows the City to measure the degree to which its investments support City-wide and regional priorities. In this manner, the City is able to track how its investment decisions impact a set of performance measures through 2040. While the performance measures do not represent the complete picture, they do offer a baseline against which to assess how the policies, investments and planning decisions made in this plan may affect the future. The measures help translate investment decisions to the community priorities of the TSP and also allow the City to show progress towards meeting the regional performance measures in the Metro Regional Transportation Plan and Regional Transportation Functional Plan.

Table 1 provides options for performance measures for the TSP. The performance measures will be used in different ways to support the City's transportation planning and decision-making process, including to assess performance as part of the evaluation process at the system level, and to provide a basis for on-going monitoring of transportation investments.

In addition, the potential performance measures are intended to assess the transportation system in a more holistic way by:

- Reviewing access to essential services and destinations that play important roles in the physical and economic health of an individual,
- Focusing on the movement of people over vehicles, and
- Focusing on equal investments throughout the plan, particularly in areas with greater barriers

TABLE 1: POTENTIAL PERFORMANCE MEASURES

PERFORMANCE MEASURE	MILES TRAVELED
Description	System-wide number of miles traveled (total and share of overall travel) within King City
Sample Measures	• Person miles traveled (total and per capita) • Vehicle miles traveled (VMT) (total, per capita)
Potential Target	• By 2040, reduce vehicle miles traveled per person by 10 percent compared to 2020
Local /Regional Connection	• TSP Goal(s): Accessibility and Connectivity; Healthy People and Environment; Reliability and Efficiency; Fiscal Responsibility • RTP/RTFP Performance Measure(s): Multimodal Travel; Climate Change; Clean Air
PERFORMANCE MEASURE	**MULTIMODAL LEVEL OF TRAFFIC STRESS**
Description	Locations on the roadway network that operate above thresholds for multimodal level of traffic stress
Sample Measures	• Pedestrian level of traffic stress • Bicycle level of traffic stress
Potential Target	Meet the local thresholds for multimodal level of traffic stress
Local /Regional Connection	• TSP Goal(s): Accessibility and Connectivity; Safety and Security; Healthy People and Environment; Equity • RTP Performance Measure(s): Multimodal Travel; Mode Share
PERFORMANCE MEASURE	**CONGESTION**
Description	Locations on the roadway network that operate above thresholds for congestion
Sample Measures	• Vehicle volume to capacity ratios • Vehicle hours of delay per truck along regional roadways
Potential Target	Meet the local and regional thresholds for congestion; Reduce vehicle hours of delay per truck by 10% by 2040
Local /Regional Connection	• TSP Goal(s): Reliability and Efficiency • RTP/RTFP Performance Measure(s): Congestion; Freight Delay

PERFORMANCE MEASURE	MODE SHARE
Description	Percent of non-drive alone trips (walking, bicycling, transit and shared ride trips) within King City, and regionally designated Town Centers, Corridors and Neighborhoods
Sample Measures	• Walking, Bicycling, Transit and Shared Ride usage (total and share)
Potential Target	• By 2040, achieve regional non-drive alone modal targets for Town Centers and Corridors of 45 to 55 percent, and for Neighborhoods of 40 to 45 percent
Local /Regional Connection	• TSP Goal(s): Accessibility and Connectivity; Healthy People and Environment; Equity • RTP Performance Measure(s): Affordability; Multimodal Travel; Mode Share; Climate Change; Clean Air
PERFORMANCE MEASURE	**SYSTEM COMPLETENESS**
Description	Completeness of sidewalks, bikeways and trails within the city
Sample Measures	• Total miles and percentage of pedestrian, bicycle and trail networks completed • Percentage of pedestrian and bicycle facilities completed within ¼ mile of transit stops
Potential Target	Complete the sidewalk, bikeway and trail networks by 2040
Local /Regional Connection	• TSP Goal(s): Accessibility and Connectivity; Safety and Security; Healthy People and Environment; Equity; Reliability and Efficiency • RTP Performance Measure(s): Affordability; Multimodal Travel; Mode Share; System Completion; Climate Change
PERFORMANCE MEASURE	**ACCESS TO JOBS**
Description	Number and percent change of jobs accessible within a reasonable travel time by driving, transit, bicycling, and walking
Sample Measures	• Number and percentage of jobs reached by driving in 20 mins • Number and percentage of jobs reached by bicycling in 20 mins (using average biking speed of 10 miles per hour) • Number and percentage of jobs reached by walking in 15 minutes (using average walking speed of 3 miles per hour) • Number and percentage of jobs reached by transit (includes potential future transit corridors) in 30 mins (including beginning and end of trip)
Potential Target	Desired direction is to increase the number of jobs accessible within a reasonable commute
Local /Regional Connection	• TSP Goal(s): Accessibility and Connectivity; Healthy People and Environment; Equity • RTP Performance Measure(s): Affordability; Multimodal Travel; Mode Share

PERFORMANCE MEASURE	ACCESS TO COMMUNITY AMENITIES
Description	Access to community amenities (i.e., education, critical services, parks, open spaces and natural areas) within a reasonable travel time by transit, bicycling, and walking
Sample Measures	• Number and percentage of community amenities reached by bicycling in 15 mins (using average biking speed of 10 miles per hour) • Number and percentage of community amenities reached by walking in 10 minutes (using average walking speed of 3 miles per hour) • Number and percentage of community amenities reached by transit (includes potential future transit corridors) in 20 mins (including beginning and end of trip)
Potential Target	Desired direction is to increase the number of community amenities accessible
Local /Regional Connection	• TSP Goal(s): Accessibility and Connectivity; Healthy People and Environment; Equity • RTP Performance Measure(s): Affordability; Multimodal Travel; Mode Share
PERFORMANCE MEASURE	**ACCESS TO TRANSIT**
Description	Number and share of households with access to transit within King City
Sample Measures	• Number and percent of households within ¼ mile of transit stops
Potential Target	Desired direction is to increase the number of households accessible to transit
Local /Regional Connection	• TSP Goal(s): Accessibility and Connectivity; Healthy People and Environment; Equity • RTP Performance Measure(s): Affordability; Multimodal Travel; Mode Share
PERFORMANCE MEASURE	**SAFETY**
Description	Transportation related collisions (total, per capita and per VMT) within King City, and pedestrian districts (i.e., King City Town Center and URA 6D Town Center)
Sample Measures	• Vehicle, pedestrian, and bicyclist fatal and serious injury crashes (total, per capita and per VMT) • Crashes involving a pedestrian, or bicyclist (total, and per capita)
Potential Target	By 2040 eliminate transportation related fatalities and serious injuries for all users
Local /Regional Connection	• TSP Goal(s): Safety and Security • RTP/RTFP Performance Measure(s): Safety

PROJECT PRIORITIZATION FRAMEWORK

Contrary to the performance measures which assess the system wide impact of plan investments, the proposed approach to prioritize individual transportation projects in King City will be based on

criteria associated with each TSP goal. A prioritization score will be calculated for each project using the following seven criteria (i.e., each TSP goal):

- Accessibility and Connectivity
- Safety and Security
- Healthy People and Environment
- Equity
- Reliability and Efficiency
- Fiscal Responsibility
- Collaboration

The projects will be scored on each criterion from 1 (low) to 10 (high). The criteria will be weighted equally, resulting in overall possible scores ranging from 7 to 70. The following sections describe the methodology for calculating the scores for each criterion.

ACCESSIBILITY AND CONNECTIVITY

Pedestrian, bicycle and transit demand serves as the basis for this criterion. Projects along Major Pedestrian or Bicycle Streets, or Transit Corridors, and Neighborhood Pedestrian or Bicycle Streets will be assigned the scores shown in Table 2. Projects located in a Pedestrian or Bicycle District have three points added to their respective scores.

TABLE 2: PROPOSED PRIORITIZATION APPROACH FOR ACCESSIBILITY AND CONNECTIVITY CRITERIA

NETWORK CLASSIFICATION	SCORE IN PEDESTRIAN OR BICYCLE DISTRICT	SCORE OUTSIDE OF PEDESTRIAN OR BICYCLE DISTRICT
Major Pedestrian Street, Major Bicycle Street, or Transit Corridor	10	7
Neighborhood Pedestrian Street or Neighborhood Bicycle Street	7	4
Other Street	4	1

SAFETY AND SECURITY

This criterion is intended to account for both crash history and crash risk factors. The following factors will be scored for prioritization as shown in Table 3:

- Locations along the low stress pedestrian and bicycle network.
- Locations with a high density of pedestrian or bicyclist collisions.
- Streets with three or more travel lanes.
- Locations with posted speeds of 30 mph or higher.

TABLE 3: PROPOSED PRIORITIZATION APPROACH FOR SAFETY AND SECURITY CRITERIA

CONDITION	SCORE
Locations along the low stress pedestrian and bicycle network	4
Locations with a high density of pedestrian or bicyclist collisions	2
Locations with three or more travel lanes	2
Locations with posted speeds of 30 mph or higher	2
None	1

HEALTHY PEOPLE AND ENVIRONMENT

A projects distance from community amenities (i.e., education, critical services, parks, open spaces and natural areas) serves as the basis for this criterion. Scores will be assigned based on the location of a project as shown in Table 4.

TABLE 4: PROPOSED PRIORITIZATION APPROACH FOR HEALTHY PEOPLE AND ENVIRONMENT CRITERIA

LOCATION	SCORE
Located within 1/4 mile from a school	4
Located within 1/4 mile of a pedestrian district or commercial corridor	4
Located within 1/4 mile from a park, open space or natural area	2
None	1

EQUITY

The demographic variables of income and age will be used to evaluate the equity implications of project needs. The scoring also considers race, but it was not included in score due to its relative equal distribution among the block groups in the city. To calculate the scores, Census Block Groups in King City will be given scores for income and age from 1 to 5. For each demographic variable, '5' equals the top grouping in the city (i.e., lowest median income or highest median age), '3' the citywide average, and '1' the bottom grouping in the city (i.e., highest median income or lowest median age). The scores for each demographic variable will be totaled and applied for each project

in that block group. The block group with the lowest total will receive a score of '1', regardless of the total.

RELIABILITY AND EFFICIENCY

A projects impact on the movement of people and goods serves as the basis for this criterion. Scores will be assigned based on the location of projects as shown in Table 5.

TABLE 5: PROPOSED PRIORITIZATION APPROACH FOR RELIABILITY AND EFFICIENCY CRITERIA

LOCATION	SCORE
Location of significant delay for people	4
Location along a freight route	4
Location along the arterial and collector roadway network	2
None	1

FISCAL RESPONSIBILITY

The total estimated construction and maintenance cost will be used to evaluate the fiscal responsibility of projects. To calculate the scores, each project will be given scores for construction and maintenance costs from 1 to 5. For each cost variable, '5' equals the lowest cost, '3' the average cost, and '1' the highest cost. The scores for each cost variable will be totaled and applied for each project. Any project with a total cost variable score of '2' will receive a score of '1', regardless of the total.

COLLABORATION

This criterion is intended to capture how well a project is aligned with the nine regional performance measures. Each project will be given a value from 1 to 10 for how well it is perceived to work towards the outcome of each regional performance measure. For each regional performance measure, '10' equals significant progress towards the outcome, '5' indicates some progress towards the outcome, and '1' indicates no progress towards the outcome. The values for each project will be totaled and compared to the highest possible value of '90'. That ratio will be applied to the highest criterion score of '10' to determine the final project score, ranging from 1 to 10.

TSP EVALUATION METHODOLOGY

DATE: September 28, 2020

TO: Project Management Team

FROM: Carl Springer, Kevin Chewuk and Rochelle Starrett | DKS Associates

SUBJECT: King City Transportation System Plan and Land Use Refinement
TSP Evaluation Methodology Memo (Task 5.5; Deliverable 5F) #20020-002

The following memorandum establishes the methods and assumptions that will be used to develop the existing and future conditions transportation analysis for the King City Transportation System Plan (TSP). This memorandum summarizes the study intersections, describes the proposed methodology to calculate the peak hour, 2020 30th highest annual hour of traffic (30 HV), forecasted 2040 volumes, and the safety analysis.

STUDY INTERSECTIONS

Study intersections were identified for the King City TSP with input from the project team. Since travel patterns have been impacted by COVID-19, precluding the collection of new count data, historical counts were obtained. Identified study intersections and characteristics of each count are summarized below in Table 1 and summarized in Figure 1.

TABLE 1: IDENTIFIED STUDY INTERSECTIONS

#	STUDY INTERSECTION	CONTROL	HISTORICAL COUNT DATES	SOURCE
1	SW Roy Rogers Road/SW Beef Bend Road	Signal	4/11/2013, 2/13/2018, 10/22/2019	River Terrace Community Plan, King City URA 6D Study, Urban Reserve Transportation Study
2	SW Roy Rogers Road/SW Scholls-Sherwood Road	Signal	4/11/2013	River Terrace Community Plan
3	SW Elsner Road/SW Beef Bend Road	Two-Way Stop Control	11/19/2013, 2/13/2018	River Terrace Community Plan, King City URA 6D Study
4	SW 150th Avenue/SW Beef Bend Road	All-Way Stop Control	11/19/2013, 2/13/2018	River Terrace Community Plan, King City URA 6D Study

5	SW 137th Avenue/SW Beef Bend Road	Two-Way Stop Control	2/13/2018	King City URA 6D Study
6	SW 131st Avenue/SW Beef Bend Road	Signal	2/13/2018	King City URA 6D Study
7	SW Roy Rogers Road/SW Elsner Road	Two-Way Stop Control	2/13/2018	King City URA 6D Study
8	SW 131st Avenue/SW Fischer Road	All-Way Stop Control	2/13/2018	King City URA 6D Study
9	OR 99W/SW Beef Bend Road	Signal	11/19/2013, 2/13/2018	River Terrace Community Plan, King City URA 6D Study
10	OR 99W/SW Bull Mountain Road	Signal	2017	Traffic Impact Studies
11	OR 99W/SW Royalty Parkway	Signal	3/9/2016	Historical Data
12	OR 99W/SW 116th Avenue/SW Durham Road	Signal	11/19/2013, 2/13/2018	River Terrace Community Plan, King City URA 6D Study
13	OR 99W/SW Fischer Road	Signal	2/13/2018	King City URA 6D Study
14	OR 99W/SW 124th Avenue	Signal	2/13/2018	King City URA 6D Study
15	OR 99W/SW Roy Rogers Road	Signal	2/13/2018	King City URA 6D Study

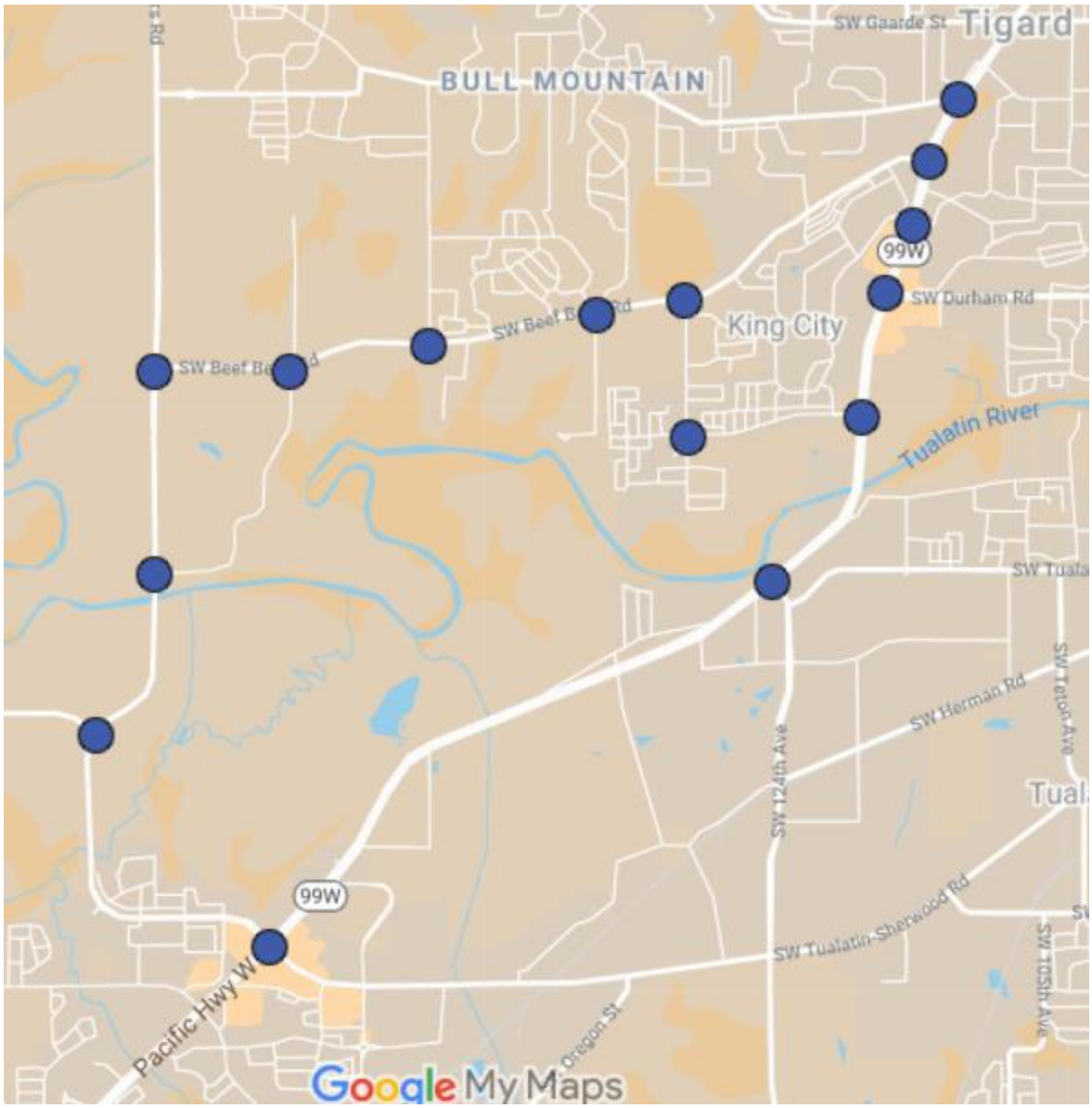

FIGURE 1: IDENTIFIED STUDY INTERSECTIONS (SOURCE: GOOGLE MAPS)

VOLUME DEVELOPMENT

Historical counts must be adjusted to a common count year and month to represent typical 30th highest hour (30 HV) traffic conditions. These adjustments include seasonal adjustments to a common month and historical adjustments to a common year (2020).

PEAK HOUR SELECTION

The historical count data was taken over a range of different dates at distinct study intersection locations. The individual intersection peak hour will be used at each study intersection to capture

the distinct traffic conditions that could have occurred on each count date and to capture citywide variation in traffic volumes over the PM peak.

SEASONAL FACTORS

King City is located within Metro's urban growth boundary (UGB), so typical PM peak traffic conditions follow a commuter seasonal trend. Seasonal adjustments, summarized below in Table 2, will be applied to the counts for highway to highway movements on OR 99W.

TABLE 2: RECOMMENDED SEASONAL FACTORS

COUNT MONTH	SEASONAL FACTOR[1]
February	1.13
March	1.08
April	1.04
November	1.08

HISTORICAL ADJUSTMENTS

Counts taken in different years prior to 2020 will require adjustment to the common base year (2020) prior to analysis. A range of methods can be used to develop factors for historical adjustments, including ODOT's Future Volume Tables[2], Washington County's Traffic Count Program[3], historical counts, and the Washington County Westside Regional Travel Demand Model.

The recommended annual growth rate and the applicable movements is summarized below in Table 3 along with the source used to develop the growth rate. Growth rates developed from historical counts, where applicable, ODOT's Future Volume Tables, and from Washington County's Westside travel demand models were compared for their consistency and applicability to the counts. Generally, historic growth rates were consistent with or lower than model growth rates. Using historic growth rates better represents the existing change in traffic volumes on these corridors since the 2040 financially constrained travel demand model includes a five-lane cross section for SW Roy Rogers Road. This widening project will contribute to higher traffic volumes on this corridor or adjacent roadways in the future and overestimate growth in the short-term.

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[1] ODOT. *Seasonal Trend Table.* 2018.
[2] ODOT. *Future Volume Table.* 2018.
[3] Washington County. *Traffic Counts.* 2017.
https://www.co.washington.or.us/LUT/Divisions/TrafficEngineering/Programs/traffic-counts.cfm

Traffic counts at each study intersection will be forecast from the most recent count date to 2020 using linear growth as noted in Table 3. More recent counts from 2019 are available at the intersection of SW Roy Rogers Road and SW Beef Bend Road. However, the 2019 count recorded a lower total entering traffic volume, so the 2018 count will be used at this location to be more conservative.

TABLE 3: RECOMMENDED ANNUAL PERCENT GROWTH RATES

CORRIDOR	ANNUAL PERCENT GROWTH	APPLICATION	SOURCE
SW Roy Rogers Road	2%	All movements from SW Roy Rogers Road	Washington County Traffic Count Program[1]
OR 99W	1%	All movements from OR 99W	ODOT Future Volume Tables
SW Beef Bend Road	3%	All movements from SW Beef Bend Road	Washington County Traffic Count Program
Other Local Roads	5%	All movements from other roads not specified	Washington County Traffic Count Program[2]

1. Annual percent growth rate based on the average of three count locations on Roy Rogers Road: 3500 ft. south of Scholls Ferry Road, 2000 ft. north of Scholls-Sherwood Road, and 500 ft. south of Scholls-Sherwood Road
2. Annual percent growth rate based on the average of two count locations: Fischer Road, 500 ft. west of OR 99W, and 131st Avenue, 750 ft. south of Beef Bend Road

TRAFFIC ANALYSIS

Traffic operations (delay, LOS, and v/c) will be analyzed for all study intersections under existing (2020) and future (2040) conditions. The Highway Capacity Manual (HCM) 6th Edition methodology will be used for signalized and unsignalized intersection analyses, where possible; signalized intersection v/c ratios will be post-processed to obtain intersection v/c ratios. If HCM 6th Edition results cannot be reported due to intersection geometry or other limitations, the capacity results will be based on HCM 2000. Washington County's version of Metro's Regional Travel Demand Forecast Model will be used to evaluate future conditions.

INTERSECTION MOBILITY TARGETS

The state and region have adopted vehicle mobility targets to ensure that the transportation system will have adequate capacity to support planned growth (see Table 4). ODOT standards are consistent with the regional standards. Regional standards require a volume to capacity (v/c) ratio of 1.10 during the peak first hour, and 0.99 during the peak second hour[4] in designated Town

[4] Second hour defined as the single 60-minute period either before or after the peak 60-minute period, whichever is highest

Centers and 0.99 during the highest two consecutive hours of the day along designated "Corridors," including OR 99W outside of the Town Center and within designated "Neighborhoods," including Beef Bend Road.

All Washington County streets in the area, including Roy Rogers Road and Beef Bend Road, are designated on the Regional Motor Vehicle Network and subject to the regional targets. King City does not currently have adopted performance standards for motor vehicles. For comparison purposes, the regional mobility target for "Neighborhoods," a v/c ratio of 0.99 during the peak hour, will be applied as an interim performance measure for City streets.

TABLE 4: STUDY INTERSECTION MOBILITY TARGETS

#	STUDY INTERSECTION	JURISDICTION	CONTROL	PERFORMANCE MEASURE[1]
1	SW Roy Rogers Road/SW Beef Bend Road	County	Signal	0.99
2	SW Roy Rogers Road/SW Scholls-Sherwood Road	County	Signal	0.99
3	SW Elsner Road/SW Beef Bend Road	County	Two-Way Stop Control	0.99
4	SW 150th Avenue/SW Beef Bend Road	County	All-Way Stop Control	0.99
5	SW 137th Avenue/SW Beef Bend Road	County	Two-Way Stop Control	0.99
6	SW 131st Avenue/SW Beef Bend Road	County	Signal	0.99
7	SW Roy Rogers Road/SW Elsner Road	County	Two-Way Stop Control	0.99
8	SW 131st Avenue/SW Fischer Road	King City	All-Way Stop Control	0.99
9	OR 99W/SW Beef Bend Road	ODOT	Signal	0.99
10	OR 99W/SW Royalty Parkway	ODOT	Signal	1.10
11	OR 99W/SW 116th Avenue/SW Durham Road	ODOT	Signal	1.10
12	OR 99W/SW Fischer Road	ODOT	Signal	0.99
13	OR 99W/SW 124th Avenue	ODOT	Signal	0.99
14	OR 99W/SW Roy Rogers Road	ODOT	Signal	0.99
15	OR 99W/SW Bull Mountain Road	ODOT	Signal	0.99

SAFETY ANALYSIS

Collision trends will be identified by analyzing the most recent five years of available crash data (2014-2018) for roadways within King City. Analysis will include calculation of critical crash rates and excess proportion of specific crash types at all study intersections, as outlined in Chapter 4 of ODOT's Analysis Procedures Manual (APM)[5]. For reference populations with less than 5 intersections, intersection crash rates will be compared to the published 90th percentile crash rates

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

in Table 4-1 of the APM. Any intersection with a collision rate that exceeds its critical rate or the 90th percentile crash rate will be flagged for further review. Special consideration will be given to potential causes of collisions at locations with high bicycle/pedestrian crash frequencies.

ODOT's State Highway Crash Rate Tables will be reviewed and used to identify highway segments experiencing crash rates greater than the statewide average for similar facilities. Top 10% ODOT Safety Priority Index System (SPIS) sites will also be identified.

The collision analysis shall be used to identify crash patterns and suggest potential countermeasures at locations that exceed the published intersection or segment crash rates, or the calculated critical crash rate, and identify low cost systemic safety measures that could be considered later in Task 6 to reduce fatal and serious injury crashes.

MULTIMODAL ANALYSIS

Pedestrian and bicycle volumes from the historical traffic data will be analyzed to identify areas with high multimodal activity. Transit service characteristics, including TriMet's routes, stops, and usage will also be reviewed. The OR 99W corridor and other major roadways surrounding King City (*e.g.* Beef Bend Road) will receive a special emphasis to identify potential crossing improvements for multimodal users.

Urban Design Guidebook

Beef Bend South | King City, Oregon

November 2020

Table of Contents

Introduction

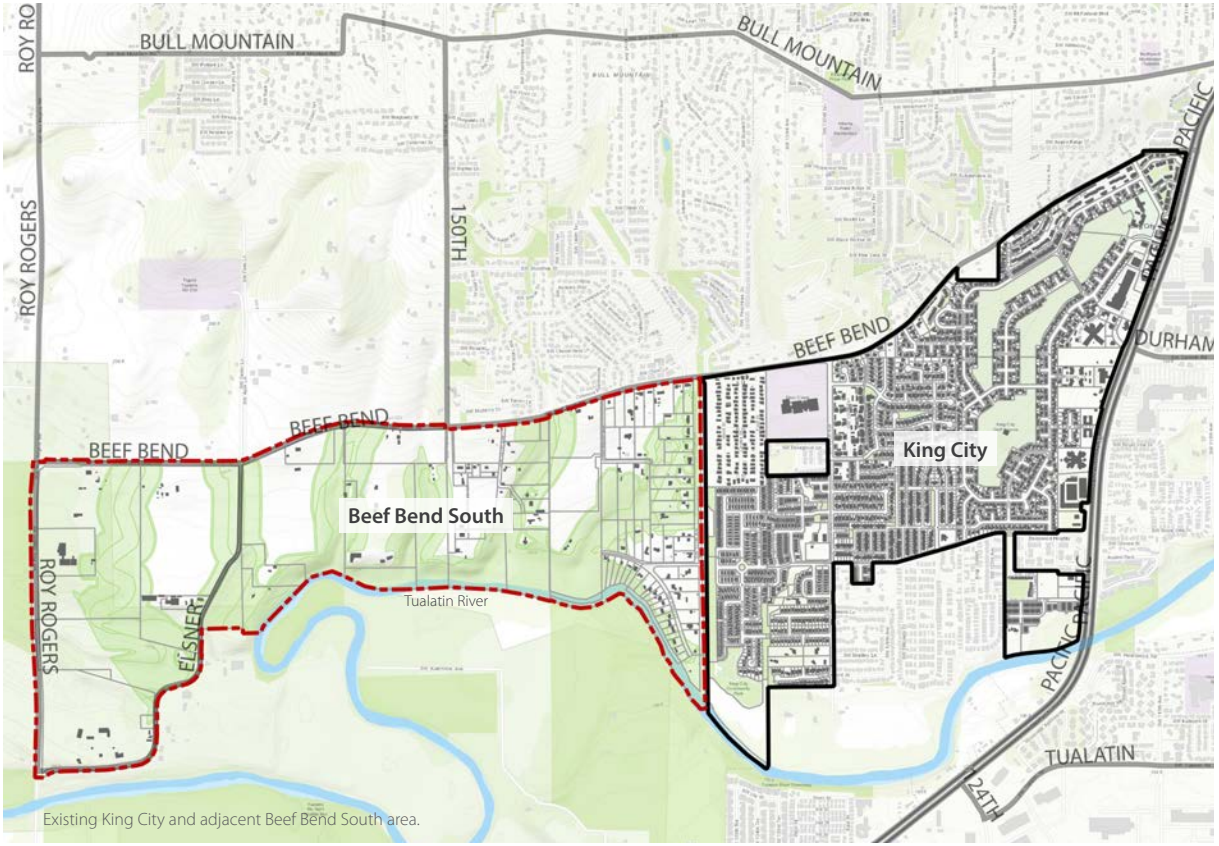
Purpose of the guidebook

This guidebook is part of the King City Transportation System Planning process. It is intended to serve as a bridge between the URA 6D Concept Plan, the City's first Transportation System Plan, and the forthcoming Beef Bend South Master Plan. It builds on comparable developments (case studies) evaluated as part of the 2020 Market Analysis report to understand details around land use, transportation, urban design, and implementation. The case studies provide lessons learned and recommended actions for King City.

King City Beef Bend South Vision

The 2018 Concept Plan for King City articulated a community vision for the area called Urban Reserve Area 6D (URA 6D). In 2019, based on its review of the Concept Plan, the Portland Metro Regional Government approved King City's application for an expansion to the Urban Growth Boundary (UGB) to create an extension of King City.

URA 6D, also known as Beef Bend South, is 528 acres located to the west of King City, at the foot of Bull Mountain, on the north shore of the Tualatin River. For this new area, King City envisions a community of distinct neighborhoods tucked between the five stream corridors that carry water from the mountain to the river. The highest density neighborhood with the greatest mix of uses will be located closest to Roy Rogers Road, at the western edge of the city (and the UGB). This neighborhood is envisioned to be home to a new town center with a main street, which will include commercial and civic uses, and employment uses.



Existing King City and adjacent Beef Bend South area.

The other three neighborhoods will vary in density but all will accommodate a full range of middle housing types, offering a variety of sizes and affordability intermixed within small urban-scaled blocks. Just north of Beef Bend Road, the City of Tigard is planning a series of new neighborhoods (South River Terrace) with a similar vision for mixed housing neighborhoods. In the future, several streets running north-south—River Terrace Boulevard in Tigard and Elsner Road in Beef Bend South—could connect these two communities to each other.

At its narrowest, the area between Beef Bend Road and the Tualatin River is about 3,000 feet and interrupted by streams. Creating an east-west street connection is necessary but it will be challenging. The purpose of this east-west street will be to accommodate local traffic and to provide a link between the four neighborhoods. It will be a King City signature street that changes character from east to west, reflecting the personality of each neighborhood it serves, while protecting each stream it traverses or crosses.

The street and path network will be a fine-grained network of local streets, green streets, alleys, and paths. The network will provide seamless connections for community, accessing services, shopping, recreating, and experiencing nature; it will do so in a way that works for people on foot, in a car, on a bike, or in small electric-powered vehicles.

Relationship of this document to the TSP

This document flags several design strategies that are important for the Beef Bend South Master Plan to follow up on in order to achieve the goals and vision of the community and to fulfill earlier planning efforts such as the URA 6D Concept Plan. Detailing specific design approaches within the context of the King City Transportation System Plan will help ensure that the TSP does not preclude these actions or strategies from being implemented in the future; it may in fact promote some of these concepts.

Relationship of this document to other documents

2020 King City Market Analysis

The 2020 King City Market Analysis for Urban Reserve Area 6D was conducted in an earlier TSP task. For the three case studies— Villebois, NorthWest Crossing, and Bethany—the market analysis quantified the amount of existing residential development and commercial and industrial square footage. As a complement to the market analysis, this document details *where and how* the residential, commercial, and industrial development are arranged and configured. It also details other aspects of the development, such as the integration of open space, walkability, street network, access, and visibility of commercial uses. It analyzes how all these characteristics work together and how well each case study performs when compared with goals for Beef Bend South.

Metro's State of the Centers 2011 Report

In 1995 Metro adopted the 2040 Growth Concept to guide growth and development in the Portland metropolitan area. It designates regional and town centers, in addition to downtown Portland, as the focus for redevelopment and concentration of homes and jobs. The Metro 2040 system categorizes these mixed use areas as main streets, town centers, regional centers, and station communities. In 2011 Metro updated their State of the Centers report with analysis measuring the performance of more

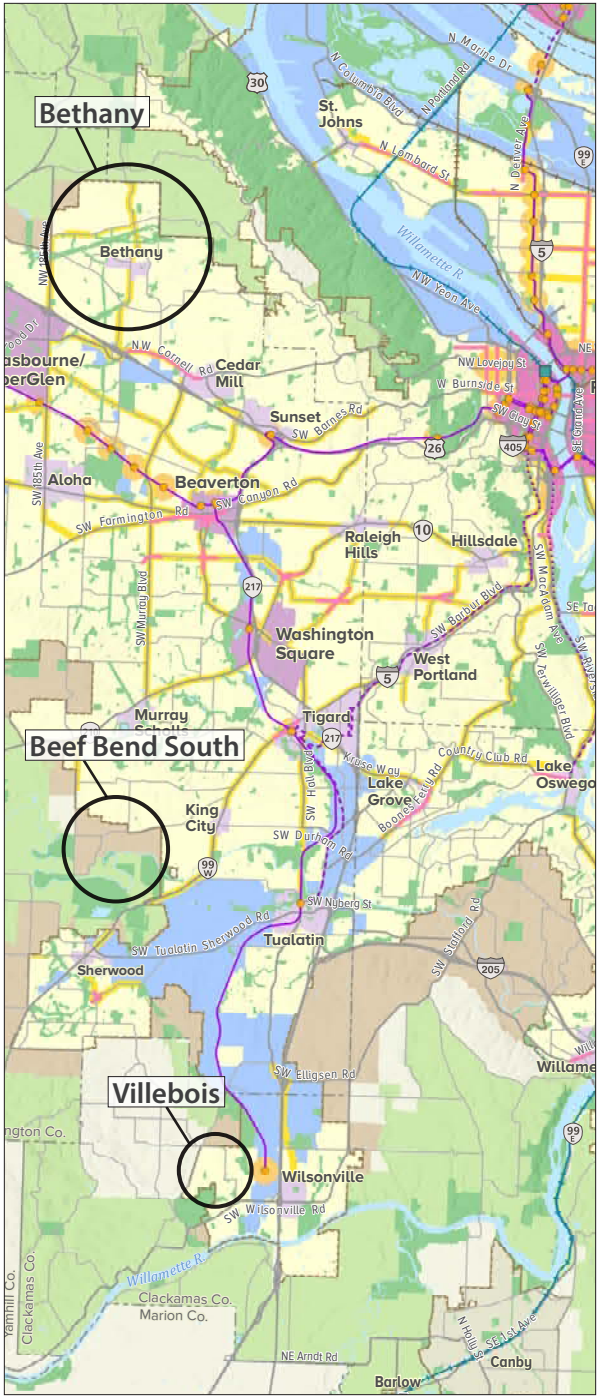
than 40 of these centers in terms of vibrancy, economic prosperity, and equity, among other measures (https://www.oregonmetro.gov/state-centers-report).

Together these metrics indicate development patterns that combine households, jobs, walkability, and transit supportive development. Similar performance metrics were selected to evaluate the case studies for this document and allow the reader to compare the case study communities with each other.

It is interesting to compare the case studies with Metro-designated activity centers, which use similar performance metrics. For example, the table to the right compares the dwelling densities for two Metro activity centers (Hillsdale and Northwest Portland Nob Hill), with the three case studies.

Dwelling Density Comparison Table

Metro-designated activity center	
Activity center	**Dwelling units per acre (average density)**
Hillsdale	6
Northwest Portland Nob Hill	27
Case Study planned dwelling unit density	
Case Study	**Dwelling units per acre (average density)**
Villebois	4.6
NorthWest Crossing	3
North Bethany	4.6



"A city is not an accident but the result of coherent visions and aims."

Leon Krier, "Architecture of Community"

Why these case studies

Three case studies similarly-scaled, master-planned communities were used for a comparative analysis of land use, urban design, transportation networks, and implementation strategies. The objective in studying these case studies was to identify characteristics that made them successful. The three case studies examined were Bethany and Villebois in the Portland metro area and NorthWest Crossing in Bend, Oregon.

Each case study represents a planned community that employed one or more specific planning or urban design techniques. These planning techniques are derived from timeless urban design principles and traditional town planning and were established in reaction to suburban sprawl and to mitigate the domination of the automobile.

The planning and design of each of the case studies required applying alternative planning techniques to large areas of land (500 - 875 acres). Given the scale of these planned areas compared to smaller projects, the traditional tools of default Euclidean zoning (addressing land use) and county or rural highway standards (addressing street network and streetscape) were not preferred. Instead alternative techniques, including zoning overlays, zoning districts, and/or other zoning mechanisms such as new rules and alternative rules, were used to replace or augment the typical planning and regulatory approach.

Two case studies—Villebois and NorthWest Crossing—are on land owned by a single property owner, and the master plan was executed by a single developer. North Bethany was rural land under multiple ownerships that was brought into the county through an urban growth boundary expansion. The county has overseen master planning, and development has been executed by different developers. It is more similar to what is expected to occur in King City Beef Bend South (formerly Urban Reserve Area 6D).

In each case, however, the same master planning design principles have been used. Together the case studies represent a number of exemplary approaches to planning a new community, from the layout of neighborhoods, to the design of streets, blocks, and lots; from mixing land uses and housing types to the integration of natural areas.

Terms and concepts referred to in this document

- Urban design metrics
- Ecological site planning and design
- New urbanism
- Context sensitive design
- Master Plan

Urban design metrics

Urban design metrics are measurements used to characterize the built environment, e.g. the qualities that make one street more inviting than another or one mixed-use center more economically vibrant than another. A useful reference is "Measuring Urban Design: Metrics for Livable Places," written by Reid Ewing and Otto Clemente, and published by Island Press in 2013.

Ecological site planning and design

Ecological site planning and design is the practice of planning for cities in collaboration with nature in order to avoid overloading the limits of land, air, and water resources. This a very broad and evolving practice incorporating the mid-century work of landscape architect Ian L. McHarg (author of *Design with Nature* originally published in 1969) and continuing today with efforts to incorporate more recent definitions of environmental sustainability into urban development. One such effort is LEED-ND (Leadership in Energy and Environmental Design for Neighborhood Development).

New urbanism

New Urbanism is an urban design movement that promotes walkable environments, mixed-use communities, middle housing, and the use of form based codes. The main organizing body for the movement is the Congress for the New Urbanism (CNU) founded in1993 (https://www.cnu.org). In the early 2000s, the CNU joined forces with the Institute of Transportation Engineers (ITE) and drafted the first document devoted to reforming engineering practice and standards so that federal highway standards could be customized within urban areas. This document (*Designing Walkable Urban Throughfares: A Context Sensitive Approach*) initiated a new movement picked up by other organizations such as NACTO (National Association for City Transportation Officials). New approaches allow cities to give equal or greater priority to transit serviceability, walking, and biking while engineering major streets with federal highway funding. (See also: Context sensitive design.)

Context sensitive design

Functional Classification of "roads," or streets, was a system established in the 1960s and '70s, through the Federal-Aid Highway Act. It required the classification of all roads in the country in order to establish funding priorities. Functional Classification tells planners and engineers what types of roads to design and how they should or should not connect, e.g. that Collectors can only connect to Arterials for example. Functional Classification is based on the philosophy of "mobility," which is prioritized for motor vehicle drivers. Highways have limited access, arterial roads have fewer intersections, and local roads are considered optimal when they are cul-de-sacs.

In 2006, CNU worked with ITE to create the manual "*Designing Walkable Urban Throughfares: A Context Sensitive Approach*." In contrast with the Functional Classification system, the CNU ITE manual emphasizes connectivity and placemaking; intersections are encouraged; narrow traffic lanes and on-street parking are permitted; and walkable, multimodal streets are favored over maintaining high-grade Level of Service (LOS), which rewards the free flow of the automobile.

Download and read about the CNU ITE document at https://www.ite.org/pub/?id=E1CFF43C-2354-D714-51D9-D82B39D4DBAD, and https://www.cnu.org/our-projects/cnu-ite-manual. Another helpful reference is *Street Design, The Secret to Great Cities and Towns*, by Victor Dover and John Massengale, (Wiley, 2014).

Master Plan

A master plan is both a planning process and a document that provide comprehensive guidance on policies and design actions that can be taken over time to lead to a particular, physical outcome.

DOCUMENT ORGANIZATION

Each case study gives an overview of the history of the development and provides maps and metrics that can be compared across case studies. Key design and implementation features are highlighted along with lessons learned.

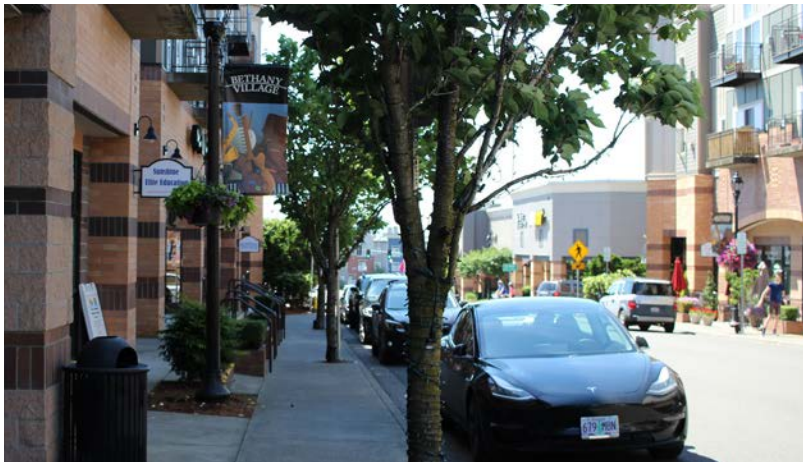
1 | Case Study: Villebois

Section 1 is a case study of the Villebois development in Wisonville, Oregon.

2 | Case Study: NorthWest Crossing

Section 2 is a case study of the NorthWest Crossing development in Bend, Oregon.

DOCUMENT ORGANIZATION



3 | Case Study: Bethany

Section 3 is a case study of the Bethany development in unincorporated Washington County, Oregon.

4 | Critical Success Factors

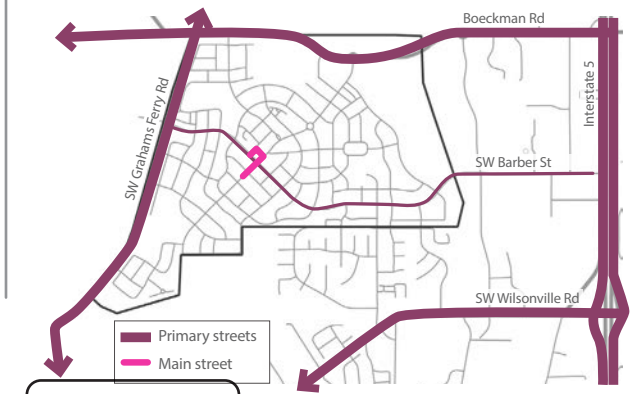
Section 4 builds upon lessons learned from the case studies and details urban vitality elements that work together to create a successful community, neighborhood, and main street or town center.

Critical success factors are organized around four major categories— whole community design, planning at the neighborhood scale, neighborhood design, and main street and town center design—each with a checklist of primary success factors.

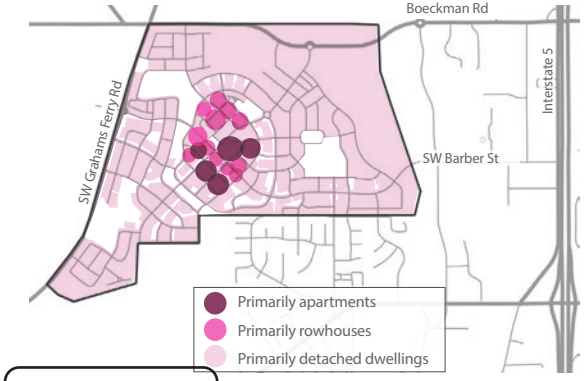
INTRODUCTION TO CASE STUDY METRICS

Case studies by the numbers. A successful, vibrant center needs a critical mass of people, both residents and workers to sustain local business and support efficient transit and other services. For each case study several common metrics demonstrating urban vibrancy have been assembled.

Sample Page



NETWORK



DWELLINGS

Street network metrics

More compact and **connected street networks** tend to have significantly higher levels of people walking and biking and fewer vehicle miles traveled as compared to sparser, tree-like designs, such as those dictated by functional classification hierarchy.

Intersection density is commonly measured by number per square mile, as in Reid Ewing and Robert Cervero's studies for transit and walkability.

American street network intersection densities typically range from as little as 60 intersections per square mile (as in downtown Salt Lake City) to more than 500 (such as the network in downtown Portland, Oregon).

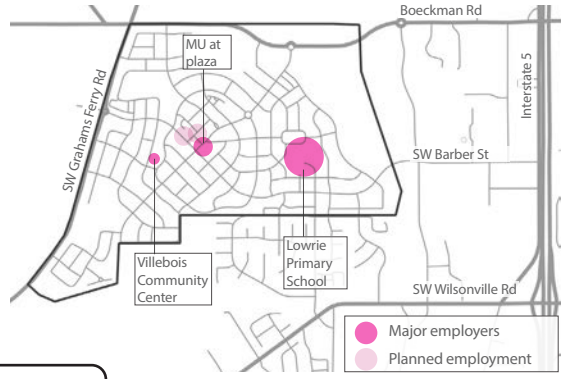
For more information, see https://www.cnu.org/our-projects/street-networks/street-networks-101

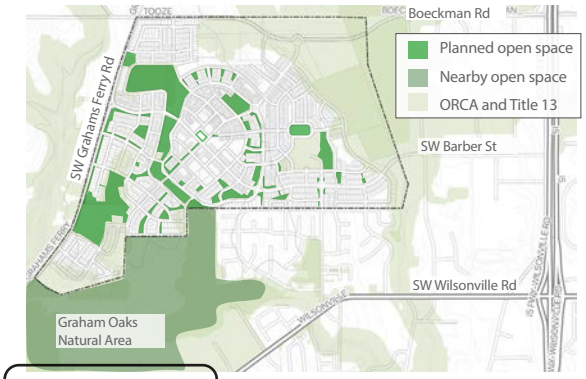
Dwelling metrics

Dwelling density, or the number of dwelling units per acre, is helpful in understanding both the number of households that can support commercial and civic uses and the potential activity level of public amenities, such as parks and schools.

For reference, Metro's approval of the URA 6D urban expansion area stipulated that the new Metro designated neighborhood would ultimately be home to 3,300 dwelling units, at a minimum.

Sample Page





JOBS

OPEN SPACES

Jobs metrics

The **number and distribution of jobs** is a measure of economic prosperity and urban vibrancy. For reference, the 2017 King City market analysis projected that 54,000 to 85,000 square feet of commercial uses were possible within 10 years as part of a neighborhood retail center. The 2020 market analysis identified about 55,000 square feet as more realistic, and recommended a "development scheme consistent with the form, scale, and type of commercial development in Northwest Crossing is advised. From a market perspective, Northwest Crossing is the most analogous case study area to the future realities of URA 6D."

Open space metrics

The URA 6D Concept Plan and King City community vision prioritize the **integration of open spaces** and a variety of open spaces throughout the Beef Bend South area. Programming, variety and physical distribution of open space and natural resource areas is a major differentiating characteristic in each case study, and these metrics and diagrams are intended for comparison purposes.

CASE STUDY 1

Villebois

Location: Wilsonville, Oregon

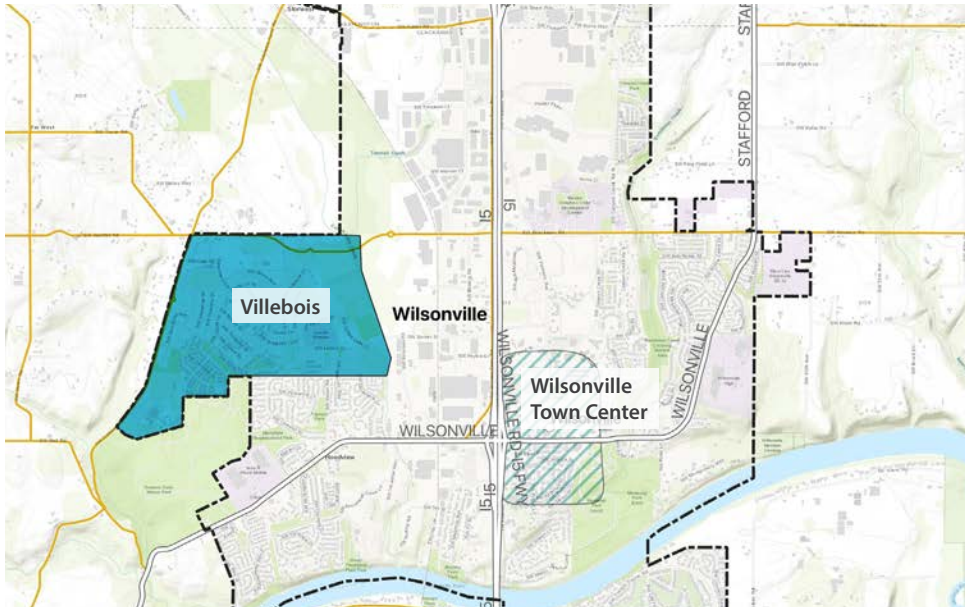
Size: 500 Acres

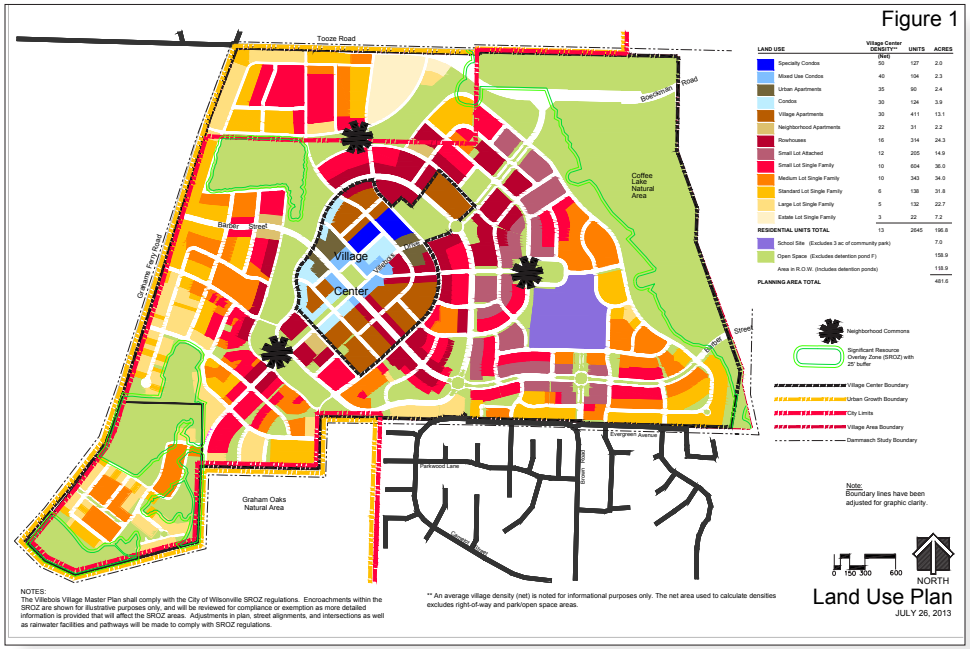
Context: Geographically separated from major streets and employment areas. Surrounding areas are rural or natural in character.

Housing mix: Main street apartment over retail, apartment, boulevard apartment, rowhouse, detached dwelling

Neighborhood design: Interconnected roads and trails link range of housing styles with ample open spaces, protected natural resources, and commercial/employment core

Character of main street / town center: Limited mixed use commercial and higher density residential surrounding an urban plaza.





Introduction

Initial Planning

The Villebois development was the result of city and community advocacy to re-appropriate land slated for a new prison as a planned residential development with small scale commercial. Villebois sits on the site of the former Dammasch State Hospital, which was in operation from 1961 to the mid-90s. After the closure of the hospital the site was identified by the state as the site of a new prison. After pushback from the community due to its close proximity to existing residential neighborhoods and Wilsonville's town center, the prison's location was moved north to what is now the Coffee Creek Correctional Facility. In its place a vision emerged for a mixed-use development integrated into the existing natural areas that surround the site. As part of an inter-governmental agreement with the state, 10 acres were reserved for community housing for people with mental illness.

From the beginning, urban renewal was a major driver of funding and development of Villebois. In 2003, voters overwhelmingly approved the new urban renewal district created by the city. The new district, called the West Side Plan, integrated the majority of the Villebois site and helped fund development and infrastructure improvements. Costa Pacific, the sole developer, had a vision for a mixed-use community with diverse housing types that was well connected to nature and open space. Modeled after designs of European villages, Villebois was planned with a central plaza with commercial uses and dense residential living at the core, surrounded by larger lots towards the edges.

Concept Plan

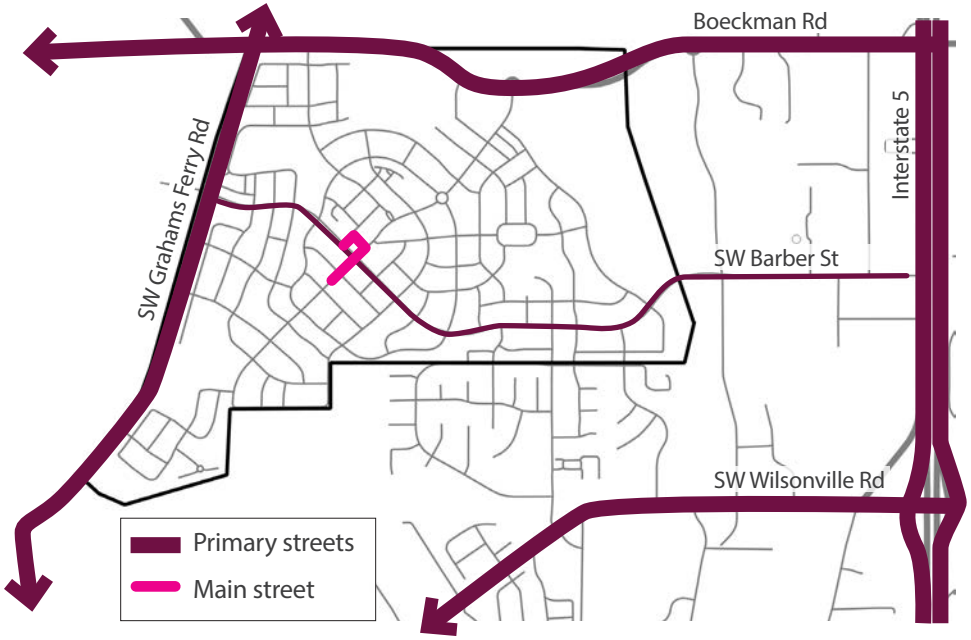
The planning of Villebois began in 2003 when Costa Pacific produced the concept plan. Shortly after the master plan and architectural pattern book, which specifies architectural styles and suitable site and building designs, were produced. These documents built on the initial vision and detailed a diverse community with a mix of housing types at different income levels and the incorporation of nature throughout. A mixed use, dense village center with ground floor commercial spaces surrounding an urban-style plaza was to be the heart of the community. The integration of nature and a connected system of trails and paths was baked into the development concept from the beginning. Villebois sits just north of Graham Oaks Nature Park, a 250-acre regional park with miles of trails which was purchased by Metro just before development of Villebois began. Within Villebois there are a variety of types of open spaces, from pocket parks that help preserve mature trees to a linear park and, most recently, a skate park with linkages to Graham Oaks.

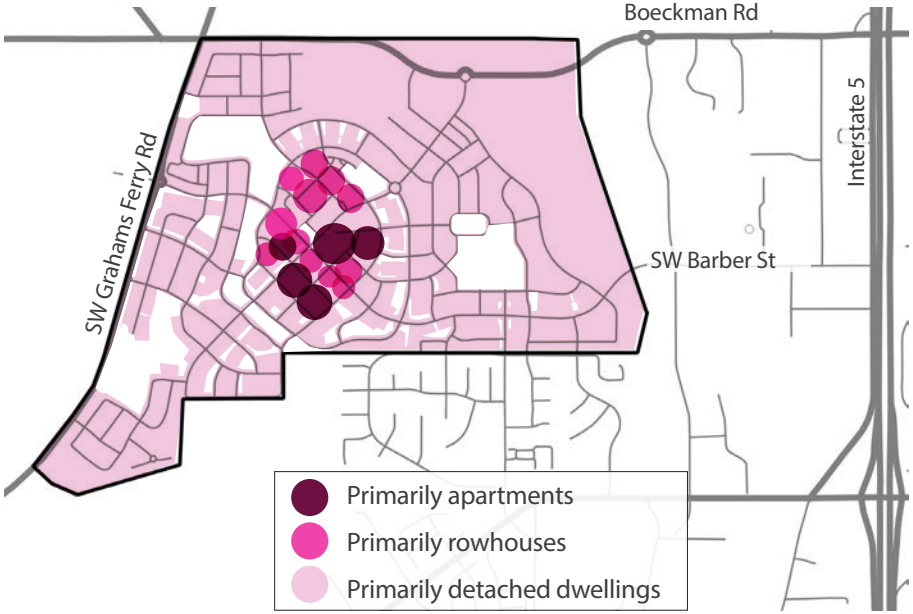
Villebois is mostly built-out, though mixed use commercial development at the Village Center has never been fully realized. By 2010, 700 homes had been built. Though there was some slowing during the 2008 recession, the development has been largely built-out to 2,600 homes.

While residential development succeeded, commercial development has been slow. Villebois has struggled to attract mixed use development in part because the Village center is disconnected from main arterials and lacks visibility from any major street.

To help incentivize development around the plaza, the City of Wilsonville is considering adopting a Vertical Housing Development Zone program which would provide developers with a 10-year partial property tax exemption for mixed use developments. Costa Pacific is hoping to build three mixed use buildings that include ground floor retail and affordable housing above. Villebois has struggled to attract mixed use development in part because the Village center is disconnected from main arterials and lacks visibility from any major street.

Despite the undeveloped commercial areas, Villebois is seen as a desirable place to live. The combination of well-designed streets and homes, and the preservation and incorporation of trees and natural areas have made for a successful development.





NETWORK

INTERSECTIONS PER SQUARE MILE (APPROX.)

200

BLOCK LENGTH

240 x 300 feet average

BLOCK PERIMETER

1,080 feet

WALK SCORE*

36

*walkscore.com

ALLEYS, THROUGH CONNECTIONS, OR PATHS

16 - 18 foot alleys throughout; pocket parks and linear paths throughout

ARTERIALS

SW Grahams Ferry Road (west boundary); Boeckman Road (north boundary)

ARTERIAL CHARACTER

One lane in each direction with intermittent median. Roundabouts and bike lanes on Boeckman Road.

TRANSIT SERVICE

South Metro Area Regional Transit (SMART); one bus line with frequent AM/PM weekday service to transit center

DWELLINGS

PLANNED DWELLINGS

2,300 minimum

DWELLING DENSITY PLANNED

4.6 dwelling units per acre

HIGHEST DENSITY PLANNED

50 dwelling units per acre

LOWEST DENSITY PLANNED

5 dwelling units per acre

HOUSING MIX

Main street apartment over retail, apartment, boulevard apartment, rowhouse, detached dwelling

JOBS

COMMERCIAL

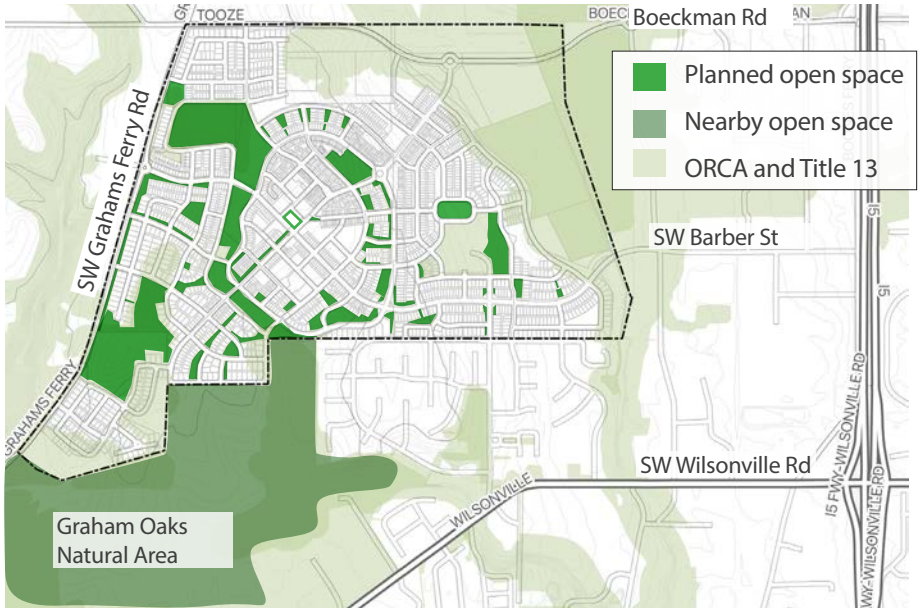
15,000 square feet

LIGHT INDUSTRIAL

0 square feet

CIVIC USES AND MAJOR EMPLOYERS

Lowrie Primary School (10 acre site)



OPEN SPACES

PLANNED OPEN SPACE

60.5

OPEN SPACE TYPES

Trail, linear, community, neighborhood, private, pocket, and urban parks

MUNICIPAL CONTROL

City of Wilsonville, Wilsonville School District, Homeowner's Associations

NEARBY OPEN SPACE

Graham Oaks Natural Area, Tonquin Regional Trail, and Coffee Creek Wetlands

Design

Incorporation of natural areas

Open space is a critical element and defining aspect of vision. Linear parks surround the village center and connect significant open spaces within and adjacent to plan area. Open spaces range from urban style parks to wooded natural areas.

Connectivity to surrounding areas

The Villebois Greenway connects regionally significant open spaces in Coffee Creek Wetlands and Graham Oaks Natural Area, forming the Tonquin Regional Trail. The entire development has 130-acres of trails and open green spaces that function as a linked network.

Diversity of housing

A broad range of homes are permitted to offer residents choice in housing type, style, and price. Housing types include single dwellings of various sizes, attached/ cottage dwellings, rowhouses, and neighborhood, village, and urban apartments. High-quality of designs stem from architectural pattern book.

Varied housing design

Homes have compatible yet varied designs. An architectural pattern book details design features and standards establish elements of architectural styles. All buildings are reviewed by the Planning Director. The Pattern Book addresses the appearance of dwellings from the street and open spaces and includes rules on the scale and proportions for adjacent land uses.

Rigorous streetscape standards

Multiple sources contribute to attractive and functional streets including city zoning regulations, the Villebois Pattern Book and the Community Elements book. The Community Elements book provides the most fine-grained detail by establishing type and location of elements including lighting, street trees, site furnishings, and tree protection standards. Arterial designs include roundabouts, bike lanes, sidewalks, and on-street parking to slow traffic and prioritize a range of users. Neighborhood streets are alley-loaded, allowing for a continuous green strip with regular street trees and on-street parking.

Festival street at the town center

A festival (curbless) street surrounds a central plaza and can serve as a seamless gathering space. During special events the street can be closed to car traffic, allowing activity to spill into the street. This special street is delineated by bollards and pavers to set it apart from nearby streets.

Villebois

Town Center

A central urban-style plaza sits at the heart of the town center. The plaza functions as the social center of the village with an inviting festival street (described on previous page). Large canopied trees provide shade and desirable places to gather, complete with benches, a fountain, and bocce ball court. In the summer concerts and other small community festivals bring larger groups. A mixed use development with ground floor retail and apartments above creates an enclosure on one side of the plaza. Two blocks of diagonal parking allow for easy access to the site while pedestrian-scaled lighting and ample street trees create a walkable urban environment. Housing is most dense at the village center, with a combination of stacked flats and townhomes in the blocks surrounding the center.

The mixed use development at the plaza.

Higher density apartments are a block from the plaza.

Modern rowhouses leading to the town center and plaza.

Implementation

Urban Renewal

From the beginning, urban renewal was an integral tool for the development of Villebois, making it possible to pay for infrastructure improvements. The West Side Urban Renewal Plan which encompasses almost all of Villebois, was created in 2003 after voters approved the development of the community. Primary goals of the West Side Plan included creating a robust transportation network that was internally connected and connected to rest of the city; supporting diverse housing types; and robust natural areas and parks. The district was so successful that in 2016 the area was expanded to included additional lands.

This public/private partnership model added substantial value with the assessed value of the area increasing 22-fold in its first thirteen years. The city anticipates that the West Side Urban Renewal Area will close by 2024.

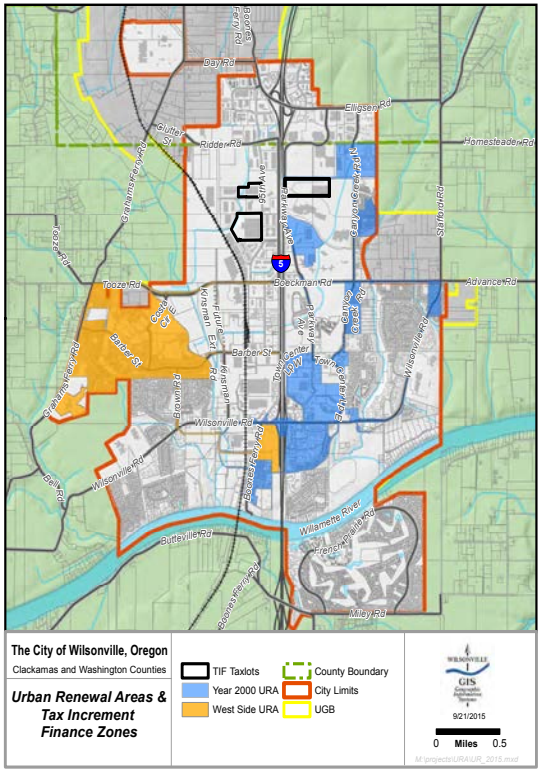
Development and Design

Villebois has its own zoning designation in Wilsonville's development code. Zone "V" permits many housing types including cottage clusters, row houses, duplex, accessory dwelling units, community housing, apartments, and single dwellings. Commercial uses are permitted in the village center, and more limited commercial uses are permitted in "neighborhood centers".

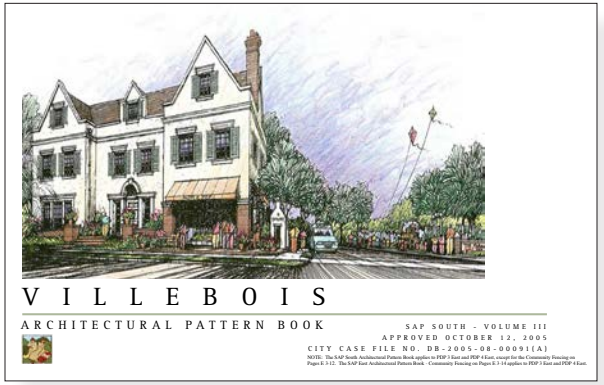
Neighborhood and building design is seen as a success in Villebois, in part because of the cohesive design elements. Two design manuals help ensure high-quality design that meets the goals and vision for Villebois: the Architectural Pattern Book and Community Elements book.

The Architectural Pattern Book includes guidance on site design, how buildings face the street, scale and proportions, as well as a list of appropriate architectural styles. The land use patterns chapter covers land use types and specifies setbacks and building placement by land use type. The architectural styles section illustrates examples from a range of historical and modern styles including French Revival to American Modern. It has detailed imagery of specific exemplary buildings that show how to achieve the required diversity established for the development. A compliance checklist is included to help builders and city officials determine if the building meets all required standards.

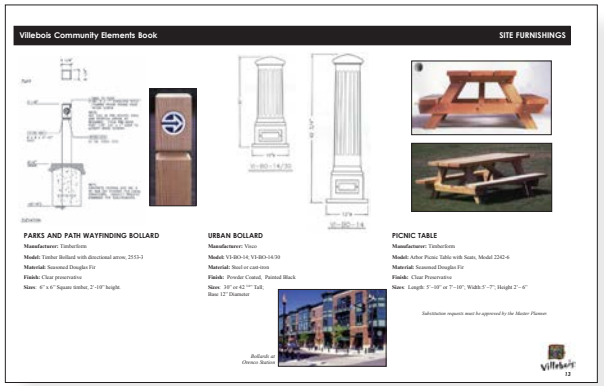
The Community Elements Book is created for each Specific Area Plan, of which there are four total. It serves as the plan for neighborhood design by addressing elements such as street trees, tree preservation, site furnishings and play structures, curb extensions and lighting. These elements establish a cohesive identity and fulfill the goals of diversity, connectivity, and sustainability set forth in Villebois' Master Plan.



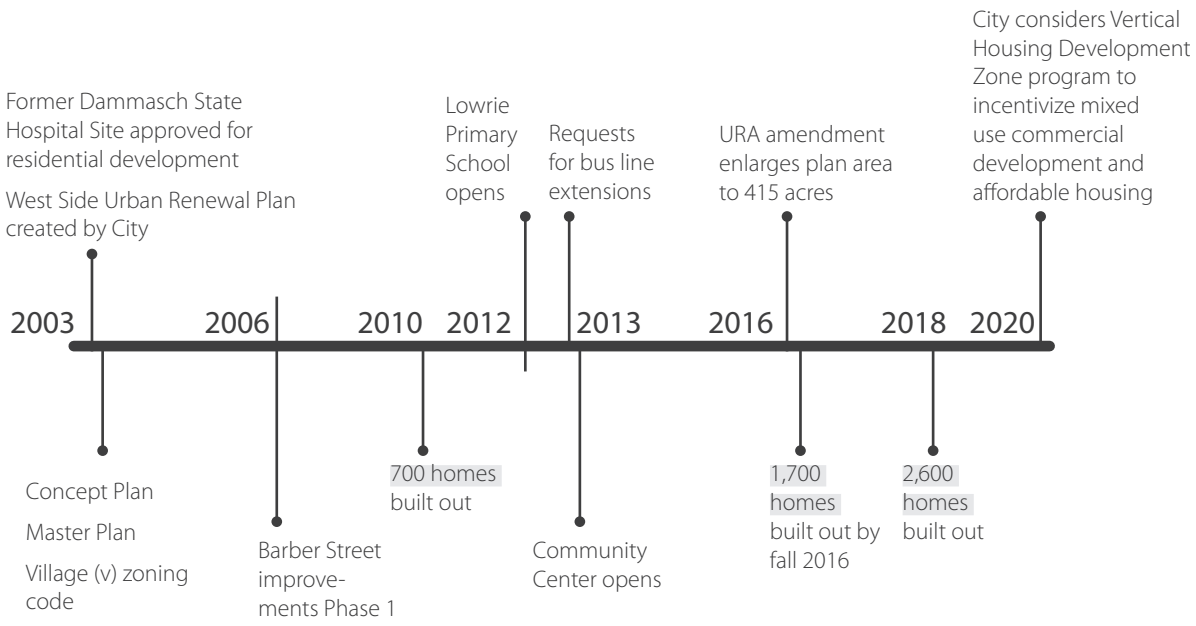
Wilsonville's urban renewal map showing the West Side URA in gold.



Villebois Architectural Pattern Book



Community Elements Book detailing streetscape furnishings.



Incentivizing Commercial Development

While the Villebois Master Plan intended for dense mixed use development surrounding the central plaza, it has yet to take off. High construction costs, low foot-traffic, and lack of visibility from any major arterials are factors that have made mixed use development difficult. The city is still strategizing about ways to realize the initial vision for the Village Center. As part of the Equitable Housing Strategic Plan released in June 2020, the city is considering tax abatement programs that would incentives developers to build affordable housing. A Vertical Housing Development Zone is recommended for the Villebois Village Center to create affordable housing and ground floor retail all at once.

LESSONS LEARNED

» A broad range of natural areas, parks, and trails increases livability, mobility, and home values.

» Connect trails and open spaces to surrounding trails and open spaces to integrate new development with existing region.

» Alleys improve walkability, create opportunities for more street trees, give residents front yards, and allow for more on-street parking for residents and visitors.

» The commercial portion of a development needs to be easily visible and accessible from a major arterial to attract users beyond residents or supported with additional users from nearby employers.

» Consider adaptability of retail spaces so they don't sit vacant. For example, design retail spaces so they can be subdivided (or enlarged) to meet the needs of retailers or office tenants over time. Common service areas, e.g. restrooms, can serve multiple tenants, lower improvement costs, and enable small or startup businesses to establish a presence. Don't preclude office uses in early phases; encourage low or no rent pop-up businesses; occupy storefront spaces with city offices or civic uses (like a library), or developer showrooms.

» Achieving higher density mixed use development at the center may require developer incentives.

» Rigorous tree preservation standards lead to pocket parks that homes can front. These pocket parks provide shade, places to recreate, and increase the overall desirability of the development.

» Urban renewal is a powerful tool that secures funding for regionally significant infrastructure such as street improvements and utilities without burdening developers or homeowners with these costs.

CASE STUDY 2

NorthWest Crossing

Location: Bend, Oregon

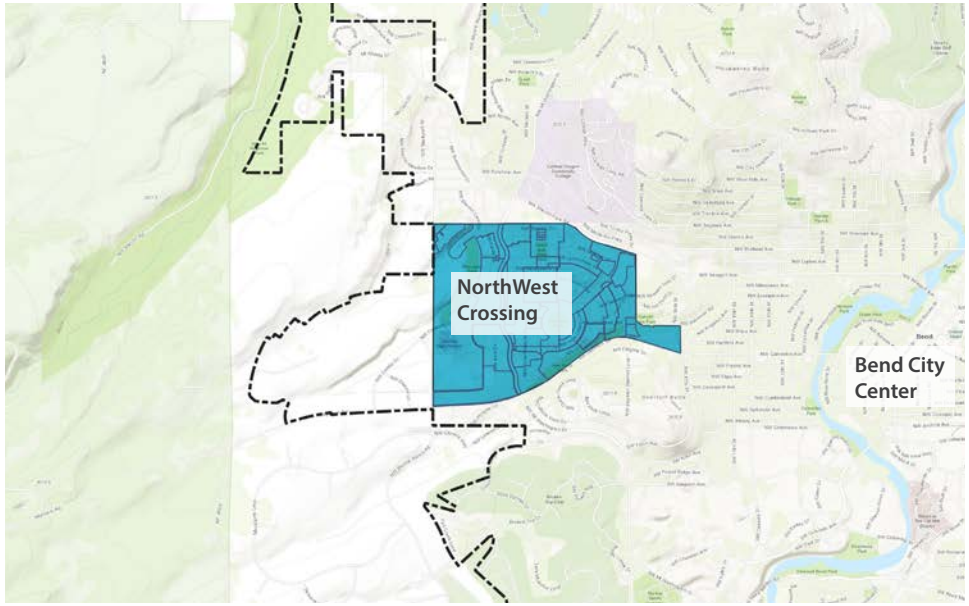
Size: 486 acres

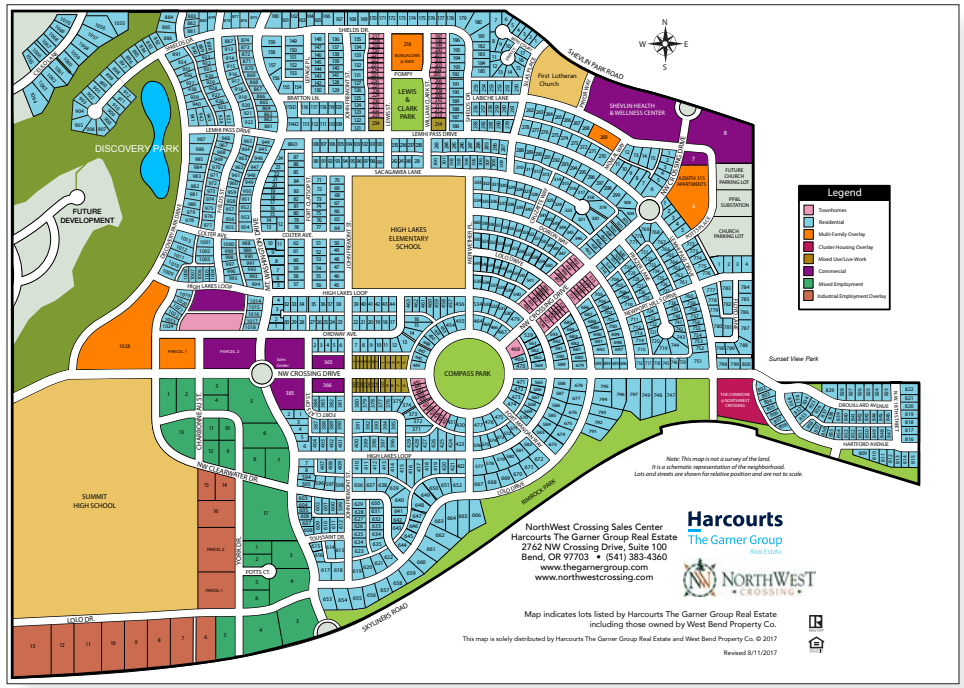
Context: Connected to adjacent residential areas and the commercial/employment areas of west Bend.

Housing mix: Detached dwellings, cottages, cottage cluster, duplexes, live/work units, main street apartment over retail, boulevard apartment, apartment

Neighborhood design: Large range of dwelling types spread throughout connected network of preserved high desert landscapes with town center and employment/light manufacturing uses and neighborhood schools.

Character of main street / town center: Limited mixed use commercial and higher density residential.





Introduction

As private landowners closed the last of their timber mills, they looked to capitalize on the large population growth underway in Bend, Oregon to retain value for their land. Beginning in 1998 the West Bend Property Group (West Bend PC) advocated for a new neighborhood as development extended outward from Bend. They engaged consultants to develop a concept plan and began conversations with the city and community. In the early stages the developer identified the need to design a community of the highest quality to not only differentiate their product in a highly competitive residential market but also to ensure approval from the city and the community. Facing initial stiff resistance to perceived "suburban sprawl," West Bend PC sponsored lectures by national speakers on smart growth topics and a public charrette to gather input.

Design Vision

A design vision emerged for a concept building off the existing character of the high desert landscape. A mixed-use neighborhood was laid out based on the mapping of large ponderosa pines and outcroppings of rimrock with the locations of roads, lots, and sidewalks determined by these preserved natural elements. Another defining feature is its radial layout. In response to concerns over the speed and character of large regional connectors linking NorthWest Crossing to Bend, the developer worked with city engineers to design roundabouts. Three roundabouts control the flow and speed of traffic into and out of NorthWest Crossing; there are no stop lights in the development, and even the largest streets have parallel parking, street trees, and bike lanes.

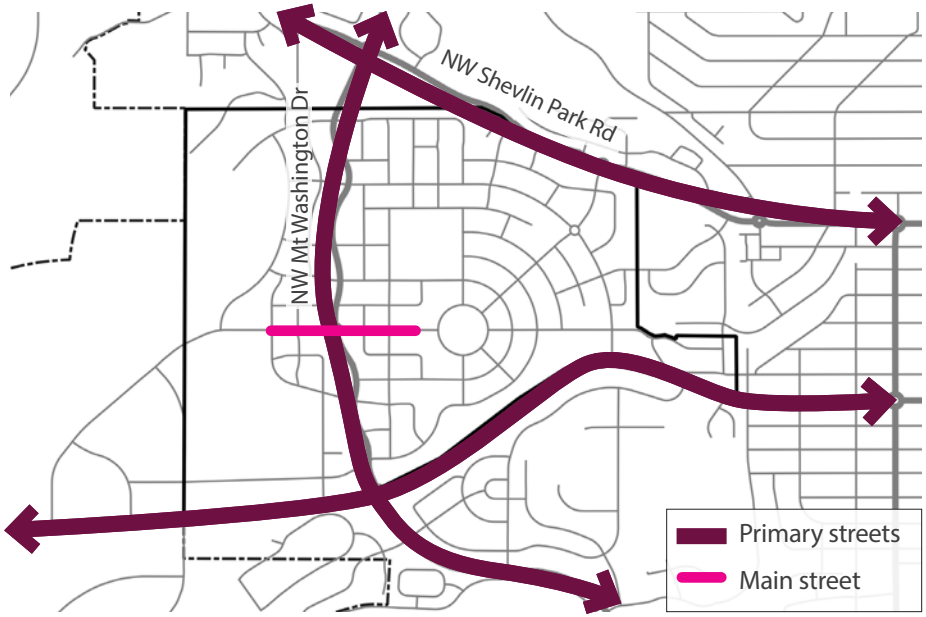
The overall vision for NorthWest Crossing is a mixed-use community that looks and functions like a complete community. A broad range of uses including two schools, open spaces, employment uses, commercial spaces, and a mixed-use town center are connected with a mile and a half of paved trails that also link in to surrounding regional open spaces and trails. All roads (including alleys and mid block crossings) and parks were developed by West Bend PC and dedicated to the City of Bend. An overlay zone was approved by the city to permit a broader range of uses, special street standards, and consolidated parking for employment uses.

Master Planning

Fundamental to the vision was the desire to have a development that did not look like it was built by one builder. The master plan arrayed different housing types using a transect concept that arrays housing types from most dense in and adjacent to the town center to least dense along the edges of the rural surrounding land. Lots were auctioned off in small phases to pre-approved builders in a lottery system. Detailed development guidelines and design standards for residential and commercial uses and a prototype book based on historic catalog plans guide builders' designs. An architectural review committee designated by West Bend PC reviews all designs. The building quality and diversity is a key feature of NorthWest Crossing.

The town center with main street surrounded by employment uses, commercial buildings, two-story mixed-use buildings with ground floor retail, and attached dwellings at higher densities. Fundamental to its success are the design of its streetscapes and the large number of adjacent office uses. West Bend PC sold several lots to another developer who built office spaces and marketed them based on the lifestyle of NorthWest Crossing. Several high profile light industrial and software companies have located there, including the head quarters of HydroFlask and Ruffwear. Other commercial development includes a communal office space targeted to the high rate of people working from home in Bend, professional offices within and adjacent to the town center, and a large medical campus at the NE entry to the neighborhood.

The last phases of construction at NorthWest Crossing are being developed this year with construction spanning from 2001 to 2021. The final phase of the town center is being constructed with a public market hall, mixed-use commercial building, and 33-unit building. This is on the heels of the development of 132 apartment units, a cottage cluster, and other narrower-lot detached dwellings. Building off the success of NorthWest Crossing, the West Bend Property Co. is planning to develop an additional 1,750 housing units to the west as a second development. The development has been very successful with homes retaining high values even during the height of the recession.



NETWORK

INTERSECTIONS PER SQUARE MILE (APPROX.)

225

BLOCK LENGTH

230 x 320 feet average

BLOCK PERIMETER

1,100 feet

WALK SCORE*

47

*walkscore.com

ALLEYS, THROUGH CONNECTIONS, OR PATHS

14 - 16 foot alleys throughout; pocket parks and linear paths throughout

ARTERIALS

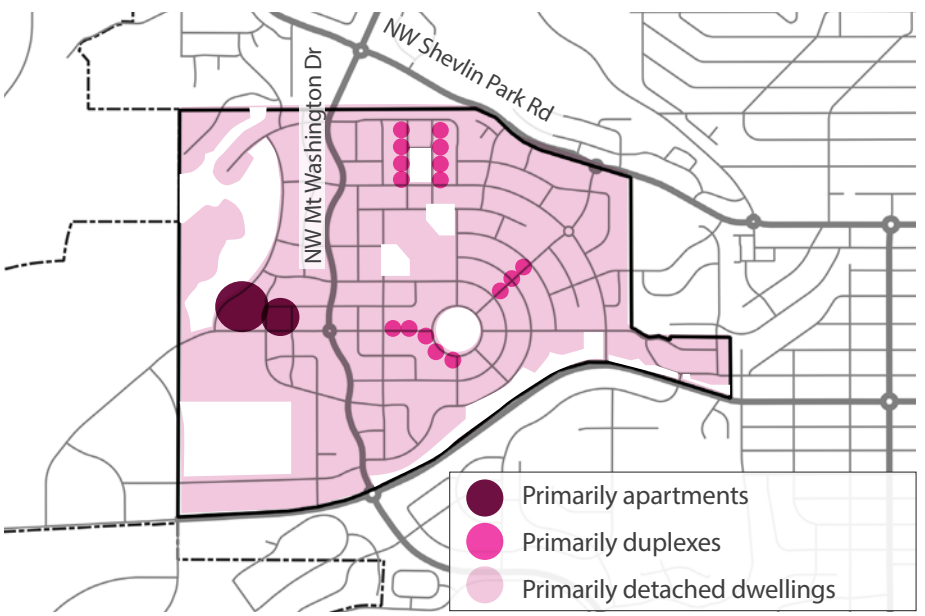
NW Shevlin Park Rd (partial north boundary); Skyliners Rd (south boundary); NW Mount Washington Drive (bisect)

ARTERIAL CHARACTER

Roundabouts throughout. Bike lanes and on-street parking on NW Mount Washington Drive.

TRANSIT SERVICE

Cascades East Transit (CET); one bus line along Shevlin Park Rd with frequent service to transit center.



DWELLINGS

PLANNED DWELLINGS

1,500

DWELLING DENSITY PLANNED

3 dwelling units per acre

HIGHEST DENSITY PLANNED

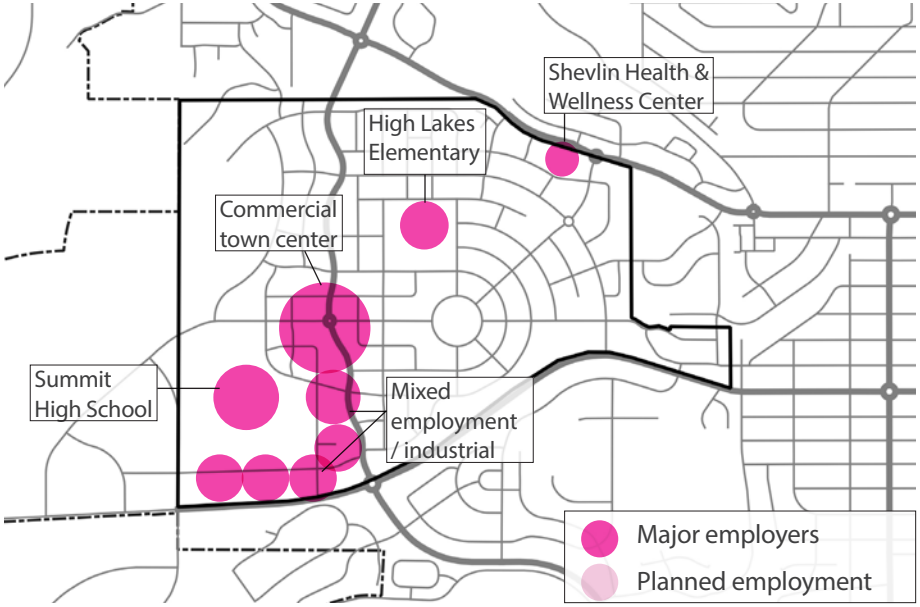
19 dwelling units per acre

LOWEST DENSITY PLANNED

7.2 dwelling units per acre

HOUSING MIX

Main Street apartment over retail, boulevard apartment, apartment, live/work units, duplex, cottages, cottage cluster, detached dwelling



JOBS

COMMERCIAL

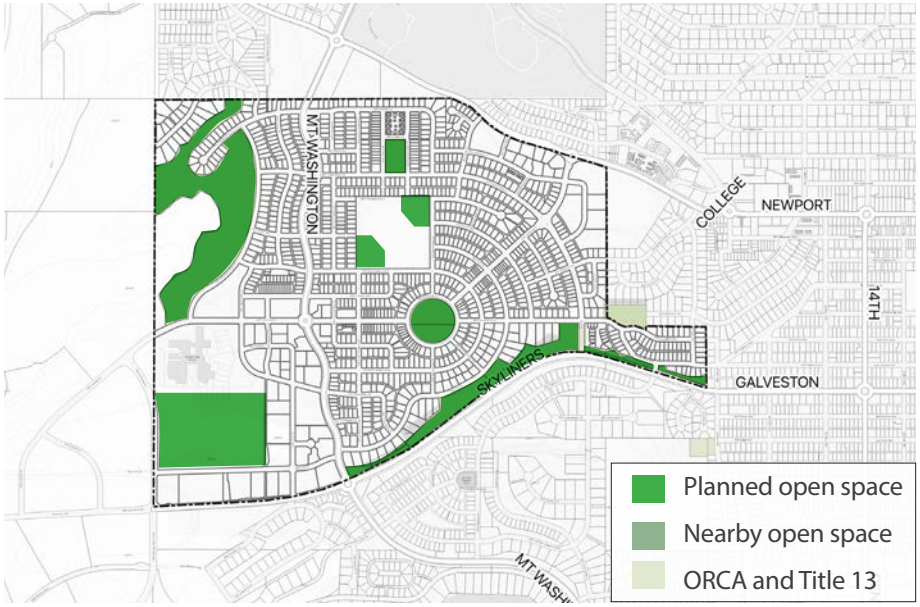
55,400 square feet

LIGHT INDUSTRIAL

43,000 square feet

CIVIC USES AND MAJOR EMPLOYERS

Summit High School (48 acres), High Lakes Elementary School (15 acres)



OPEN SPACES

PLANNED OPEN SPACE

75 acres

OPEN SPACE TYPES

Trail, linear, community, neighborhood

MUNICIPAL CONTROL

City of Bend, Bend School District

NEARBY OPEN SPACE

Shevlin Park, Deschutes National Forest, Phil's Complex

Design

Varied housing design

By pre-approving builders and distributing lots through a lottery system, the developers dispersed building styles throughout the community. Widely varying housing styles make NorthWest Crossing look and feel like an established neighborhood rather than a subdivision. This approach also increased competition among builders to differentiate their product to increase sales. Builders submit individual designs to an Architectural Review Committee that reviews designs using the Residential and Commercial Architectural Standards.

Preserved high desert landscape

The design started with detailed mapping of natural resources and significant trees. Streets, sidewalks, and lots were laid out to preserve and showcase these elements as resources. The high desert landscape is a defining attribute of the design of NorthWest Crossing.

Diversity of housing

A broad range of housing types are dispersed throughout the neighborhood using a transect of established prototypes. Higher density housing is located near the two commercial centers or adjacent to parks. Detached housing has varying lot sizes with different prototypes intermixed throughout the district in subdistricts based on setbacks and lot widths. The range in housing types translates into choice, a range of price points, and the ability to age in place.

Mix of uses

The neighborhood was designed with a full range of uses,15-acres of mixed-use employment, 40-acres of industrial uses, and the high school are clustered south of the town center. The added activity of people who work and go to school in NorthWest Crossing translates into a viable town center that is a functional center of gravity for the community.

Circulation/Roundabouts

Four roundabouts define the layout of streets and blocks in NorthWest Crossing. There are no streetlights needed in the neighborhood. The roundabouts slow down cars while handling traffic safely and efficiently. Their design and use were critical in winning public support for the project, and the city has subsequently adopted their use in other neighborhoods. Additionally blocks were designed to be small with frequent intersections including mid-block crossings and alleys. The block size in neighborhoods ranges from 300 to 500 feet with block sizes decreasing to rouhgly 275 feet in the town center.

Network of connections

The neighborhood is designed with a dense network of intersections and narrow neighborhood streets with curb extensions, sidewalks, street trees, and on-street parking. All blocks are alley-loaded. Mid-block pedestrian crossings and a mile and a half of paved trails offer alternate ways to connect through the neighborhood and are linked to surrounding regional trails/resources and a network of mountain bike trails. Slower traffic speeds and attractive streetscapes with street trees, grates, seating, and lighting reinforce the pedestrian orientation of streets.

NW Crossing

Town Center

A four-block concentrated mixed-use center of retail, commercial, and second floor residences and offices is located on the western edge of the neighborhood. Wide sidewalks with attractive streetscapes frame a narrow main street lined with 2-3 story buildings. More dense types of housing including apartments and live/work units surround and support activity in the town center. Buildings form a streetwall with mid-block pedestrian passageways. Outdoor dining and plazas are located in setback areas. The intersection frequency, mid-block passageways, and appealing streetscapes translate into high levels of activity within and leading to the town center. Parking is available on-street and in shared lots behind buildings that are managed collectively. The focus of retail uses is on community-serving uses, with no large anchors. Main Street hosts a weekly farmers market and other events throughout the year and functions as a heart of the neighborhood.

Buildings in town center form street wall or are set back for plazas/outdoor dining

Employment uses adjacent to the town center have attracted a range of tenants including anchor tenants such as HydroFlask.

Higher density apartment and mixed-use projects in the town center were built in later phases.

Implementation

Public engagement

The developer sponsored public charrettes to present concepts and solicit feedback. There was significant opposition to perceived suburban sprawl of new development. The developer responded to these concerns by engaging in conversations and sponsoring lectures by national leaders in Smart Growth to educate about design concepts. A turning point was the design of roundabouts to lessen traffic speeds and avoid large, regional connector roads. The developer partnered with city engineers to design a solution that would meet dual objectives. The roundabouts in NorthWest Crossing were the first roundabouts constructed in Oregon.

Overlay zone

The master plan was adopted and codified in an overlay zone. The NorthWest Crossing Overlay Zone permits different densities and a mix of uses. It also permits consolidated parking (particularly for employment uses) and limits industrial uses to light manufacturing. Smaller lots were permitted to increase density levels and additional types of housing were allowed.

Use of prototypes

The master plan is zoned according to four prototypes that determine scale, character, use, and construction type along a transect from urban to less urban.

» Town Prototype – 2-3 story façade built to sidewalk line; attached commercial, mixed-use, apartment or townhome; 12 - 19 dua

» Village Prototype – 2-3 story façade permits 10-foot landscaped dooryard setback; ; attached commercial, mixed-use, apartment, townhome, duplex or cottage; 12 - 19 dua

» Neighborhood Prototype – detached dwellings with range of lot sizes (4,000 – 8,000 SF) mixed throughout the district in subdistrict with alley-loaded parking; permits ADUs; 7.3 max dua

» Edge Prototype – irregular or extra deep lots or near designated natural areas; detached residential or industrial; max 2 dua

A Prototype Handbook provides detailed development standards for both residential and commercial development. These development standards are codified in the City's overlay zone. Architectural standards for residential and commercial uses address topics including decks and porches, driveways, duplication of building designs, exterior colors and design treatments, lighting, walls and trims, fences, garages, landscaping, and tree preservation. A pattern book of preferred architectural styles based on historic catalog of plans helps builders interpret traditional styles while meeting the design standards. Together, these regulatory tools establish a rhythm and scale for buildings while promoting both overall harmony and distinction between individual buildings.

Street types

The neighborhood was designed with small blocks and frequent intersections. Street types from the master plan were codified as Special Street Standards in the Overlay Zone. Street types tentative locations and alignments were mapped with standards corresponding to street types. Alternate standards are permitted through an approval process. Language permits the use of any lesser street standards adopted later. Street tree guidelines apply to designated areas defined by distinct types of trees.

Employment and light industrial

Commercial development includes a communal office space targeted to the high rate of people working from home in Bend, professional offices within and adjacent to the town center, and a large medical campus at the NE entry to the neighborhood.

LESSONS LEARNED

» Excellence in the overall neighborhood design and design of open spaces and streetscapes and range of housing types has translated into market value. Sales have remained strong, even during the 2008 recession, with steady home values.

» Compared to Villebois, the town center has succeeded due to high visibility from a primary arterial and roundabout, limited number of commercial spaces phased over time, and close proximity of employment uses.

» All parks and streets (including alleys) were developed by the developer but transferred to the City of Bend for public ownership. There is no homeowners association.

» More intensive mixed-use development and higher density residential uses were not developed until the final phases. This minimized the amount of time spaces sat empty.

» Using roundabouts to reduce the traffic speed on arterials allowed design that emphasizes other modes and avoids the use of street lights and regional connector lane widths. Even arterials have a pedestrian-oriented character with street trees, green strip, bike lane, and on-street parking. Frequent intersections and shorter block lengths improve walkability and prioritize pedestrians over vehicles.

» Shared parking district for commercial uses reduces the amount of area needed for off-street parking. Community commercial uses limited to 5 parking spaces.

» Architectural Review Committee established to review and approve all development for consistency with residential architectural standards.

» Lottery system for allocating lots to builders promoted authentic variety in building forms and promoted competition for higher quality products.

» Phases were small and discrete so construction zones were confined. Any inconveniences to residents was reduced. Potential buyers could see how development would look and feel given incremental progress toward achieving the vision.

» Affordable housing was not identified as a critical need in early stages of development. As a result, there is a limited amount of affordable housing. Average home prices for single dwellings range from $465,000 - $895,00. A recent workforce housing project attempts to address this lack with 50 new apartment units. The developer has also donated eight lots to a local land trust and developed 53-unit senior apartment building.

» Planning for two schools (elementary and high school) improved marketability of development.

» Design for transit even if transit service does not yet exist. Densities in NorthWest Crossing are between 10 and 20 dwelling units per acre. Over the years a few transit service agencies have provided fixed route service to NorthWest Crossing. In early 2020, the OSU-Cascades Microtransit Pilot Project started serving the portion of NorthWest Crossing east of Mt Washington Drive on an app-driven, on-demand basis. When the region permanently addresses transit service, NorthWest Crossing will continue to accommodate transit.

CASE STUDY 3

Bethany

Location: Unincorporated Washington County, Oregon

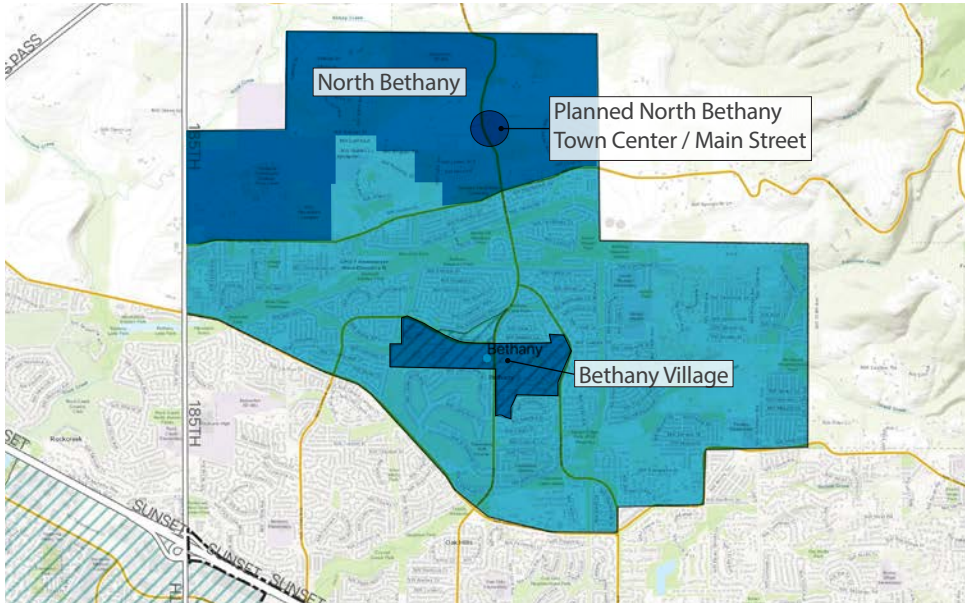
Size: 1,936 acres (875 acre North Bethany subarea)

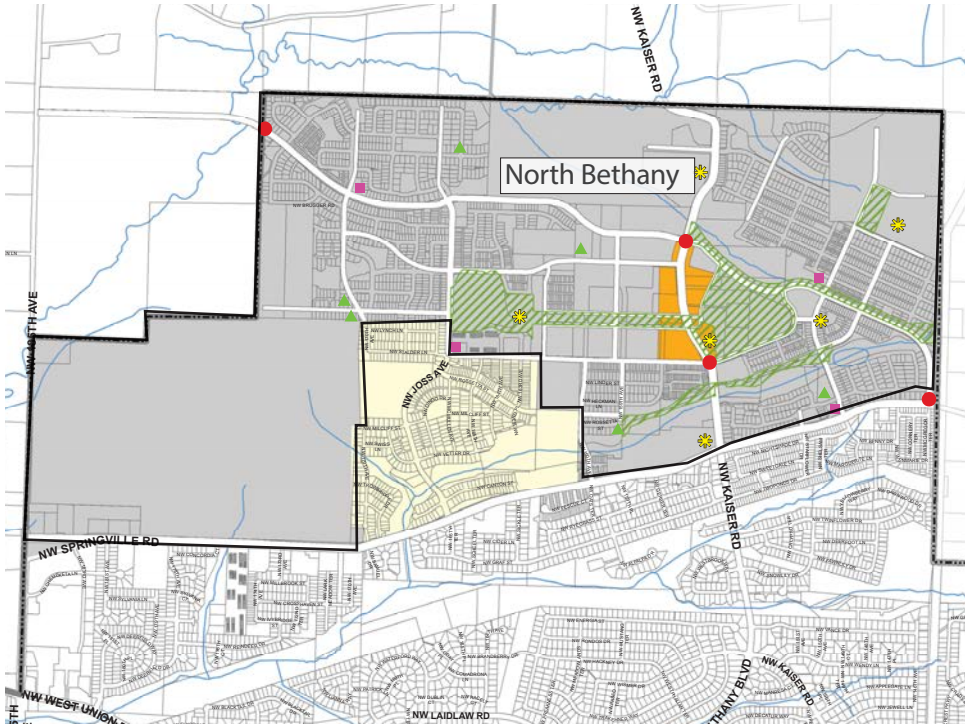
Context: Geographically separated from Bethany Village. Surrounding areas to the north, east, and west are undeveloped and rural in character.

Housing mix: Detached dwellings, duplexes, rowhouses, main street apartment over retail, apartments

Neighborhood design: Different housing types centered around neighborhood town centers with focal points of civic uses and large natural stormwater treatment areas and powerline corridors.

Character of main street / town center: Limited mixed-use retail with apartments above surrounded by larger retail uses. North Bethany planned for mixed-use retail/ commercial linking higher-density housing with parks/park block.





Introduction

Bethany Community Plan

The 1,936-acre Bethany subarea was added to the UGB in several installments to address the need for more housing in Washington County. The initial Bethany Community Plan identified five subareas within Bethany and designated a town center. The Community Plan designated comprehensive plan policies with maps and land uses for each of the five areas. Adopted in 1983, the Community Plan served as the basis for UGB expansions in 1992, 2000, and 2002. The County subsequently adopted a Unified Capital Improvement Plan to direct investments in public facilities and services to support new growth. A second community planning effort for the 875-acre North Bethany Subarea took place between 2006 – 2010 and was adopted as an additional chapter to the Bethany Community Plan in an effort to update the original vision and planning practices.

The vision for development identified residential neighborhoods set in the context of a few key natural features (Rock Creek, Bronson Creek, and Bales Pond). Primarily detached residential uses were spread throughout subareas, with a smaller concentration of commercial and retail uses and higher density attached dwelling units in the town center. Broad guidelines called for pedestrian and bicycle pathways allowing public access through neighborhoods. Individual design elements for each subarea articulated aspects of the vision.

Construction began in the 1990s. Since then the area has gone from 554 residents to roughly 22,350 residents. Washington County is the approval body, using Comprehensive Plan land use designations, the Community Development Code, and the Community Plan vision to guide development. As part of their projects, developers funded and constructed needed road improvements. Land was annexed by the Beaverton School District and Tualatin Parks and Recreation District to provide services to new residents.

Bethany Village Town Center

The 16.46-acre town center was developed in 2002 by Central Bethany Development Company. Construction has continued until 2016 with one vacant lot remaining at a prime corner. The core of the town center is a block and a half main street lined with 3-story mixed-use buildings and a plaza with a fountain and tiered seating. The vision was of a walkable center with an urban lifestyle in a small-town atmosphere. The anchor tenant is the public library with a cluster of supportive educational and after-school uses in adjacent commercial spaces. Surrounding the main street are commercial and retail uses, including large format retail spaces and small commercial spaces. Higher density projects surround the main street, bridging NW Bethany Boulevard. The Town Center is served by one bus line offering weekday service. While the Bethany Village Town Center does serve as the civic core of the larger subarea, its prime function is as a regional shopping and service destination.

North Bethany Subarea Plan

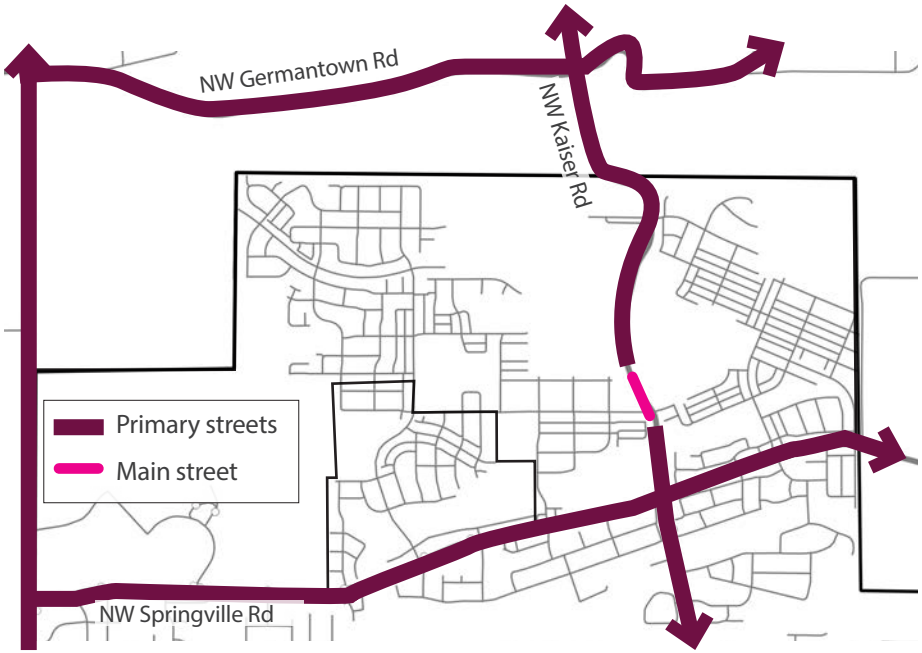
Given that several different private developers built parts of Bethany with limited design guidance, the primary form of development has been isolated suburban neighborhoods. In response to these limitations, Metro sponsored the North Bethany Subarea Plan. Given the state of urban design practice, we have focused our analysis primarily on North Bethany.

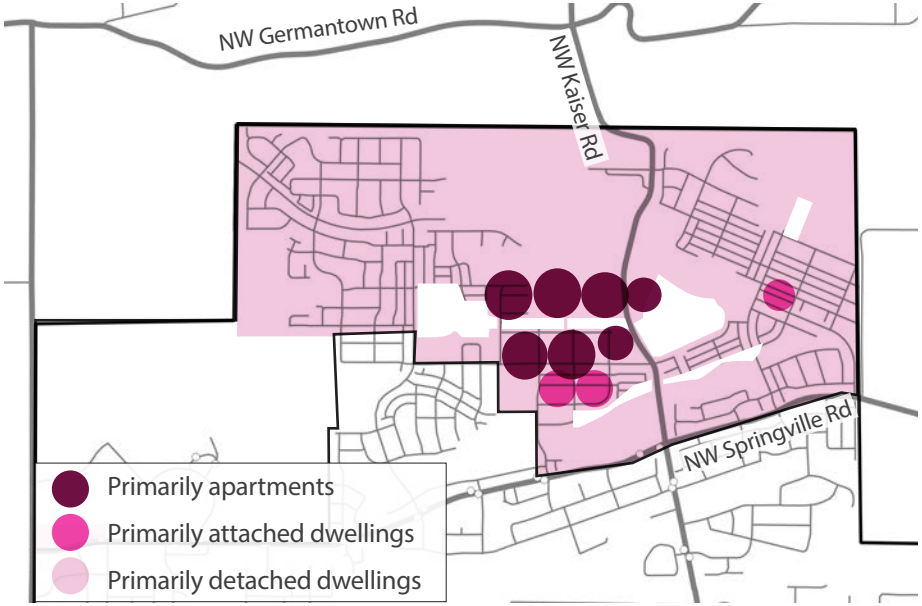
Located in the NE corner of Bethany, the vision for North Bethany is a more densely developed complete community with urban services. This includes several neighborhoods arrayed based on landforms (primarily hilltop ridges) organized around two community parks and a neighborhood center. The design takes advantage of natural features and integrates stormwater treatment areas as defining open spaces that connect residents and users.

Key to the vision for North Bethany is a neighborhood center as a center of gravity along NW Kaiser Road. This 4-block long node is envisioned as a dense commercial district. The main street will be lined with mixed-use and high-density residential buildings. Prominent corner design elements will frame gateways, and a planned park block leading to a large community park will link residents through the neighborhood to the center. Given the importance of the center to the vision and its location on a high-speed regional arterial, the county led an urban design plan for the main street. Through several public charrettes the county developed detailed guidance that was amended to the North Bethany Plan. No retail has been constructed yet. It is anticipated that construction will begin in the next several years. Any new development will need to meet design standards for the main street area.

The vision is for 10,000 residents living in 4,000 dwellings. A range of housing types are permitted in base zones with minimum and maximum densities that include a bonus in the main street area of up to 32-40 units per acre. Development and design standards address building location and design. Standards are limited in scope though and no pattern books or typologies are used to implement the vision for a broad range of housing types and price points.

Construction began in 2013, with the first subdivisions beginning construction in 2015 and 2017. New street cross sections were adopted as part of the North Bethany Plan to introduce additional streetscape amenities while still meeting the minimum width of County Road Standards. Some developments have private streets however. The majority of neighborhoods are alley loaded with parallel parking on all roads but arterials. Bike lanes are limited to a few areas.





NETWORK

INTERSECTIONS PER SQUARE MILE (APPROX)

NA

BLOCK LENGTH

220 x 400 feet average

BLOCK PERIMETER

1,240 feet

WALK SCORE*

NA

*walkscore.com

ALLEYS, THROUGH CONNECTIONS, OR PATHS

18 - 20 foot alleys throughout; pocket parks and linear paths throughout

ARTERIALS

NW 185th Avenue (west boundary); NW Springville Road (south boundary); NW Kaiser Rd (bisect)

ARTERIAL CHARACTER

One lane in each direction with no shoulder. Bike lanes on NW Springville Road

TRANSIT SERVICE

Trimet Service Line 67 with frequent service to PCC along NW Springville Rd

DWELLINGS

PLANNED DWELLINGS

4,000

DWELLING DENSITY PLANNED

4.6 dwelling units per acre

HIGHEST DENSITY PLANNED

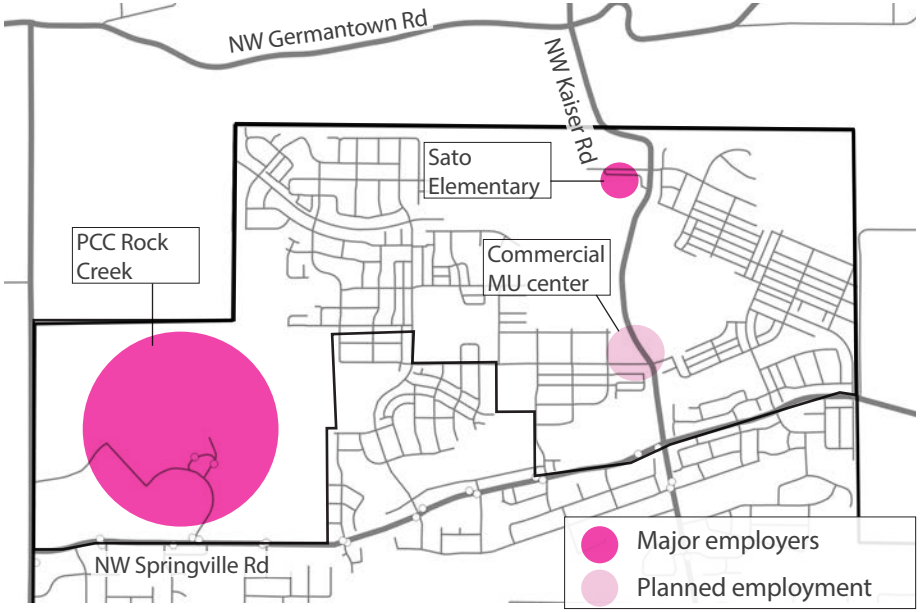
24 dwelling units per acre

LOWEST DENSITY PLANNED

5 dwelling units per acre

HOUSING MIX

Apartment, boulevard apartment, rowhouse, detached dwelling



JOBS

COMMERCIAL

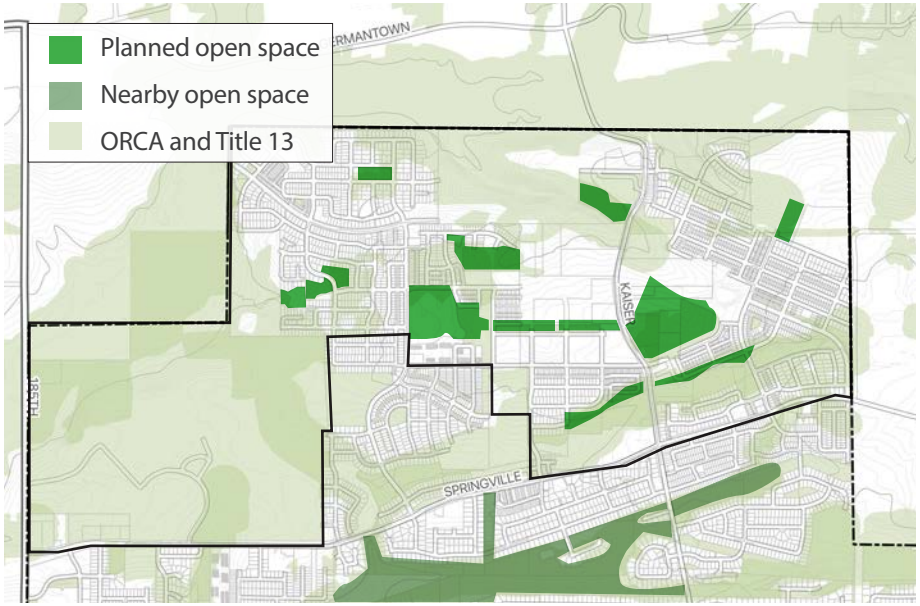
0 square feet

LIGHT INDUSTRIAL

0 square feet

CIVIC USES AND MAJOR EMPLOYERS

PCC Rock Creek (260 acres), Sato Elementary School (9.5 acres)



OPEN SPACES

PLANNED OPEN SPACE

29 acres minimum

OPEN SPACE TYPES

Open space, trail, linear, community, neighborhood

MUNICIPAL CONTROL

THPRD

NEARBY OPEN SPACE

Forest Park, Rock Creek, Bethany Lake Park

Design

Incorporation of natural areas

Critical to the design vision is the integration of "natural" open areas and parks and trail corridors. These pre-planned elements are two-fold - treating stormwater and offering open space areas. Large stormwater facilities buffer neighborhoods from one another while also functioning as secondary pathways. Links across arterials are limited however, as are connections to other regional trails and natural areas.

Diversity of housing

A broad range of housing types offer residents choice. Different types are designated through different land use zones with minimum and maximum densities. Density bonuses are available in the North Bethany neighborhood center. Housing types include detached homes (including narrow lots), duplexes, triplexes, quadplexes, rowhouses, and apartments. Variations in the placement and design of different types is primarily dictated by private developers.

Walkable, pedestrian-oriented streets

Streets are planned in a connected network. Neighborhood streets are alley-loaded with a continuous green strip, street trees, and parallel parking buffering the sidewalk. Adopted street design cross sections identify how to meet pedestrian and bicycle needs while still meeting county standards around travel width.

Focused community points of activity

Civic uses including the library, elementary schools, and parks serve as nodes. They define the center of activity in different neighborhoods while also serving as points where different areas are connected to make a larger community.

Connecting trail corridors

Multi-use trail corridors provide a secondary way for residents to connect between different neighborhoods east/west. They also offer a valuable recreational asset. New development in North Bethany will add additional trails, although connections to the existing system are limited given development patterns.

Parking design and amount

Parking for new higher density developments is located behind buildings. Development standards require seperated pedestrian pathways that connect to entries. Parking standards are 1 per detached unit and 1.5 spaces per 2 or more bedroom units. Parallel parking is provided on all neighborhood streets.

Bethany

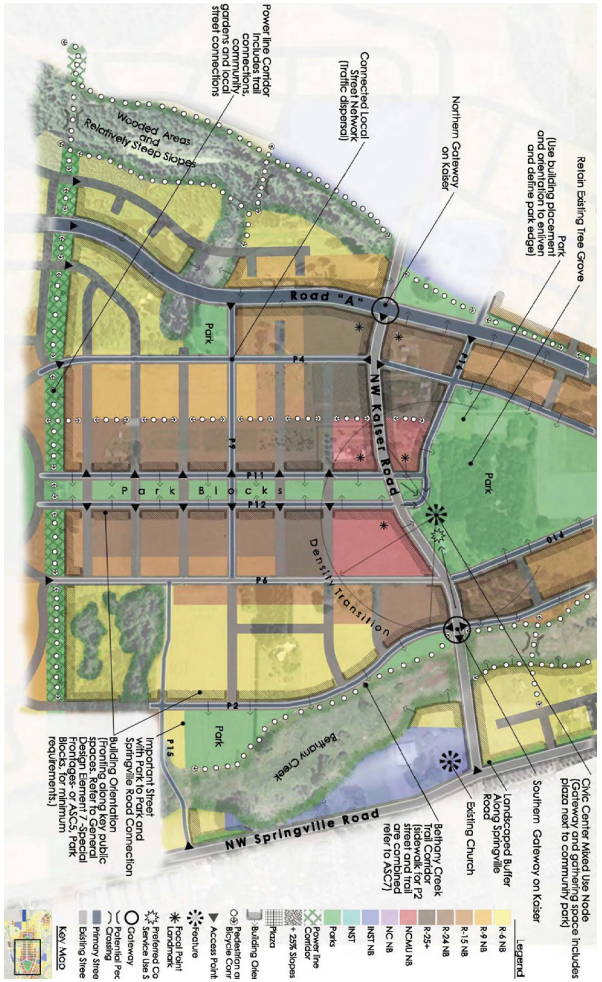
Town Center

The Bethany Town Center is a Metro-designated Town Center with retail and commercial uses serving the entire community of 22,000+ residents as well as the larger region. Large anchors include QFC and Walgreens. The town center was envisioned as a walkable village with a small town character. The core is a block-long main street lined with 3-story mixed use buildings with Main Street apartments over retail spaces. The town center serves as a civic heart with the library and plaza and fountain as gathering places. The development bridges both sides of NW Bethany Boulevard with commercial, retail, and residential spaces. Additional open spaces are planned for the west side of the town center. A wide range of housing types are provided. Roughly 1,500 residents live in the town center while 1,125 people work there. Despite its main street design, the primary function of the town center is as a retail destination.

In contrast, the North Bethany Neighborhood Center is envisioned as a community-serving center connected to the surrounding neighborhoods. Community destinations include a park block, civic spaces/ buildings, and high-quality pedestrian environment. The commercial center will be located in a highly visible spot along the arterial NW Kaiser Road. Smaller retail and office uses will fill mixed-use buildings and apartment buildings in a density range of 19 – 50 DUA. Key to implementation are adopted street sections for the main street area with wide sidewalks, bike lanes, and attractive streetscapes to mitigate the 102-foot width of NW Kaiser Road and facilitate crossing. A transit service plaza has been identified for future development if TriMet extends service.

Mixed-use buildings form a limited dense core in Bethany Town Center.

The plaza serves as a civic gathering space. Paths of all users cross, sometimes in competition with one another.



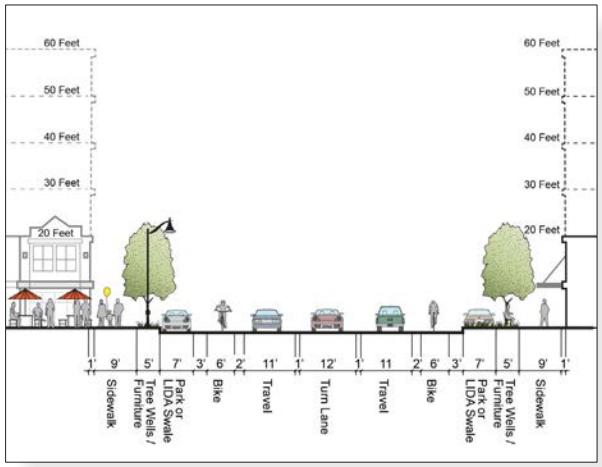
Plans for North Bethany's neighborhood center include linear park blocks and a revised cross section for the arterial serving as its spine.

Implementation

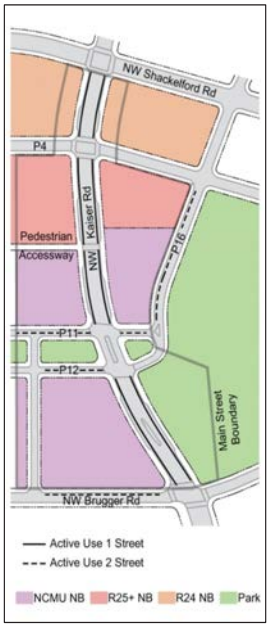
Adopted Street Cross Sections

The vision for North Bethany is a highly walkable and bikeable neighborhood with wide sidewalks, bike lanes, and attractive streetscapes. The plan balanced accommodating vehicles by targeting priority streets for the most pedestrian friendly design. These include the main street spine along NW Kaiser Road, the east-west streets running through the park blocks, NW Brugger Rd, and two future roads adjacent to the planned community park. A street design plan keys planned streets to specific design cross section types that were approved for the entire subarea. These cross sections meet the dual goals of the design vision for North Bethany and Washington County engineering concerns about public streets. They incorporate Low Impact Development Approaches (LIDA) to emphasize the role of stormwater treatment and green spaces throughout the subarea. A street tree program was also developed for all streets in the subarea with street trees classified based upon each neighborhood.

Fundamental to the success of the main street is a cross section that humanizes and bridges the large regional arterial. Cross sections for NW Kaiser Rd show a total right-of-way width of 102 feet. Different cross sections in the core of the neighborhood center, at the park, and on the periphery show variations in minimum building height to frame the space. Setbacks to accommodate plazas and building entrances to stacked apartments are also shown.



Adopted Main Street cross section

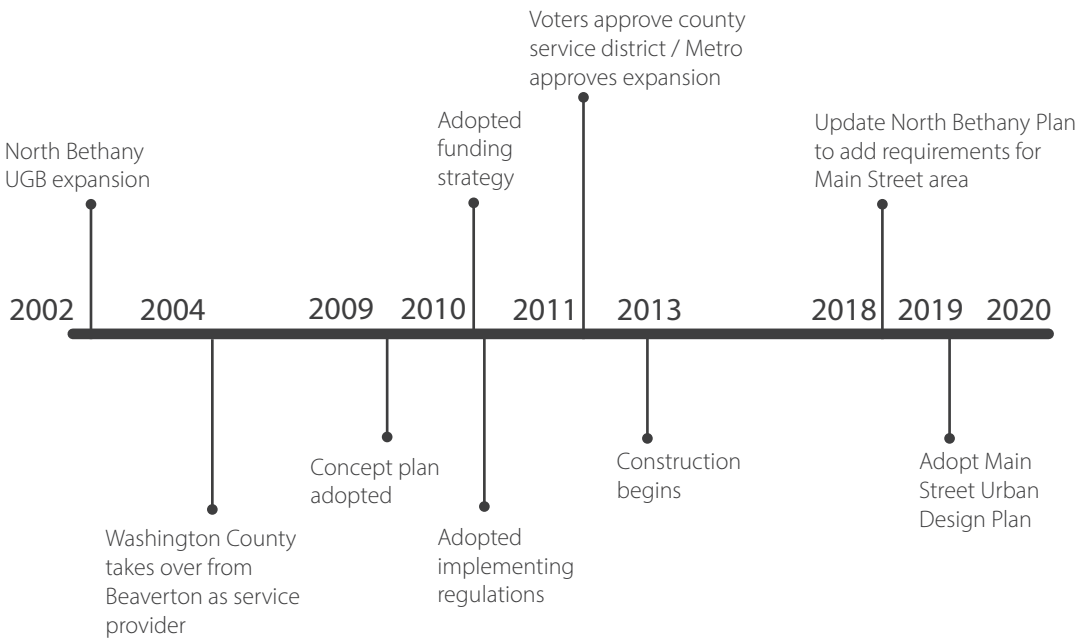


Land use zones and designated priority streets subject to design standards

Main Street Urban Design Plan

Through a planning effort that included several public charrettes, the county led an urban design plan for the North Bethany Main Street area. The intent was to guide how future development in this mixed-use area will look, feel, and function. As an outcome of this planning process, an urban design plan was adopted to amend the North Bethany Subarea Plan. Clear and objective design standards support zoned areas of Neighborhood Commercial Mixed Use (NCMU NB) and multi-dwelling zones (R-25+ and R-24) along designated priority streets. Development and design standards require buildings more urban in character that frame the street and encourage pedestrian activity. Buildings must have minimal setbacks, meet street frontage requirements, locate parking behind the building, have high levels of transparency, and driveways are limited or prohibited.

Urban design guidance recommends street design elements including a street furnishing palette, gateway treatments, and trail and park design. Cross sections (discussed above) illustrate what development could look like and include design guidelines. All development within the Main Street area will be reviewed at a public hearing and require at least one public design workshop.



Funding Strategy

Given the enormous increase in residents in North Bethany, the County faced the challenge of how to fund new infrastructure and services such as upgrading rural roads and extending water and sewer lines. According to an economic study, the estimated capital costs for North Bethany are $520 - $540 million in capital costs. After using bonds, grants, SDCs, and dedications by developers, a $320 million gap remained. The County adopted a funding strategy establishing four revenue sources: 1) a county service district; 2) System Development Charges (SDCs); 3) a transportation development tax; and 4) a countywide property tax. This strategy splits the responsibility for costs across the county government, new residents, and private developers. The County subsequently adopted a Unified Capital Improvement Plan to direct investments.

THPRD waives SDC fees for developers building public park and trail facilities at their cost. The County likewise waives SDC fees for transportation upgrades. There has been some dissatisfaction expressed by developers that they are not reimbursed adequately. Developers and lenders have perceived this lack of certainty negatively and argue that SDC fees have been quite high per housing unit. Initial estimates by ECONorthwest put the cost at $93,000 in SDC fees per house compared to average SDC fees in Washington County of $14,600. These increases in costs to developers, along with higher property taxes for owners, have driven up the cost of individual homes and impacted affordability.

LESSONS LEARNED

- If affordable housing is a desired outcome; targets and funding strategies must be identified and implemented to support its development.
- Zoning for different densities does not ensure a range of housing types spread throughout a district. More specificity may be required by using prototypes or another tool.
- A network of trails and paths needs to be connected throughout an entire development and to adjacent existing neighborhoods in order to successfully offer an alternative means to traveling by car.
- Despite rigorous guidelines and development standards, it is challenging to create a main street spine along a regional connector given its width and traffic speeds.
- Lacking more frequent intersection spacing, private development will continue to turn inward away from regional connectors.
- Critical to town center success is a knowledgeable partner who has developed mixed-use centers
- If parking for retail and commercial uses is not centrally managed and used as a shared resource, off-street parking may exceed the actual need and define the built form as auto-centric.
- Stormwater management facilities can function as natural open areas and linear connections if integrated with trail system. Such a design not only provides a high quality public realm but also a distinctive identity for development.

Critical Success Factors

Purpose of this section

All of the case studies are examples of critical success factors at work. This section details several critical success factors and how they improve the performance of the case studies.

Whole community design

When planning the entire community and connecting it to the surrounding context, there are a number of larger networks or patterns to consider. The three most commonly considered ones are the street network, the natural systems network, and the scale of nearby or historic patterns of development. Connecting to the adjacent network, whatever it is, is key to having the planned development look, feel, and function as an extension of what is already there. This is key to creating a new development that is rooted to the location and feels like a place, not a project.

Planning at the neighborhood scale

When neighborhood blocks are smaller and woven together with a fine-grained network of streets, alleys, and paths, the walkability quotient goes up. This is a "metric for livability" that has been quantified by Walkscore and real estate professionals for the value that it adds to development. It has been codified by others, such as LEED for Neighborhood Development (a sustainability rating system managed by the US Green Building Council). Walkability is often measured by the number of intersections per square mile. Beyond the quantifiable value it adds to development, it also makes it possible to achieve a number of other goals such as: incorporating a wide variety of housing types, serving neighborhoods with transit, and increasing the number of street trees and citywide tree canopy. When jobs, housing, and open spaces are arranged within a walkable block-street structure, other urban vibrancy measures increase as well.

Neighborhood design

A critical success factor realized by all three case studies, but exemplified in Villebois and NorthWest Crossing, is the harmony achieved when there is an intentional relationship between buildings and nature, and when cars are present, but don't dominate. There are a number of building, site, and urban design moves that can make a neighborhood feel more timeless. One is varied housing designs. Likewise preserving trees can make a new neighborhood feel like it has always been there. The value of mature trees has been measured by data experts in a wide variety of disciplines, from those in health and equity to real estate experts.

Main Street and Town Center design

As with neighborhood design, there are a number of building, site, and urban design moves that can make a main street or town center feel more timeless. These include traditional storefront design, pedestrian-oriented street design, care about where parking is located, and coordinated streetscape and street furniture. The importance of managing parking in a town center or main street cannot be overstated. Every extra place for a car means less space for people. In a town center the majority of public space should be dedicated to use by people, or the level of urban vitality goes down. More people attract more people. Managing parking means housing can be more affordable, as can retail spaces, and mixed-use development becomes financially feasible. As cities have discovered through the COVID-19 pandemic, flexible street space that can be converted from use by automobiles to use by people and businesses can help the local economy while keeping people healthy.

Whole community design

- Bringing nature in
- Integration of open space
- Feathering of edges
- Neighborhood units
- The way housing faces major streets (doesn't turn its back)
- Context sensitive design of major streets
- Variety of street types and a context sensitive design approach
- A complete street and path network
- Prioritizing non-auto modes of travel
- Accommodating regional transit

Main Street and Town Center design

- Main street character
- Managing parking
- Signage, lighting, street furniture and town center identity

Neighborhood design

- Varied designs of housing
- Preserving older trees
- Alleys
- Universal block (to accommodate all forms of middle housing)
- Feels like a neighborhood not a subdivision
- Natural environment reflected in the materials and design of the public realm

Planning at the neighborhood scale

- Block size, block permeability
- Walkability (and universal design)
- Arrangement of land uses
- Vital uses in proximity
- Mix of housing / housing choice
- Considering the entire tree canopy

Critical success factors:

- Main street character
- Block size, block permeability
- Walkability (and universal design)
- The way housing faces major streets (doesn't turn its back)
- Context sensitive design of major streets
- Variety of street types and a context sensitive design approach
- A complete street and path network
- Prioritizing non-auto modes of travel
- Accommodating regional transit

Variety of street types and a context sensitive design approach

Each of the case studies employs the technique of creating a network of new streets and paths within the planned development that are not subject to the state or county regulations. State and county regulations tend to prioritize auto and transit travel on regional arterials and highways. They are often at odds with local goals for walkability; bikeability; small block size; use of curb space for parking; and sidewalks for retail, outdoor dining, or merchandising. Since internal street types are not subject to the same rules which apply to arterials, they are able to accommodate frequent intersections, frequent pedestrian crossings, continuous plant strips and streets trees, and even on-street parking.

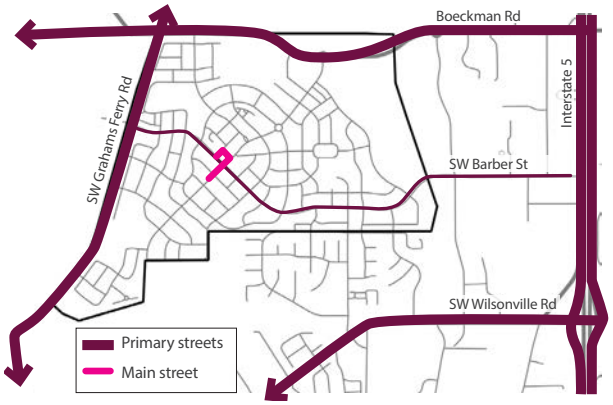
In each Case Study one of these interior streets functions as a community oriented "main street." In North Bethany it is NW Kaiser Rd; in NorthWest Crossing it is NW Crossing Drive; and in Villebois it is Villebois Drive.

Typically the main street design looks and feels like a traditional small town downtown street, and everything about the scale of the streetscape is designed with the pedestrian in mind. The Villebois main street goes further and employs a curbless street design where the plaza and the street blend seamlessly, and bollards, not curbs, mark off the area for cars. The exception to this practice is North Bethany, where the "main street" is roughly a quarter mile-long segment of NW Kaiser Road, which is a Washington County Arterial.

When a street is subject to county or state regulations, strive to make the street a connection rather than a barrier. In NorthWest Crossing, Mt Washington Drive is a good example of a major region-serving thoroughfare that has a human scale and is walkable and attractive. High value real estate addresses Mt. Washington rather than backing on to it. In King City, SW Beef Bend Road may never be a "main street," and it may serve high volumes of traffic, however it can still be designed to connect Tigard River Terrace South and King City rather than separate them.

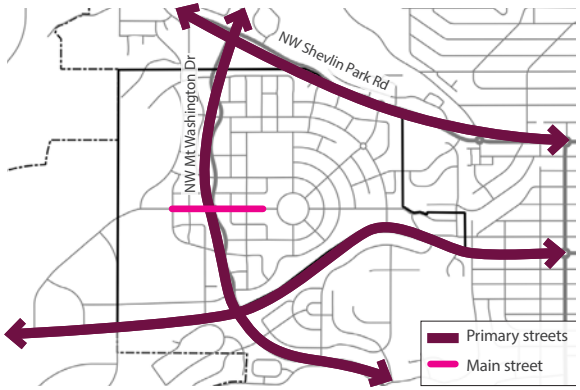
Keep vehicle speeds low through design measures, not by posting speed limits. Provide frequent protected crossings for pedestrians and bicyclists, create an environment that development is interested in facing, rather than turning away from, and provide generous landscape buffers, including street trees. Separate and buffer the walking and bicycle lanes from the vehicle lanes. Where there is a center turn lane, minimize the lane length at intersections. Landscape or eliminate the center lane when there is no need for turning movements. When crossing a slope, separate and terrace paved lanes to minimize cut and fill. The URA 6D Concept Plan promoted a number of context sensitive design strategies for SW Beef Bend Road. These are equally applicable to SW Roy Rogers Road within the vicinity of King City and Tigard future urban areas.

Villebois Drive (Villebois)



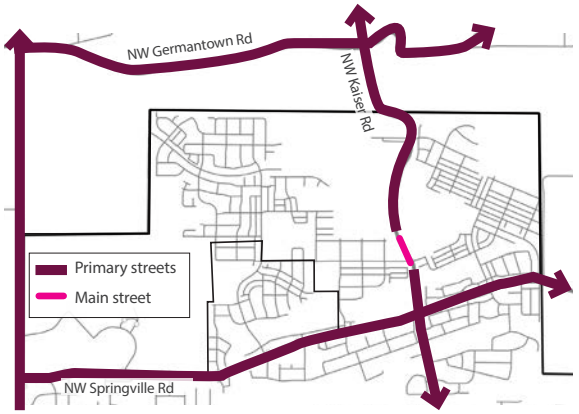
Villebois' main street employs a curbless street design where the plaza and the street blend seamlessly and bollards, not curbs, mark off the area for cars.

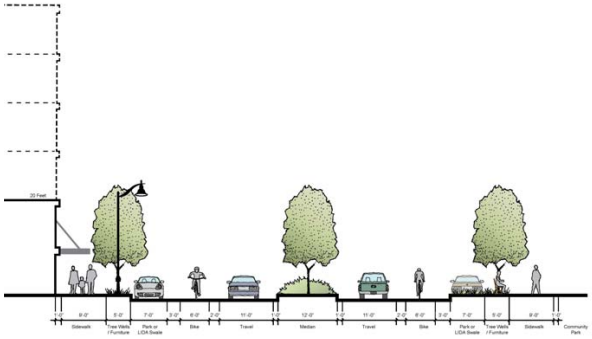
NW Crossing Drive (NorthWest Crossing)



NorthWest Crossing's main street looks and feels like a traditional small town downtown street, designed with the pedestrian in mind.

NW Kaiser Road (North Bethany)





In North Bethany, the planned "main street" is a roughly quarter mile-long segment of NW Kaiser Road, which is a Washington County Arterial.

Critical success factors:

» Integration of open space

» Feathering of edges

Bringing nature in

Each of the case studies incorporates natural areas into the planned development. North Bethany, with its promenade park along the stormwater facility, is an especially good example of making natural systems a focus of the community. However, the best example of full integration of natural areas is Villebois. The development is designed around a flowing series of open spaces that connect to the larger regional natural areas such as Coffee Creek and Coffee Lake wetlands. Of all the green space that has been incorporated into the community, the greatest share is in natural areas.

> "While restoring the historic drainage pattern of the predevelopment site, the plan also adapts the form and organization of the landscape and urban design elements (e..g., parks, street medians, and planting strips) and natural areas to serve stormwater management functions, including conveyance, infiltration and detention."
>
> (*Skinny Streets & Green Neighborhoods, Design for Environment and Community*, Cynthia Girling and Ronald Kellett, 2005)

One of the key features of Villebois are the common greens. Homes front onto and share a green space rather than a street. This was considered a highly unusual design at the time of development in the mid-2000's. Homebuilders overcame their skepticism and common greens are now found in many new subdivisions and neighborhoods, and cities have amended land division requirements to permit them.


Villebois

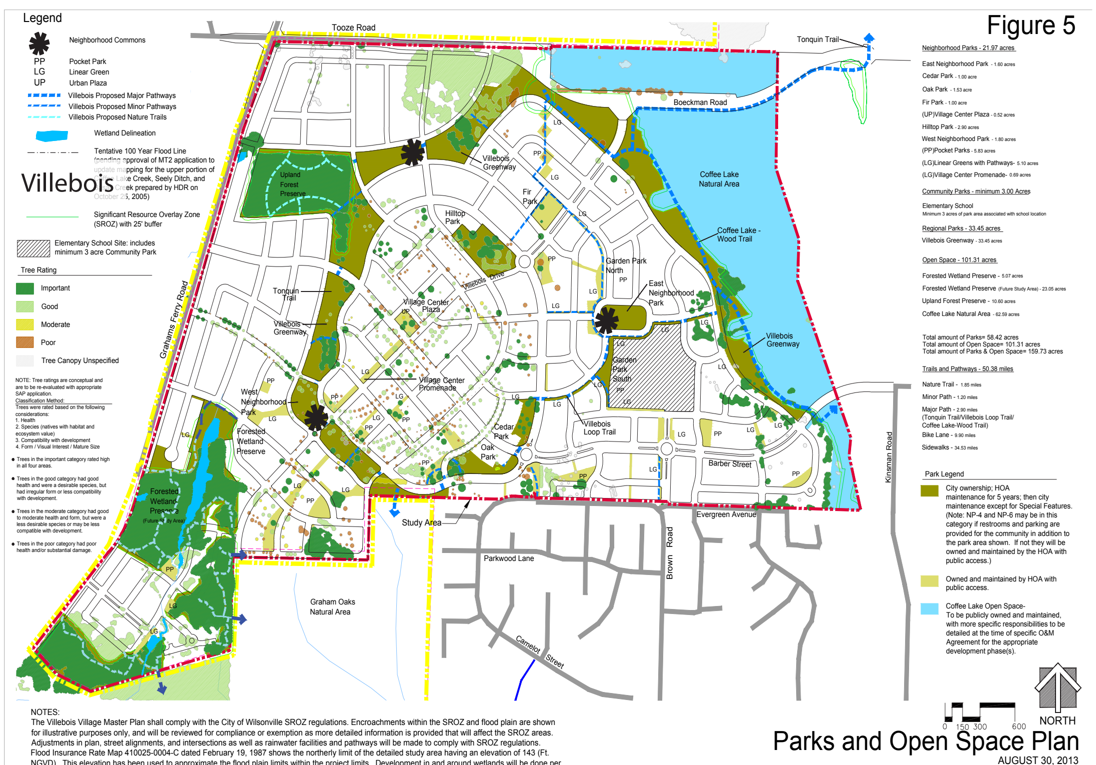


Figure 5
Legend
Neighborhood Commons
PP Pocket Park
LG Linear Green
UP Urban Plaza
Villebois Proposed Major Pathways
Villebois Proposed Minor Pathways
Villebois Proposed Nature Trails
Wetland Delineation
Tentative 100 Year Flood Line
Significant Resource Overlay Zone (SROZ) with 25' buffer
Elementary School Site: includes minimum 3 acre Community Park
Tree Rating
Important
Good
Moderate
Poor
Tree Canopy Unspecified
Villebois
Tooze Road
Tonquin Trail
Boeckman Road
Coffee Lake Natural Area
Coffee Lake - Wood Trail
Villebois Greenway
Upland Forest Preserve
Hilltop Park
Fir Park
Garden Park North
East Neighborhood Park
Garden Park South
Village Center Plaza
Village Center Promenade
Tonquin Trail
West Neighborhood Park
Forested Wetland Preserve
Cedar Park
Oak Park
Villebois Loop Trail
Barber Street
Evergreen Avenue
Study Area
Parkwood Lane
Brown Road
Kinsman Road
Grahams Ferry Road
Graham Oaks Natural Area
Camelot Street
Neighborhood Parks - 21.97 acres
East Neighborhood Park - 1.60 acres
Cedar Park - 1.00 acre
Oak Park - 1.53 acre
Fir Park - 1.00 acre
(UP)Village Center Plaza - 0.52 acres
Hilltop Park - 2.90 acres
West Neighborhood Park - 1.80 acres
(PP)Pocket Parks - 5.83 acres
(LG)Linear Greens with Pathways- 5.10 acres
(LG)Village Center Promenade- 0.69 acres
Community Parks - minimum 3.00 Acres
Elementary School
Minimum 3 acres of park area associated with school location
Regional Parks - 33.45 acres
Villebois Greenway - 33.45 acres
Open Space - 101.31 acres
Forested Wetland Preserve - 5.07 acres
Forested Wetland Preserve (Future Study Area) - 23.05 acres
Upland Forest Preserve - 10.60 acres
Coffee Lake Natural Area - 62.59 acres
Total amount of Parks= 58.42 acres
Total amount of Open Space= 101.31 acres
Total amount of Parks & Open Space= 159.73 acres
Trails and Pathways - 50.38 miles
Nature Trail - 1.85 miles
Minor Path - 1.20 miles
Major Path - 2.90 miles
(Tonquin Trail/Villebois Loop Trail/
Coffee Lake-Wood Trail)
Bike Lane - 9.90 miles
Sidewalks - 34.53 miles
Park Legend
City ownership; HOA maintenance for 5 years; then city maintenance except for Special Features. (Note: NP-4 and NP-6 may be in this category if restrooms and parking are provided for the community in addition to the park area shown. If not they will be owned and maintained by the HOA with public access.)
Owned and maintained by HOA with public access.
Coffee Lake Open Space-
To be publicly owned and maintained, with more specific responsibilities to be detailed at the time of specific O&M Agreement for the appropriate development phase(s).
0 150 300 600
NORTH
Parks and Open Space Plan
AUGUST 30, 2013
NOTES:
The Villebois Village Master Plan shall comply with the City of Wilsonville SROZ regulations. Encroachments within the SROZ and flood plain are shown for illustrative purposes only, and will be reviewed for compliance or exemption as more detailed information is provided that will affect the SROZ areas. Adjustments in plan, street alignments, and intersections as well as rainwater facilities and pathways will be made to comply with SROZ regulations. Flood Insurance Rate Map 410025-0004-C dated February 19, 1987 shows the northerly limit of the detailed study area having an elevation of 143 (Ft. NGVD). This elevation has been used to approximate the flood plain limits within the project limits. Development in and around wetlands will be done per all applicable federal, state and local wetland regulations.


Villebois

NorthWest Crossing

NorthWest Crossing

Bringing nature in

Villebois

Bethany

Bethany

NorthWest Crossing

Critical success factors:

» Context sensitive design of major streets

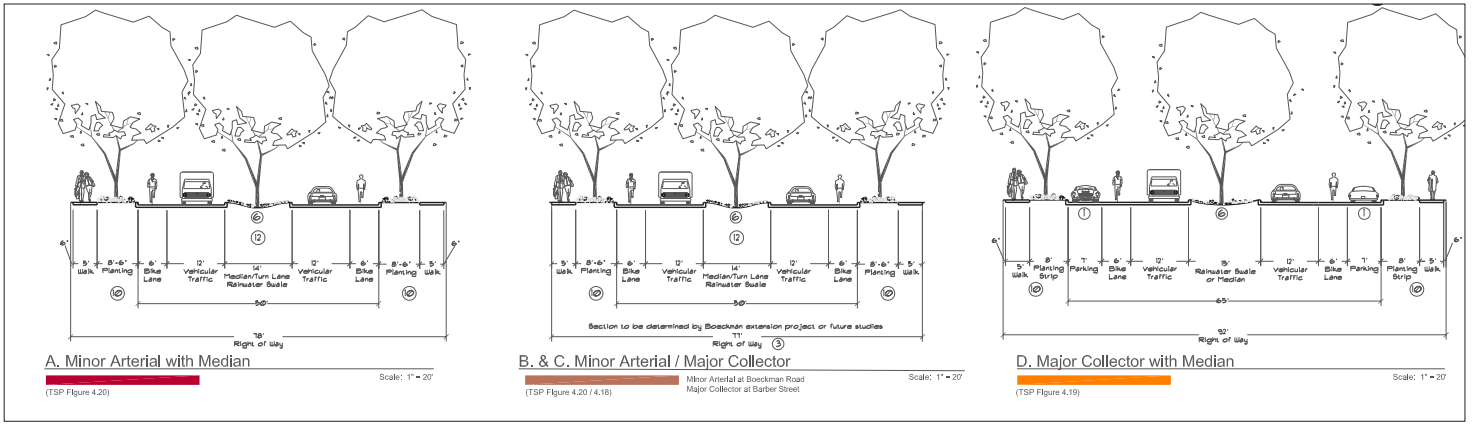
» The way housing faces major streets (doesn't turn its back)

Major streets are attractors not barriers

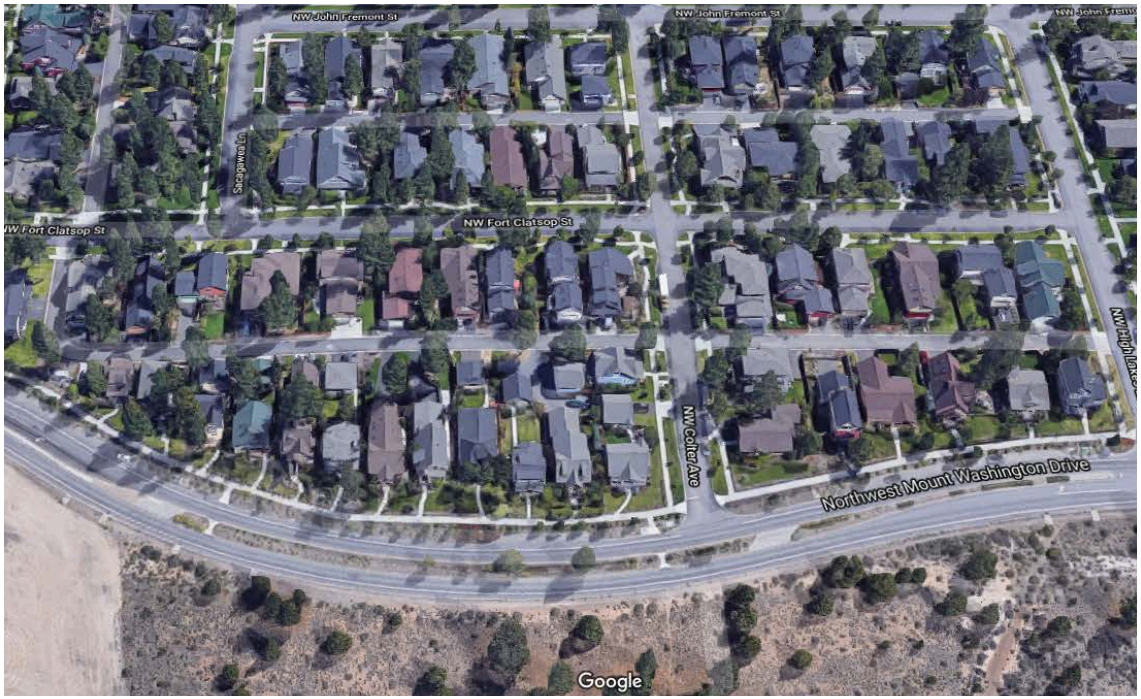
In each Case Study, communities' major streets — where they run along or within the planned development —are designed like streets rather than highways. They become a contributing part of the neighborhood and city rather than an impassible barrier or border. Housing and active retail front on and are oriented toward the street, instead of turning away.

A major region-serving street in Bend, Mt Washington Drive, runs north-south through NorthWest Crossing. The design of the street makes it possible for homes to front on the arterial. Enfronting blocks have alleys rather than driveways. Each block face on Mt Washington has a parking pocket that allows limited on-street parking. In addition, regular intersections and pedestrian crossings are essential in preventing this major street from acting as a barrier. Intersections are every 300 - 500 feet and mid block crossings with protected places to stand at the median create safe options for pedestrians.

Arterials and collectors in Villebois have a planted median, full sidewalks, plant strips, and bike lanes. In certain areas the street design trades the planted median for on-street parking. In both Villebois and NorthWest Crossing where major streets intersect, roundabouts are used to manage auto traffic instead of signalized intersections.



Arterial and collector street sections, Villebois.



Houses fronting on Mt. Washington Drive, NorthWest Crossing.

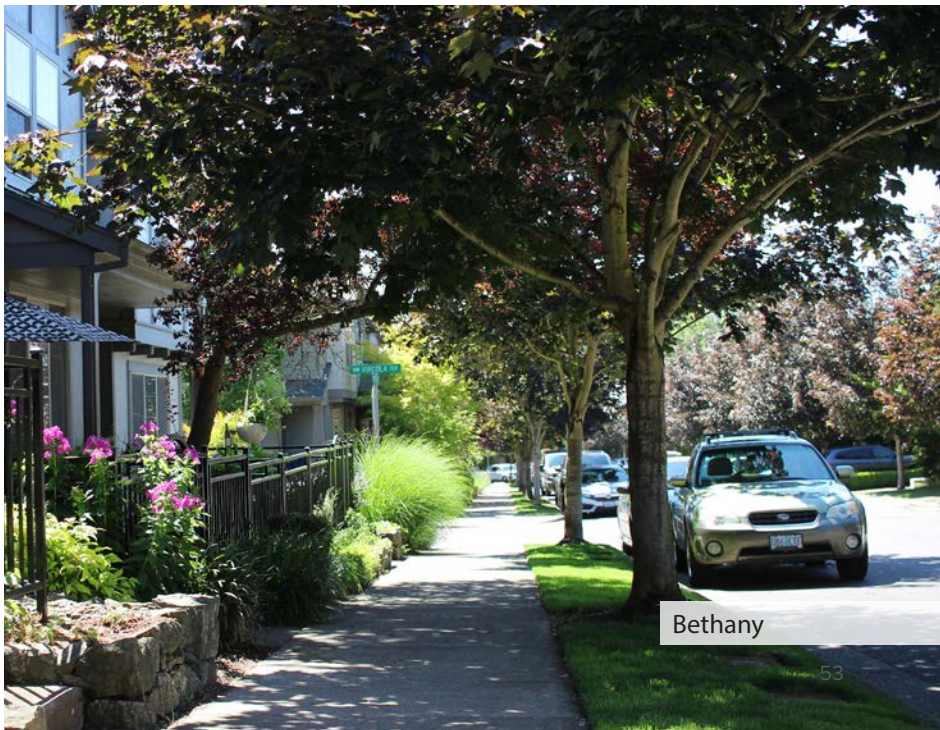
Street variety

Variety of street types and context sensitive design approach

Villebois

NorthWest Crossing

NorthWest Crossing



Bethany

Town Center identity

Bethany


NorthWest Crossing

Signage, lighting, street furniture and town center identity

NorthWest Crossing

NorthWest Crossing

NorthWest Crossing

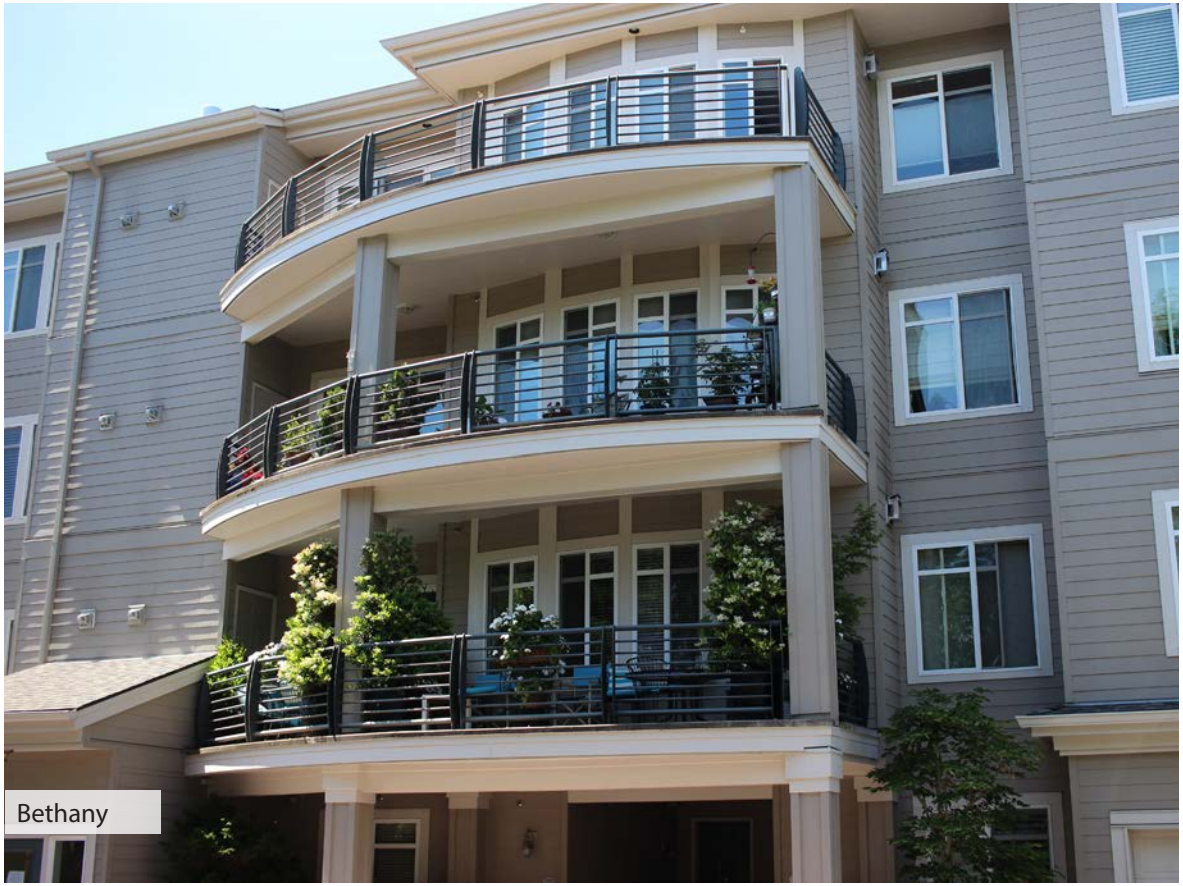
Villebois

Villebois

Housing variety

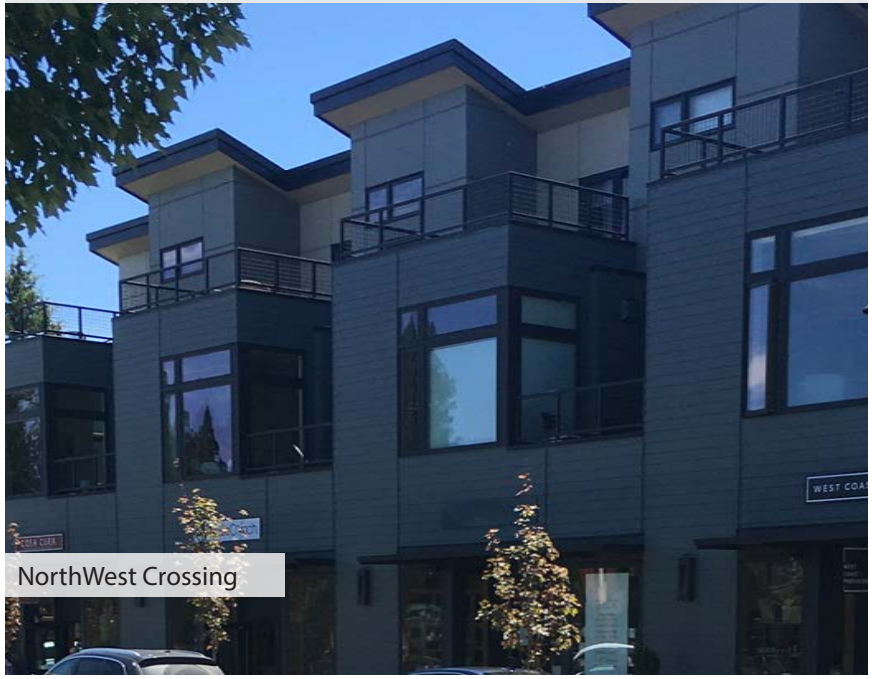
Villebois

Bethany



Bethany

A mix of housing types and varied designs of housing



NorthWest Crossing

NorthWest Crossing

NorthWest Crossing