

Appendix A

South End Concept Plan Existing Conditions Report

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Cogan Owens Cogan, LLC

3J Consulting
Alta Planning + Design
DKS Consulting
FCS GROUP
Parametrix

Table of Contents

Chapter 1: Introduction.....	1
Chapter 2: Land Use.....	3
Chapter 3: Transportation.....	12
Chapter 4: Public Infrastructure and Services.....	25
Chapter 5: Natural Resources/Environmental.....	33
Chapter 6: Parks and Trails.....	42
Chapter 7: Housing and Commercial Market.....	52
Chapter 8: Opportunities and Constraints.....	67
Appendix A: Planned Transportation Improvements.....	72
Appendix B: Retail Inflow/Outflow Characteristics.....	77
Appendix C: Housing Development Forecast.....	80
Appendix D: Office and Retail/Commercial Development Forecast.....	82

Chapter 1: Introduction

Project Overview

Oregon City is growing. U.S. Census data substantiates a significant increase in Oregon City's population over the past decade. The City grew by 24% (6,105 people) between 2000 and 2010, compared to just 11% in Clackamas County and 14% in the Tri-County region. Oregon City's households are changing too, with the median age has increasing from 32.7 years to 36.3 years, and average household size has falling from 2.60 to 2.54 over the past decade. The ethnic makeup of Oregon City is changing as well. The percentage of residents who identify themselves as white is decreasing (-0.8%) while the percentage of people identifying themselves as black (+0.2%), Asian (+0.9%) and Hispanic or Latino (+2.3%) is increasing. Oregon City is thus challenged maintaining the quality of life for those who live there today, while planning for future residents.

The City of Oregon City is preparing a concept plan for the South End urban growth boundary (UGB) expansion area. The Metropolitan Service District (Metro) requires the governing jurisdictions to adopt comprehensive plan provisions for areas brought into the UGB to guide the orderly and efficient conversion of uses from rural to urban. A "concept plan" sets the framework for eventual adoption of comprehensive plan policies and implementing ordinances by these governing jurisdictions. Following extensive public engagement, the South End Concept Plan will be adopted by the Oregon City's City Commission and reviewed by Metro and the Department of Land Conservation and Development (DLCD). The City Commission of Oregon City will then adopt the concept plan as an amendment to the current comprehensive plan and zoning code, which must comply with Metro code and DLCD requirements. The Concept Plan is being developed with guidance from a Community Advisory Team (CAT) and community participation. According to Metro's Title 11 guidance for urbanization and concept planning, elements of the South End Concept Plan will include land use, transportation, natural resources, parks and trails, public facilities and services, schools and financing.

South End Concept Plan Study Area

The South End Concept Plan study area consists of 478 acres located south of Oregon City along South End Road. Approximately 188 acres were brought into the UGB when Metro amended the UGB in 2002. The other 290 acres were added to the UGB prior to 2002 and have not been annexed into the city. The South End Concept Plan process will consider an additional 133 acres currently within city limits for planning purposes, but will not be included in buildable land calculations. The planning area is 611 acres in total.

Purpose of Existing Conditions Report

The Existing Conditions Report is an important opportunity to review available data, create a shared understanding of the South End area today, and identify opportunities and constraints for future development. This analysis will inform the creation of the Concept Plan. Guided by City staff, the consulting team gathered, reviewed and assessed relevant background materials including plans, reports and maps. Having a baseline of information to inform the remainder of the planning process will be critical in order to take advantage of existing knowledge and gather new information efficiently.

Figure 1. South End Concept Plan Area



Chapter 2: Land Use

This chapter describes the current land uses, zoning, buildings, historic resources, and buildable land for the South End. The South End Concept Plan Area is approximately 611 acres in size. Of the total area, the plan consists of 133 acres which are currently annexed into the City of Oregon City and 478 acres which are currently located in unincorporated Clackamas County. This includes a 2002 expansion of the urban growth boundary over 191 acres, located at the southern and western edges of the planning area. The plan area is bordered by the City of Oregon City to the north and unincorporated Clackamas County to the east, west, and south.

Land Uses

The planning area contains 576 individually owned taxlots. Existing land uses within the planning area consist of several small farms, estate residential property, low-density residential housing, churches and the John McLoughlin Elementary School. There are no formalized office, commercial, retail, or industrial uses within the planning area. The closest significant commercial nodes are located northeast of the Concept Planning area at Warner Milne and Molalla Avenue or within the City of Canby's Downtown, located three miles to the south. The planning area is located approximately three miles south of downtown Oregon City.

The predominant land use in the concept plan area is low density residential subdivisions developed in the 1970s, interspersed with some limited farm and forest uses still exist. There are a few institutional land use consisting of the Jehovah's Witness Hall and McLoughlin Elementary School.

The majority of the housing within the plan area is located along the long access roads which intersect South End Road. At the southern end of the planning area is the South End Country Estates subdivision on Kelland Court. Lots here tend to be larger and more spread out than the northern end of the planning area. Moving north up South End Road leads to several county subdivisions which take access from South End at Navajo Way, Finnegan's Way, and South Parkland Court (Respectively, Navajo Hills Estates, Finnegan's Terrace No. 2, and South Park Estates). The subdivisions along these roads consist of half to quarter-acre single-family lots and are separated from one another by fields which have yet to develop and in some cases, are designated open space. For example, the Finnegan's Terrace subdivision's open space contains a series of trails and may contain some septic systems or drainage infrastructure which is serving the homes or roadways constructed within the neighborhood.

Buetel Road and Forest Ridge Road are long straight spine roads which both run to the east away from South End Road. The housing along these roads consist of a mix of some acre plus rural estate styled housing and several dozen quarter to half acre lots in various configurations. The homes are a mixture of newer and older styles with a predominance of single-story, single-family houses with side and rear yard outbuildings.

From Forest Ridge Road south, the northern end of the planning area is comprised of a network of county subdivisions interspersed with larger acreage lots developed primarily

between the 1970s through the 1990s. Fingers of incorporated city subdivisions interweave with these unincorporated areas. For example, one notable city subdivision is the Merchant Court development with several dozen eighth acre lots with newer homes surrounding a central open space. The Merchant Court subdivision is unusual compared to surrounding areas and creates interesting a landmark within the neighborhood. The Merchant park open space appears to provide a drainage function in addition to being an attractive open space feature.

Development and Development Potential

The lands within the planning area which fall within the City's boundary fall within Oregon City's single family residential zoning districts. Lands within the planning area which fall under the County's jurisdiction are listed as one of three county zoning designations. Table 2.1 describes the existing zoning within the planning area.

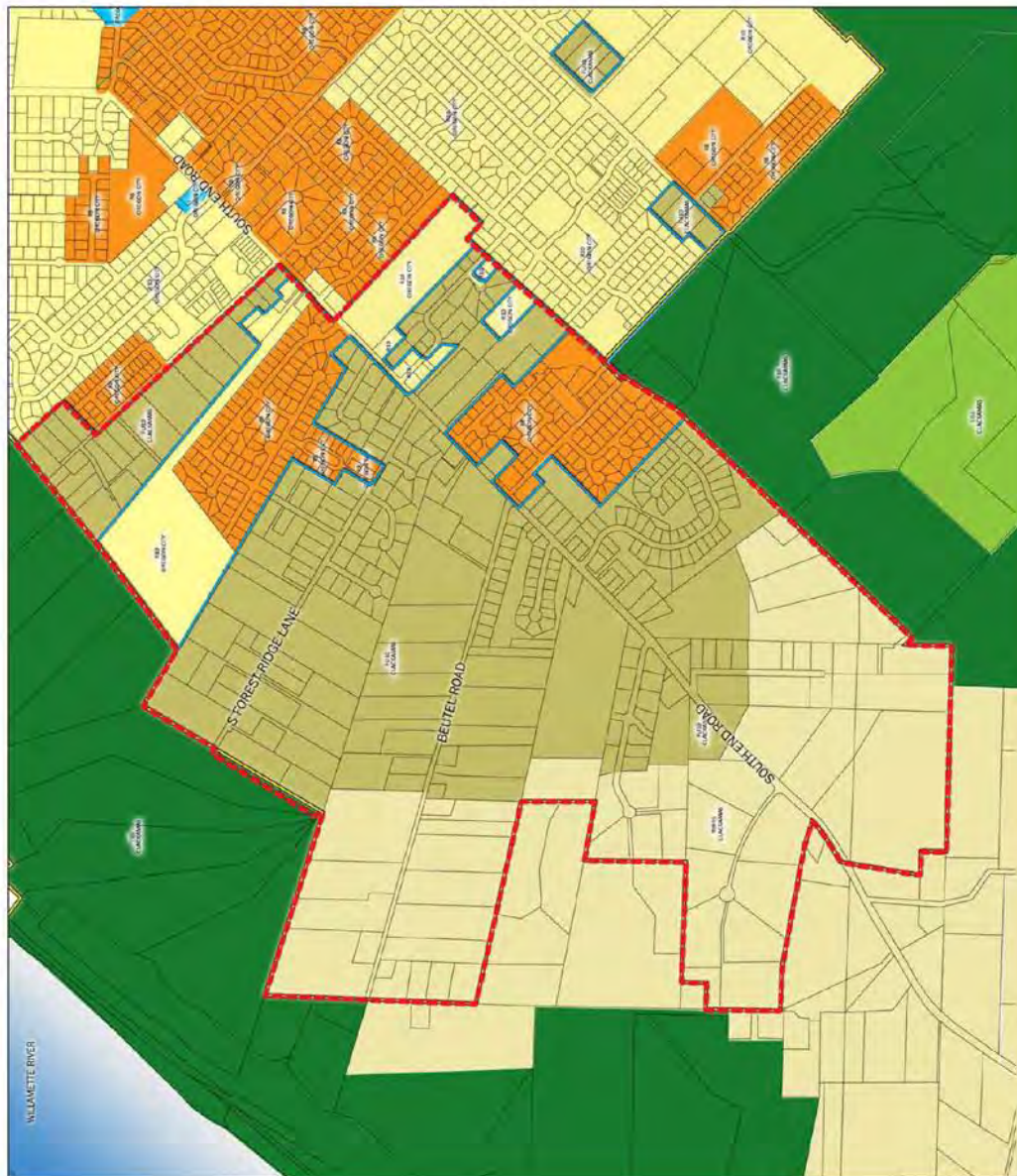
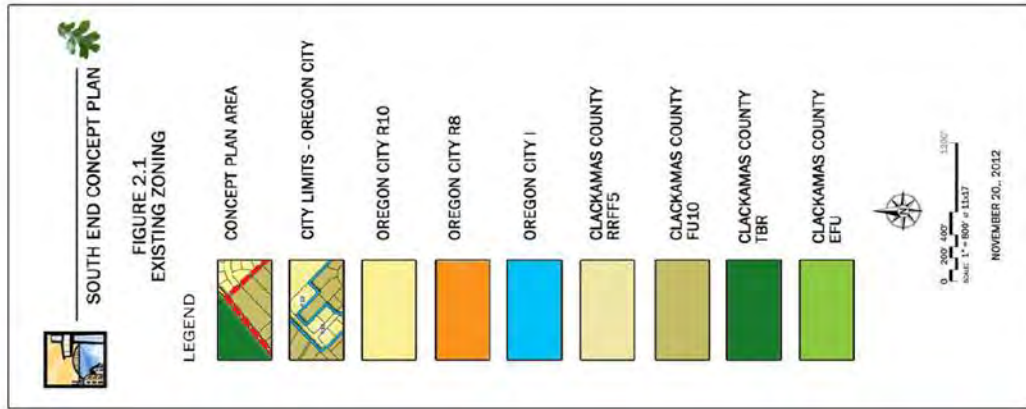


Table 2.1. Zoning within the Planning Area, Oregon City South End, 2012

Zoning	Abbreviation	Jurisdiction	Acres
R-8	Single Family Dwelling District 8,000 SF Minimum	City of Oregon City	62.0
R-10	Single Family Dwelling District, 10,000 SF Minimum	City of Oregon City	43.2
FU-10	Future Urban 10-Acre District	Clackamas County	314.1
RRFF-5	Rural Residential Farm Forest 5- Acre District	Clackamas County	191.5

Source: City of Oregon City Municipal Code, Title 17 / Clackamas County Zoning and Development Ordinance

The lands which have already been annexed into the City have been assigned either an R8 or an R10 zoning designation. The areas of the plan which are located within the City and the approximate density within each zoning area are shown in Table 2.2.

Table 2.2. City Subdivisions within Oregon City South End, 2012

Zone	Adjusted Acreage	Units	Density
R-10	5.9	14	2.3 Units per Acre
R-8	62.0	211	3.4 Units per Acre

*Area of the zoning has been adjusted to remove the John McLoughlin School and a large parcel containing a wetland within the R-10 zoning area.

The lands within the County's FU-10 and RRFF-5 districts contain five small to medium sized subdivisions: Finnegan's Terrace Subdivision, Navajo Hills Estates, South Park, Sunnyridge Estates, and the South End Country Estates. The Finnegan's Terrace, Sunnyridge, South Park, and Navajo Hills developments have been constructed to near urban levels and have little potential for future subdivision or development. The lots created within the South End Country Estates development are almost five acres or larger in size and have the potential to redevelop. Table 2.3 describes the recorded subdivisions and number of developed parcels within each of the County's zoning districts.

Table 2.3. Density within County Subdivisions, Oregon City South End, 2012

Subdivision	Zoning	Area (Acres)	Units	Units/Acre
Finnegan's Terrace	FU-10	31.3	63	2.0 Units per Acre
Navajo Estates	FU-10	8.7	12	1.3 Units per Acre
South Park	FU-10	13.3	32	2.4 Units per Acre
Sunnyridge Estates	FU-10	16.5	20	1.2 Units per Acre
South End Country Estates	RRFF-5	35.8	8	0.2 Units per Acre

Source: The Oregon Map - Taxmaps (www.ormap.net)

The lands within the County's FU-10 and RRFF-5 Districts have the highest development potential within the plan area. Some limitations are present due to lot geometry, road access and orientation however, the majority of any new development is likely to occur within these areas. The gross amount of land with development potential within the County's FU-10 and RRFF-5 Districts is approximately 374 acres.

Buildable Lands Analysis

For the purposes of this report, the methodologies for the identification of buildable lands within the planning area have been incorporated, in part, from the "Planning for Residential Growth: A Workbook for Oregon's Urban Areas". The following definitions describe the various categories of lands identified within the planning area. These definitions have been applied to the lands within the planning area to prepare an estimate of the buildable lands.

Buildable Lands

Buildable lands are considered to be lands within urban and urbanizable areas that are suitable, available, and necessary for residential uses. Buildable lands include both vacant and developed land likely that is likely to be redeveloped (ORS 197.295(1)). Lands defined as unbuildable within the Metro urban growth boundary are those that are not severely constrained by natural hazards (Statewide Planning Goal 7) or subject to natural resource protection measures (Statewide Planning Goals 5 and 15). Goal 5 resources within the planning area generally include lands with wetlands, streams, or other natural resources and vegetative corridors or buffers adjacent to these resources. Publicly owned land is generally not considered available for residential use. Land with slopes of 25 percent or greater unless otherwise provided for at the time of acknowledgement and land within the 100-year floodplain is generally considered to be unbuildable (OAR 660-08-005(2)).

Developed Land

Developed lands are considered to be lands within the urban and urbanizable areas which have already been built upon. For the purposes of this study, this includes lands which have already been subdivided and constructed with single family homes. This also includes subdivisions that were approved by the county and subsequently annexed into the City and subdivisions approved by the County which have not yet been annexed. Generally, subdivisions which resulted in the creation of lots which are under one acre in size have been considered to be developed. Lands within subdivisions which have been specifically set aside for utilities, communal open space, or for septic drain fields have also been included as developed land as these lands are unlikely to redevelop, even with the introduction of public sewer systems.

Net Buildable Land

Net buildable land has been defined as the gross buildable vacant land minus unbuildable lands minus lands needed for public facilities. The amount of land estimated to be necessary for public facilities has been estimated to be 25% as this is a generally acceptable deduction for the estimation of lands which will be required for infrastructure, roads, and stormwater management facilities. This deduction generally allows for the inclusion of roads and rights-of-way built to City standards and ponds associates with stormwater management facilities. No assumptions have been made for the preservation of parks or open spaces within the 25% deduction.

Unbuildable Land

Unbuildable lands are those areas of the planning area which have slopes greater than 25 percent, lands which are likely to be encumbered with significant natural resource protection overlays, and lands which fall within the flood plain. Also included within the unbuildable

land areas are lands which are areas within the planning area which are encumbered with powerline easements.

Table 2.4 has been prepared to illustrate the amount of buildable land within the planning area and to ensure adequate numbers of needed housing units within Oregon City's portion of the regional Urban Growth Boundary.

According to the State Metropolitan Housing Rule (OAR 660-007), Oregon City must provide for an overall density of eight or more dwelling units per net buildable acre for lands which were located within the Urban Growth Boundary before 2002, or provide justification to the State Department of Land Conservation and Development for an alternative density. For the more recent lands which were added to the Urban Growth Boundary, the plan must provide for an overall density of ten or more dwelling units per net buildable acre. Metro has indicated that these densities may be distributed logically across the planning area as part of the planning process to show compliance with Title 11 (See Chapter __, Implementation).

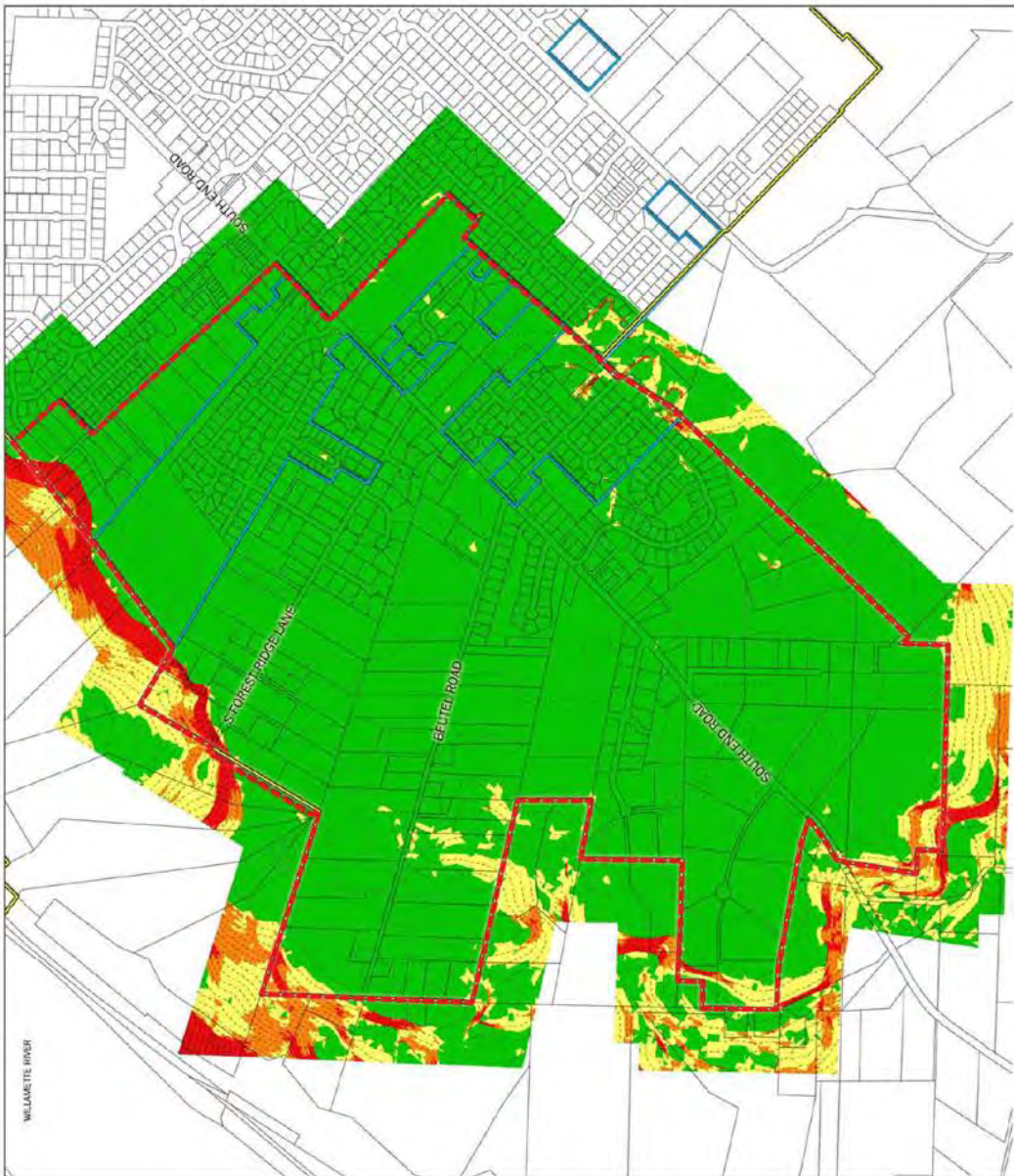
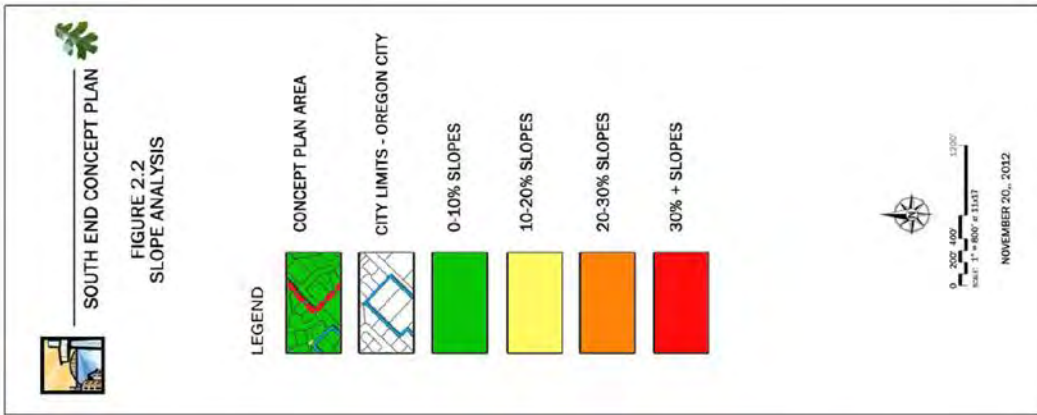
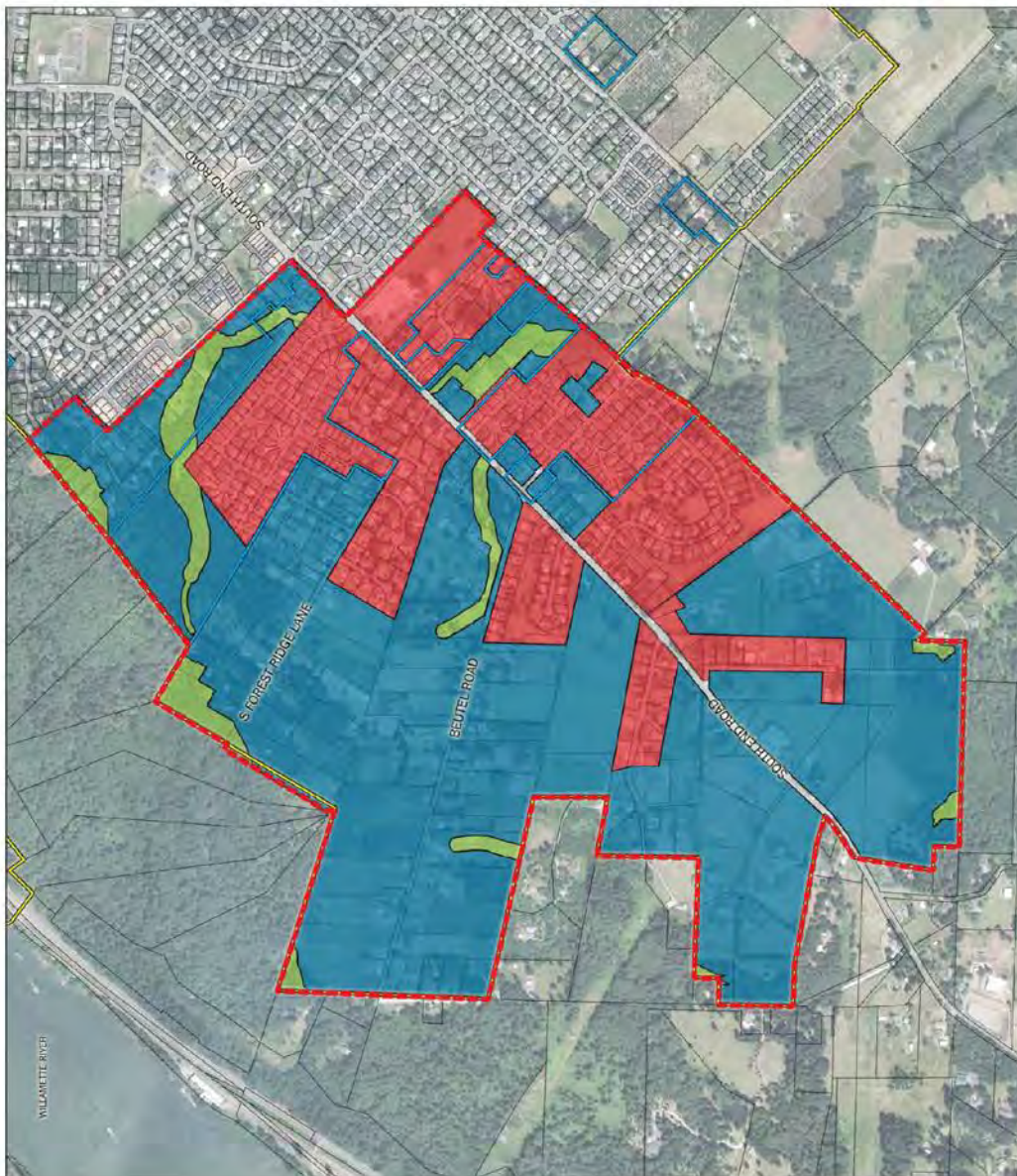
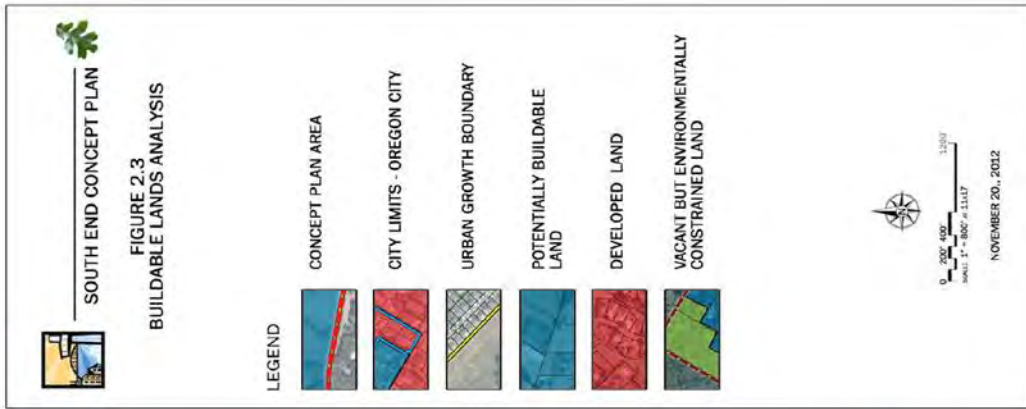


Table 2.4. Buildable Areas, Oregon City South End, 2013

Gross Area outside of City Limits	498.7 Acres
Developed Land	101.8 Acres
Unbuildable Land	27.7 Acres
Buildable Land	369.2 Acres
New Roads and Utilities (25%)	92.3 Acres
Net Buildable Area	283 Acres

The proposed methodology for the calculation of density blends all of the vacant and developable land within the area, effectively excluding lands which are unbuildable due to preliminary resource mapping and lands which have already been subdivided into single family residential neighborhoods. From this equation, the buildable lands identified within the plan are adjusted through a reduction of the estimated land required for infrastructure, new roads, and stormwater management facilities to arrive at an estimated net buildable area. It is worth noting that the lands within the two major powerline easements (the east/west Portland General Electric Easement and the east/west Bonneville Powerline Easement) have been removed from the buildable lands estimate. The 283 net buildable acres identified in this preliminary analysis are the maximum acres projected to be available for development.



Chapter 3: Transportation

This chapter summarizes the existing transportation conditions for all planning area intersections. Included is an inventory of the existing transportation facilities, analysis of the recent crash history, and an operational analysis of Plan area intersections. The city is required to update all public facilities plans, including the 2013 Transportation System Plan (TSP).

In updating the TSP, the impact of the increased vehicle trip generation resulting from additional land development within the study area on the surrounding transportation system will be evaluated through the year 2035. Any improvements needed to the transportation system to maintain adequate operations will be identified for incorporation into the TSP.

The following ten intersections have been identified as planning area intersections, with their intersection control listed identified in parenthesis below:

1. McLoughlin Boulevard (Highway 99e)/South 2nd Street (signalized)
2. McLoughlin Boulevard (Highway 99e)/South End Road (unsignalized)
3. South End Road/South 2nd Street (all-way stop)
4. South End Road/Warner Parrott Road (all-way stop)
5. South End Road/Lafayette Avenue-Partlow Road (unsignalized)
6. South End Road/Beutel Road-Parrish Road (unsignalized)
7. Central Point Road/Partlow Road (unsignalized)
8. Central Point Road/McCord Road (unsignalized)
9. Warner Parrott Road/Central Point Road (unsignalized)
10. Warner Parrott Road-Warner Milne Road/Linn Avenue-Leland Road (signalized)

Existing Transportation Infrastructure

Evaluating the transportation impacts of potential new land development requires an understanding of the current transportation facilities in this area. Much of the land included within and around the study area is currently used for rural residential and agriculture, and until 2002 was located outside of the UGB. As a result, transportation facilities do exist but many are not constructed to urban standards. Lands developed in the County are required to meet rural roadway design standards, which typically do not include elements such as pedestrian or bicycle facilities as well as other more common City infrastructure (e.g., storm drains, water, sewer). When these former County lands are annexed to the City, the rural road bring with them challenges for providing more complete street services that are expected in urban areas. This section includes descriptions of existing infrastructure available to serve pedestrian, bicycle, transit and motor vehicle modes of travel.

Roadways

Located at the top of Canemah Bluff, the planning area is characterized by disconnected streets with large block lengths despite the relatively flat terrain. The only street providing for higher capacity motor vehicle movement through the study area is South End Road, which is classified as a Minor Arterial by city standards. This street runs north-to-south connecting the study area to McLoughlin Boulevard (Highway 99E) at two locations, located roughly two miles north and south of the study area. The southerly route towards Canby has a

connection at 99E that is designed for rural operating conditions, and may need to be upgraded to adequately serve higher levels of traffic. Providing additional connections to McLoughlin Boulevard from the west edge of the study area would be very challenging for several reasons, including the steep slope, natural habitats and environmental constraints, and the fact that this is regional park land owned by Metro.

Drivers wishing to access areas east of the study area, including OR 213, Clackamas Community College and the Clackamas County Red Soils Campus, are accommodated via Warner Parrott Road and Partlow Road. Warner Parrot and Partlow roads connect to South End Road north of the Plan area. South of Partlow Road, there are no arterial or collector street connections to areas east of the study area.

Besides South End Road, there are limited north-to-south circulation options for local travel. Most of the remaining streets in the planning area are non-through routes and connect directly to South End Road. These streets, including Rose Road, Forest Ridge Lane, Beutel Road, Filbert Drive, Parrish Road and Salmonberry Drive, provide east-to-west circulation between South End Road and the abutting land uses and generally have less capacity than South End Road. Also, there are several roads still under County jurisdiction that have not been fully transferred over to the City jurisdiction, including Salmonberry Drive.

The 2013 Oregon City TSP Update identified these constraints, and called for an extension of Parrish Road (2-lanes) over the creek between Pennys Way and Kolar Drive to provide additional east-to-west circulation between South End Road and Central Point Road. It is acknowledged that any new street crossing over a creek will have to comply with environmental review or and other agency requirements before any construction occurs. The TSP also identified a need for a parallel north-to-south route to the east and west of South End Road. The TSP recommendation included extending Deer Lane south to connect with Forest Ridge Lane, Beutel Road, and South End Road (south of Beutel Road). The Deer Lane extension would then cross South End Road and travel to the south and east of Finnegans Way terminating at the Parrish Road extension¹. The major characteristics of the roadways in the study area are summarized in Table 3.1, with lane configurations and traffic controls for study intersections illustrated later in this section in Figure 3.1.

¹ 2013 Oregon City TSP Update, Planned Street Extensions, Financially Constrained Transportation System.

Table 3.1: Study Area Roadway Characteristics, South End, 2012

Roadway (limits)	Classification*	Cross section	Posted Speed
South End Road (Rose Road to just northeast of May Road)	Residential Minor Arterial	2 lanes	40 mph
Beutel Road (South End Road to 0.50 miles west of South End Road)	Residential Minor Arterial	2 lanes	25 mph
Beutel Road (0.50 miles west of South End Road to western terminus)	Residential Collector	2 lanes	25 mph
Forest Ridge Lane (South End Road to western terminus)	Residential Local Street	2 lanes	25 mph
Parrish Road (South End Road to just southeast of Pennys Way)	Residential Collector	2 lanes	25 mph
Rose Road (South End Road to Deer Lane)	Residential Collector	2 lanes	25 mph
Salmonberry Drive (South End Road to just southeast of Columbine Court)	Residential Local Street	2 lanes	25 mph

Source: *2013 Oregon City Transportation System Plan.

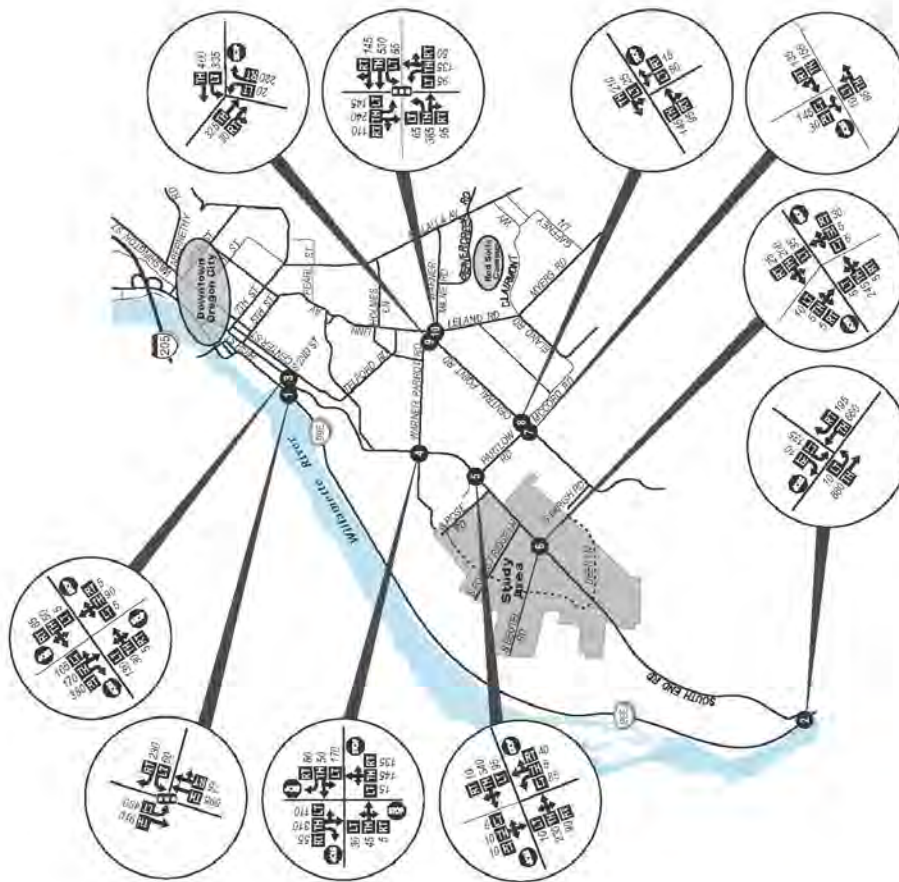


Figure 3.1
EXISTING 2012 WEEKDAY PM
PEAK HOUR TRAFFIC VOLUMES

- LEGEND**
- ① STUDY INTERSECTION & NUMBER
 - STOP SIGN
 - ⊞ TRAFFIC SIGNAL
 - LANE CONFIGURATION
 - 1000 PM PEAK HOUR TRAFFIC VOLUMES
 - 1000 PM PEAK HOUR TRAFFIC VOLUMES
 - 1000 PM PEAK HOUR TRAFFIC VOLUMES
 - PLANNED STREET (2013 TSP)



FEBRUARY 2013



Pedestrian/Bicycle

South End Road and Salmonberry Drive are generally the only routes that provide dedicated bicycle and pedestrian access in and out of the Plan area. These two streets constitute the bicycle and pedestrian environment together with several local streets in the project area. Table 4.2 shows the roadways with pedestrian and bicycle facilities.

South End Road lacks continuous sidewalks, with pedestrians generally never able to walk for more than 300 feet at a time without having to cross the street or walk along the edge of the street. While motor vehicle traffic volumes are not very high (4,500 to 7,500 vehicles per day), the posted speed is 40 miles per hour and this section of South End Road abuts John McLoughlin Elementary School. This school is a significant source of walking and driving trips, particularly around the start and ending hours of weekday school sessions. Also during these periods, the speed limit on South End Road is reduced near the school to 20 miles per hour. A direct sidewalk connection is not available to connect neighborhoods along South End Road north and south of the school.

Continuous bike lanes along South End Road north of Beutel Road connect the study area to Warner Parrott Road. As an east-to-west through street with bike lanes, Warner Parrott Road is an important connection for bicycle travel in Oregon City, linking bicyclists to other key routes in the City, including Linn Avenue, Beavercreek Road and Molalla Avenue.

Besides South End Road, Salmonberry Drive offers the only additional connection for pedestrians and bicyclists traveling in and out of the study area. It lacks sidewalks for nearly a quarter-mile between South End Road and Columbine Court and provides no bike facilities. Newer development east of Columbine Court constructed local streets with sidewalks on both sides, providing an indirect connection for pedestrians and bicyclists between the study area, and Central Point Road and Partlow Road.

Most of the remaining streets in the project area generally lack any accommodation for bicycle or pedestrian users, with the exception of some local streets with sidewalks in the newer neighborhoods along Parrish Road, Rose Road, and directly across South End Road from John McLoughlin Elementary School. A marked crosswalk with a pedestrian activated signal provides a safe connection across South End Road for pedestrians directly in front of John McLoughlin Elementary School. In addition, a shared-use path connects South End Road with Sunblaze Drive, just to the north of Rose Road.

The 2013 Oregon City TSP Update proposes sidewalks and bike facilities along several streets in the study area, including South End Road, Beutel Road, Rose Road and Parish Road. It also proposed several shared-use paths that would accommodate both pedestrians and bicyclists in the study area. The TSP update process is expected to conclude in Spring 2013.

Table 3.2: Existing Pedestrian and Bicycle Characteristics

Roadway (limits)	Sidewalks	Bike Facilities
South End Road (Rose Road to Salmonberry Drive)	Intermittent sidewalks	Bike Lanes
South End Road (Salmonberry Drive to Beutel Road)	None	Bike Lanes
South End Road (Beutel Road to just northeast of May Road)	None	None
Beutel Road (South End Road to western terminus)	None	None
Forest Ridge Lane (South End Road to western terminus)	None	None
Parrish Road (South End Road to just southeast of Pennys Way)	Both sides southeast of Linda Drive	None
Rose Road (South End Road to Sprite Way)	Northeast side	None
Rose Road (Sprite Way to Deer Lane)	None	None
Salmonberry Drive (South End Road just southeast of Columbine Court)	None	None

Source: *2013 Oregon City Transportation System Plan.

Transit

While transit service is not provided ²in the study area, it is provided in Oregon City by TriMet via seven fixed bus routes connecting Oregon City to the rest of the Portland Metropolitan area. An Americans with Disabilities Act (ADA) paratransit service is also available within the study area. In addition, seasonal transit service is provided to residents and tourists via the Oregon City Trolley, and regional service is provided via the Canby Area Transit system, South Clackamas Transportation District, and Amtrak. Also, the Oregon City Pioneer Community Center runs a transit bus service for seniors to access essential services through a contract with Ride Connect, which is funded with US HUD CDBG grant funding.

Bus stops in Oregon City are located along Main Street, Railroad Avenue, 2nd Street, High Street, 5th Street, Linn Avenue, 7th Street, Molalla Avenue, Division Street, 9th Street, 16th Street, Jackson Street, Abernethy Road, Holcomb Boulevard, Longview Way, Warner Milne Road and Beaver Creek Road. Transit users in the study area are nearly two miles from the closest bus stop at the Warner Parrott Road-Warner Milne Road/Linn Avenue-Leland Road intersection (greater than the typical trip length for the average walking or biking trip). Park and ride facilities are provided for transit users at two locations in Oregon City, near the Linn

² TriMet discontinued service on South End Road in 2009, due to low ridership and budget reductions for local bus services.

Avenue/Williams Avenue intersection (just north of Warner Milne Road) and at Clackamas Community College.

Existing activity levels for each mode of transportation

Pedestrian, bicycle, and motor vehicle activity at study intersections was reviewed during the evening peak period (3:00 p.m. to 6:00 p.m.) on a typical weekday in the late spring of 2011³ or fall of 2011 and 2012⁴.

Pedestrian activity along South End Road through the study area was generally low during the evening peak period, with no more than three pedestrians traveling through the South End Road/Beutel Road-Parrish Road intersection during a single one-hour period. Pedestrian activity was generally highest outside of the study area at the Warner Parrott Road intersection with South End Road, with over 35 pedestrian crossings in the one-hour period between 4:50 p.m. and 5:50 p.m.

Bicycle volumes along South End Road through the study area were generally low during the evening peak period, with no more than one bicyclist traveling through the South End Road/Beutel Road-Parrish Road intersection during an observed single one-hour period. The highest volumes occurred at the Warner Parrott Road-Warner Milne Road/Linn Avenue-Leland Road intersection (outside of the study area), with hourly volumes ranging between five and ten cyclists.

Motor vehicle volumes at study intersections peak during the evening between 4:40 pm and 5:10 pm, but generally vary depending on the time of year. Traffic counts taken during off peak times in the year (like those collected for this study) must often be adjusted to account for seasonal variations in travel. For this study, the methodology from the ODOT Analysis Procedures Manual⁵ was used to determine the 30th highest annual hour volume (30 HV) for the study intersections. The 30 HV is commonly used for design purposes and represents the level of congestion that is typically encountered during the peak travel month.

To determine when the 30th highest annual hour volumes occur, DKS examined data from Automatic Traffic Recorder (ATR) stations that record highway traffic volumes year-round. If no on-site ATR is present, one with similar characteristics can be identified using ODOT's ATR Characteristics Table. If these do not produce a similar ATR with average annual daily traffic volumes (AADT) within 10% of study area volumes, the seasonal trend method should be used. The seasonal trend method averages seasonal trend groupings from the ATR Characteristics Table.

For the study area, no ATRs are located on-site, and the ATR Characteristics Table did not produce matches within 10% of the study area AADT volumes. Therefore, the seasonal trend method was utilized to develop seasonal factors⁶. The adjusted weekday pm peak hour volumes developed for the study intersections are displayed in Figure 3.1

³ Based on counts conducted April 13th and April 21st, 2011.

⁴ Based on counts conducted September 7th, 2011 and October 3rd, 2012.

⁵ *Analysis Procedures Manual*, Oregon Department of Transportation, July 2009.

⁶ Seasonal factors were previously applied to count data obtained from the 2013 Oregon City and Clackamas County TSP, therefore no adjustments were made at these intersections.

Performance of the current transportation system

The transportation infrastructure in the study area was evaluated with a variety of measures in order to document the existing deficiencies of the transportation system. Information reviewed included safety of the roadways and intersections and motor vehicle operations.

Safety

Safety of the roadways and intersections in the study area was assessed through collision data and field observations to identify deficiencies. The data along the roadways and intersections was reviewed to identify potential patterns for motor vehicle, pedestrian, and bicyclist collisions.

DKS obtained collision data from the past five years (2007 to 2011) from the Oregon Department of Transportation (ODOT) for all roadways in the study area, in addition to the 10 study intersections. Over the past five years, 55 collisions, or an average of 11 per year, were identified. A majority of these (43 of the 55) were either rear-end or turning type and most occurred at intersections outside of the study area, with only three of the 55 collisions occurring along roadways within the study area.

The severity of the collisions was generally low, with most (42 of the 55 collisions) involving either property damage only (no injuries) or minor injuries. There were two collisions involving major injuries, eleven involving moderate injuries, and no fatalities over the past five years. All of the major or moderate injury collisions occurred along McLoughlin Boulevard (OR 99E), at the South 2nd Street and South End Road intersections.

Pedestrian/Bicycle Collisions: there were no crashes involving pedestrians and one involving a bicyclist over the past five years in the study area (2007 to 2011). A bicyclist was involved in a crash on South End Road near Salmonberry Drive in 2009, suffering minor injuries.

The total number of crashes experienced at an intersection is typically proportional to the number of vehicles entering it. Therefore, a crash rate describing the frequency of crashes per million entering vehicles (MEV) is used to determine if the number of crashes should be considered high. Using this technique, a crash rate of 1.0 MEV or greater is commonly used to identify when further investigation is warranted.

As shown in Table 3.3, crash rates calculated (based on the past five years of data) at all 10 intersections reviewed are well below the 1.0 MEV threshold, indicating the frequency of collisions is typical for the volume of traffic served. There were no collisions over the five-year period at the South End Road/ Beutel Road-Parrish Road intersection and only two at the South End Road/Lafayette Avenue-Partlow Road, Central Point Road/Partlow Road and Central Point Road/McCord Road intersections.

The OR 99E/South End Road intersection had the highest crash rate of the intersections reviewed, although well below the 1.0 MEV threshold, with 19 collisions over the five-year period. Most of the collisions at this intersection involved drivers failing to yield the right-of-way when making a turn. Of the 11 turning type collisions, 10 involved drivers turning left

onto southbound OR 99E from South End Road. It was noted during field observations that adequate sight distance was available at this intersection.

Table 3.3. Crash Rates, South End, 2012

Intersection	Total Collisions (2007 to 2011)	Collision Severity		Collision Rate (MEV)
		Property Damage Only	Injury	
McLoughlin Boulevard/ South 2 nd Street	12	6	6	0.27
McLoughlin Boulevard/ South End Road	19	7	12	0.55
South End Road/ South 2 nd Street	6	1	5	0.31
South End Road/ Warner Parrott Road	4	2	2	0.19
South End Road/ Lafayette Avenue-Partlow Road	2	2	0	0.12
South End Road/ Beutel Road-Parrish Road	0	0	0	0.00
Central Point Road/ Partlow Road	2	1	1	0.19
Central Point Road/ McCord Road	2	1	1	0.19
Warner Parrott Road/ Central Point Road	5	1	4	0.21
Warner Parrott Road-Warner Milne Road/ Linn Avenue-Leland Road	3	1	2	0.08

Source: ODOT Crash Analysis Unit for reported incidents between 2007 and 2011.

Intersections

Motor vehicle operations were evaluated by analyzing the performance of the ten intersections reviewed. Two common measures of intersection performance are level of service (LOS) and volume-to-capacity (v/c) ratios.

Level of service (LOS) is similar to a report card rating (A through F) and is based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.

Volume-to-capacity (v/c) ratios are decimal representations (between 0.0 and 1.0) of the proportion of capacity that is being used (i.e., the saturation) at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic flow rate by the hourly

capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.0, congestion increases and performance is degraded. If the ratio is greater than 1.0, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

All study intersections must operate at or below the adopted performance measures or mitigation could be necessary to approve future growth. The adopted intersection mobility targets vary by jurisdiction of the roadways. Two of the intersections reviewed are under state jurisdiction (along McLoughlin Boulevard), while the remaining eight intersections are under the jurisdiction of Oregon City. All intersections under State jurisdiction must comply with the v/c ratios in the 1999 Oregon Highway Plan (OHP), while intersections under City jurisdiction must comply with the v/c ratios in the 2013 Transportation System Plan (TSP). Both the OHP and TSP require a v/c ratio of 0.99 to be met at the intersections reviewed during the evening peak hour.

Motor vehicle conditions were evaluated at the 10 intersections reviewed during the 30 HV (i.e., weekday p.m. peak hour in August). The evaluation utilized 2000 Highway Capacity Manual methodology for signalized and unsignalized intersections.⁷ During this period, all study area intersections operate within the adopted mobility targets, generally with v/c ratios of 0.65 or less as shown in Table 3.4. Only the South End Road/ Warner Parrott Road and Warner Parrott Road-Warner Milne Road/ Linn Avenue-Leland Road intersections operate with v/c ratios above 0.65, at 0.87 and 0.73 respectively. In addition, the Warner Parrott Road/ Central Point Road intersection is operating with a level of service F. The side street at this intersection (Central Point Road) generally experiences high delay due to steady volumes on the uncontrolled roadway (Warner Parrott Road). This approach typically requires more time for an acceptable gap in traffic to make a left turn onto the mainline, therefore, the delay of the side street is high.

⁷2000 *Highway Capacity Manual*, Transportation Research Board, Washington DC, 2000.

Table 3.4. Motor Vehicle Conditions, South End, 2012

Intersection	Volume/ Capacity	Delay (seconds)	Level of Service
McLoughlin Boulevard/ South 2 nd Street*	0.65	15.4	B
McLoughlin Boulevard/ South End Road**	0.53	19.0	A/C
South End Road/ South 2 nd Street***	0.54	11.8	B
South End Road/ Warner Parrott Road***	0.87	25.0	C
South End Road/ Lafayette Avenue-Partlow Road**	0.44	34.3	A/D
South End Road/ Beutel Road-Parrish Road**	0.07	13.6	A/B
Central Point Road/ Partlow Road**	0.29	12.6	A/B
Central Point Road/ McCord Road**	0.18	12.8	A/B
Warner Parrott Road/ Central Point Road**	0.41	108.9	A/F
Warner Parrott Road-Warner Milne Road/ Linn Avenue-Leland Road*	0.73	32.5	C

Source:

Bolded Red and Shaded indicates intersection exceeds v/c mobility target or operates with a Level of service "F"

Note: *Unsignalized intersection; **All-way stop intersection; ***Signalized intersection

For Signalized and Unsignalized intersections:

Delay = Average Stopped Delay per Vehicle (sec) Delay = Average Stopped Delay per Vehicle (sec)

for All Movements Worst Movement

LOS = Level of Service of Intersection LOS = Level of Service of Major Street/Minor Street

V/C = Volume-to-Capacity Ratio of Intersection V/C = Volume-to-Capacity Ratio of Worst Movement

For All-way Stop Intersections:

Delay = Average Stopped Delay per Vehicle (sec)

for All Movements

LOS = Level of Service of Intersection

V/C = Volume-to-Capacity Ratio of Worst Movement

Planned improvements

The current Oregon City TSP identifies a number of planned transportation improvements for the South End area. These include intersection, street, sidewalk and bike lane management, extensions and expansions. Table 3.5 lists 2013 TSP Financially Constrained Improvements for the South End Study area. Maps of citywide planned improvements are found in Appendix A.

Table 3.5. Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
Driving Solutions (Intersection and Street Management)				
D32	South End Road/Warner Parrott Road Operational Enhancement	South End Road/Warner Parrott Road	Install a traffic signal with dedicated left turn lanes for the South End Road approaches to Warner Parrott Road	Medium-term
D33	South End Road/Lafayette Avenue-Partlow Road Operational Enhancement	South End Road/Lafayette Avenue-Partlow Road	Install a single-lane roundabout	Medium-term
D41	South End Road/Buetel Road Extension Operational Enhancement	South End Road/Buetel Road Extension	Install a single-lane roundabout	Medium-term
D42	South End Road/Deer Lane Extension Operational Enhancement	South End Road/Deer Lane Extension	Install a single-lane roundabout	Long-term
Driving Solutions (Street Extensions)				
D51	Deer Lane extension	Rose Road to Buetel Road	Extend Deer Lane from Rose Road to Buetel Road as a Residential Collector. Add a sidewalk and bike lane to the east side of the street, with a shared-use path to be added on west side per project S32.	Long-term
D52		Buetel Road to Parrish Road	Extend Deer Lane from Buetel Road to Parrish Lane as a Residential Collector. Add a sidewalk and bike lane to the east/north side of the street, with a shared-use path to be added on west/south side per project S33. Create a local street connection to Finnegans Way Install a roundabout at South End Road (per project D42).	Long-term
D61		Meyers Road to UGB (north of Loder Road)	Extend Meadow Lane from the Meyers Road Extension to the UGB (north of Loder Road) as an Industrial Collector	Medium-term
D65	Parrish Road Extension	From Parrish Road east to Kolar Drive	Complete the gap between Parrish Road as a Constrained Residential Collector.	Long-term
Driving Solutions (Street and Intersection Expansions)				
D89	South End Road Upgrade	Partlow Road-Lafayette Road to UGB	Improve to Residential Minor Arterial cross-section	Medium-term
Walking Solutions				
W47	South End Road (south of Partlow)	Partlow Road to Buetel Road	Complete sidewalk gaps on both sides of the street	Included with project

Table 3.5. Financially Constrained Transportation System

Project #	Project Description	Project Extent	Project Elements	Priority
	Sidewalk Infill			D89
W48		Buetel Road to UGB	Complete sidewalk gaps on both sides of the street	Included with project D89
W54	South End Road (north of Partlow) Sidewalk Infill	Partlow Road to Barker Avenue	Complete sidewalk gaps on both sides of the street	Short-term
Biking Solutions				
B42	South End Road (south of Partlow) Bike Lanes	Buetel Road to UGB	Add bike lanes to both sides of the street	Included with project D89

Chapter 4: Public Infrastructure and Services

This chapter describes the existing services for stormwater, water, sanitary sewer, energy, police services, fire and emergency services, and school facilities.

Stormwater

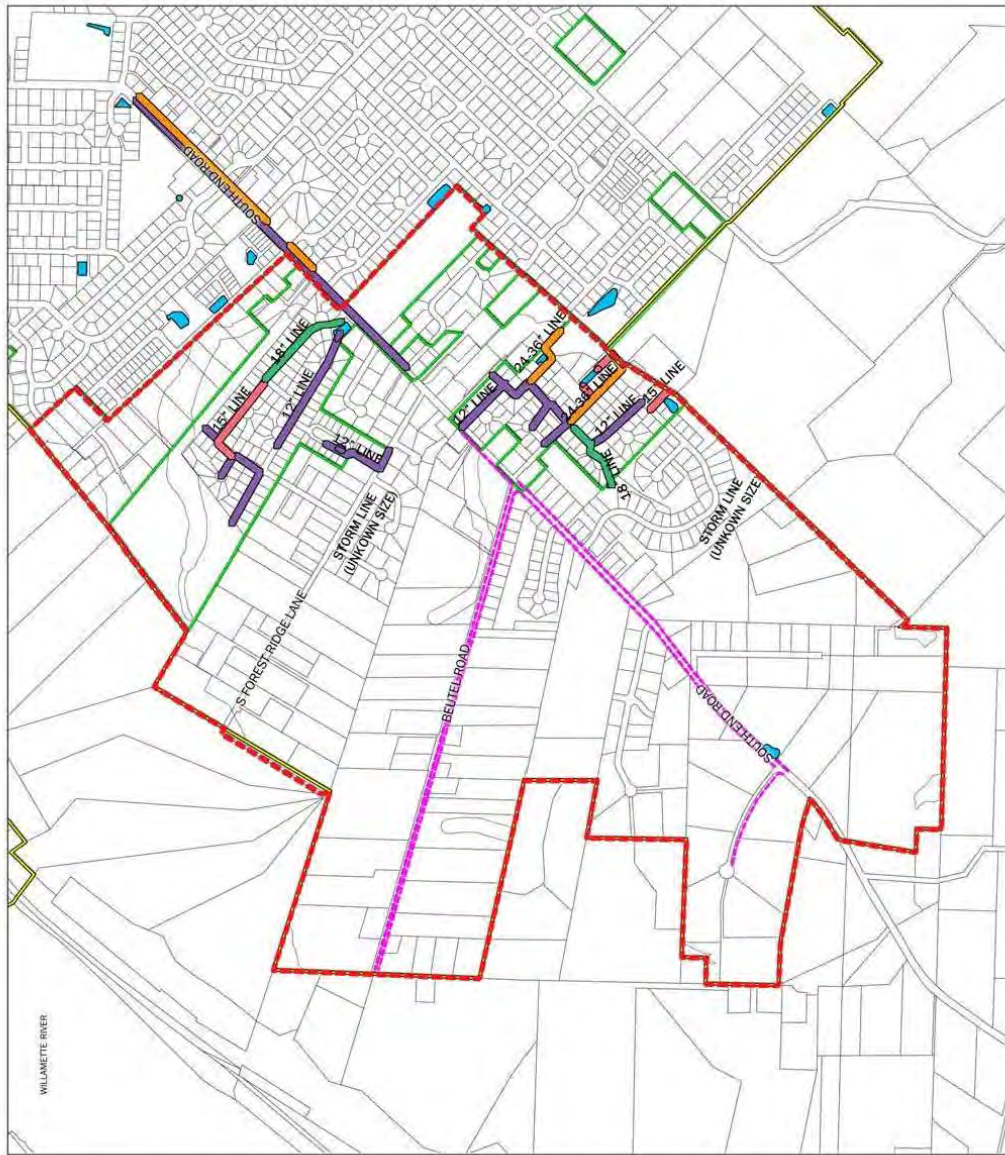
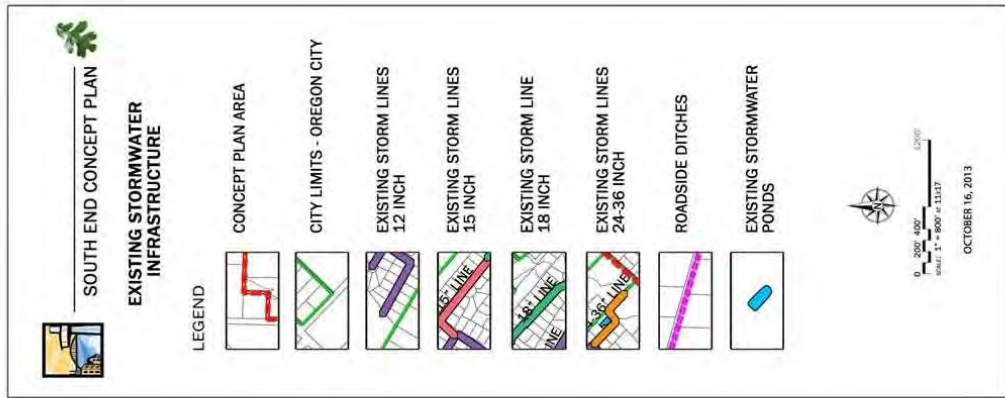
The planning area falls within the Amanda Court, Allen Court, and South End drainage basin areas as shown in the City of Oregon City Drainage Master Plan (January 1988). These basins are part of tributaries that drain to the Beaver Creek. Figure 4.2 illustrates the different drainage catchments located within the study area.

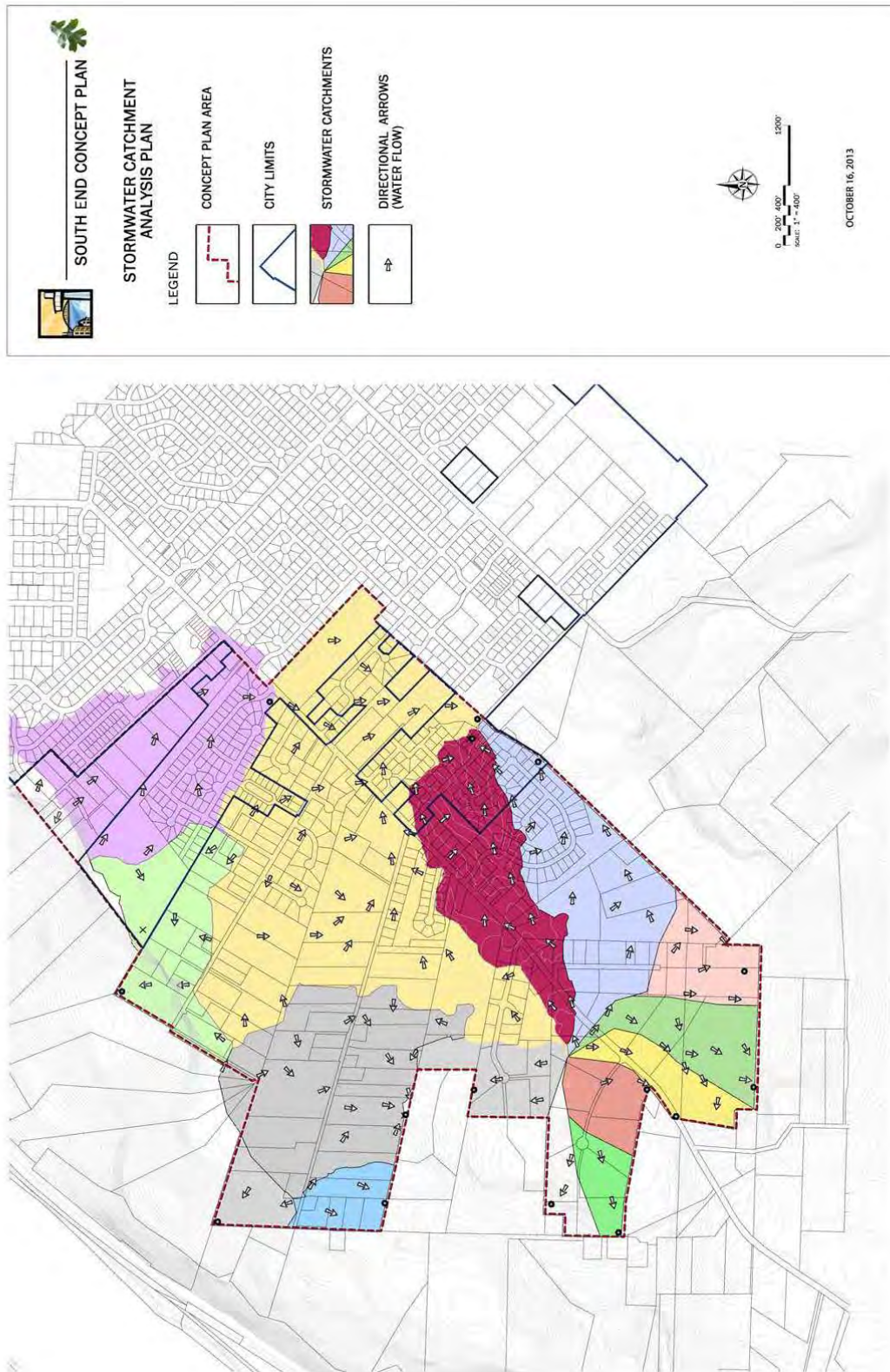
Stormwater within the study area is currently being managed by a combination of roadside ditches, natural drainage channels, and underground storm conveyance systems. These systems are shown in Figure 4.1. Additionally, there are a handful of existing detention ponds within the City's boundaries that service existing subdivisions and a privately owned detention pond located along the southeast side of South End Road and S Kelland Court.

Storm systems within the current City boundary generally consist of catch basins draining to underground conveyance systems. Pipe systems generally range in size from between 10 inches and 36 inches. Outside the City limits, stormwater is typically handled through roadside ditches with some areas draining to catch basins.

The City Engineering Division has indicated that they are currently working to create and adopt a new series of Low Impact Design Standards as part of a Stormwater and Grading Design Manual Update. Areas currently outside the City limits have the greatest potential to redevelop and implement new low impact design (LID) standards. Providing LID standards to new/redeveloped properties will limit the impact to existing aging storm systems and reduce the infrastructure required to services these areas.

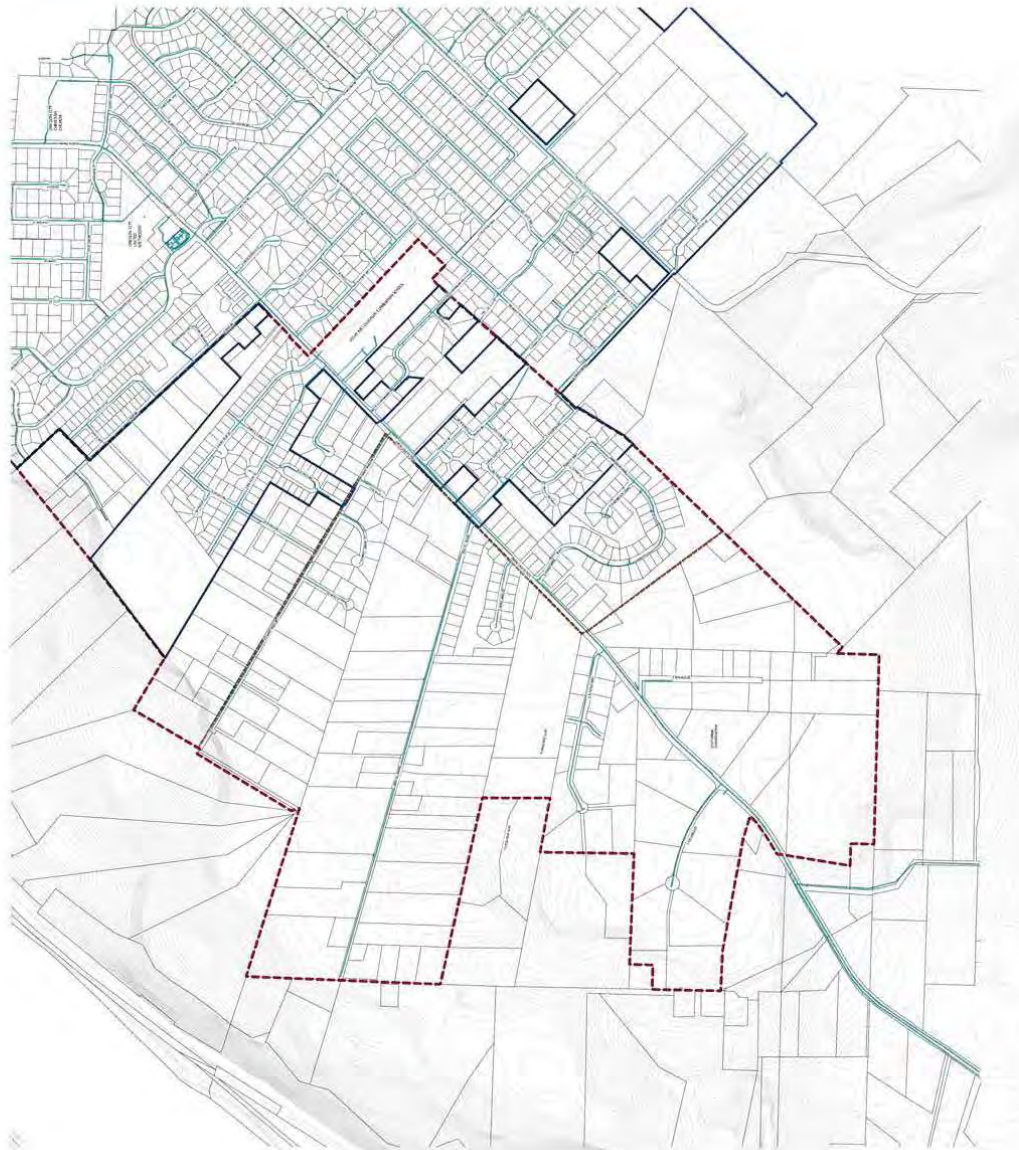
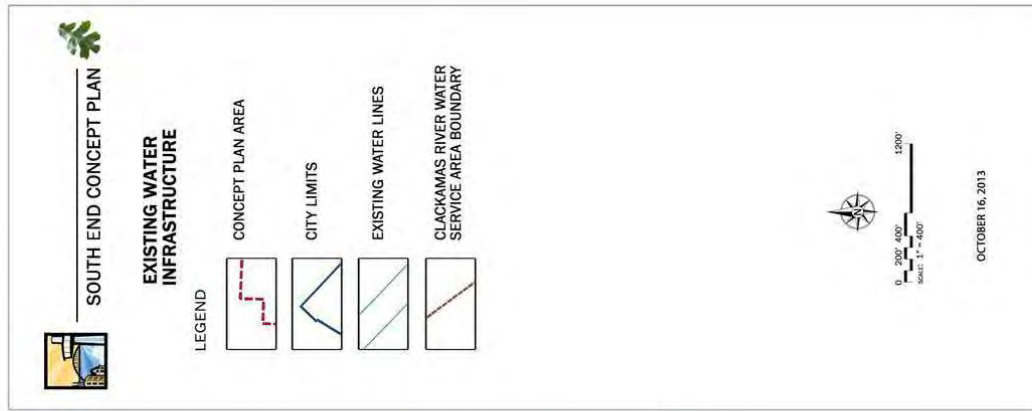
There are great opportunities to provide regional and sub-regional stormwater management areas. Considering and planning for storm on a catchment wide basis would help to reduce the number of small or privately owned and operated storm systems. With careful planning, regional stormwater management areas can be incorporated to drain treated stormwater into adjacent natural resource areas. The City of Oregon City currently utilizes one regional detention area in the South End Basin Master Plan, adopted June 1997. This regional detention basin is located south of Salmonberry Drive and southeast of Parrish Road extending outside of the study area. It may be possible to expand this facility in anticipation of additional development within the planning area.





Water

The Boynton pump station and reservoir provides water to residents within the planning area and areas adjacent, as described in the City of Oregon City Water Distribution System Master Plan, (January 2012). Water services within the planning area are served by both the City of Oregon City and Clackamas River Water (CRW). Transmission mains within South End Road are owned by the City of Oregon City and Clackamas River Water. There is a master service meter located just southwest of S. Impala Lane and South End Road intersection, which delineates the two service districts. This master meter delineates the mainline interconnect with the City of Oregon City and CRW. The City has a joint access agreement with CRW for special situations for areas outside of the City limits. Under this agreement, CRW can provide customer services directly from Oregon City pipelines that are upstream of their master meter. A majority of the study area is serviced by CRW under this agreement as these areas are intermixed with unincorporated and incorporated properties. Water services within the City boundary is provided by the City of Oregon City and pipe mainline sizes are between 4-inch to 12-inch. Areas outside of the City limits are serviced by Clackamas River Water District (CRW), as shown in Figure 4.3.



Sanitary Sewer

The only areas serviced by City wastewater collection are the lands located within the City limits in the Northeast and East sections of the planning area as shown in Figure 4.4. Areas within the City limits are serviced by gravity sewer mains ranging from 8-inch to 12-inch pipes. The planning area falls within the Parish Road, X1, E6, and E7 sub-drainage basins, and are a part of the South End Road drainage basin as shown in the City of Oregon City Sanitary Sewer Master Plan (December 2003). Areas within the Plan area that are inside City limits convey flows to the Parish Pump Station (11525 Parish Dr.). From there, sewage is conveyed through a 10-inch force main, to a manhole in front of Oregon City Church (1179 South End Road), which provides gravity flow eventually to the wastewater treatment plant. There are four existing houses, within City limits that are located at 11501, 11502, 11520, and 11521 Salmonberry Drive that are on private Septic Tank Effluent Pumping (STEP) systems. These STEP systems are maintained by the City of Oregon City, electricity is covered by the individual homeowner, and is pumped to the City sewer system within South End Road. The majority of the homes that are located within the planning area and outside city limits are currently on septic systems. The City Sanitary Sewer Master Plan indicates that the areas within the Plan boundary will drain to the South End Basin.



Energy

Power is currently provided within the study area by either above ground transmission lines or underground services. There is an above-ground transmission line that runs the length of South End Road. Most neighborhood streets that branch off of South End Road convey the electrical line underground. Two significant easements for overland transmission lines currently cross the planning area from east to west. The northern transmission corridor is managed by Portland General Electric. It is approximately 125 feet wide. The southern corridor is maintained by the Bonneville Power Administration. This transmission corridor appears to be 360 to 380 feet wide.

Natural Gas

Northwest Natural Gas (NW Natural) provides the natural gas services for the area. Existing gas lines are within the existing road network for the study area ranging in size from 1-inch to 4.5-inch mainlines. NW Natural can easily provide services, upgrades, and extensions as future development occurs.

Police Services

The South End Area is currently served by Clackamas County Sheriff's department, through their Enhanced Law Enforcement District. Various Jurisdictions (Molalla, Canby, etc.) travel through the project area with some frequency due to the Clackamas County facilities at Red Soil Campus (e.g. Jail, Courts, Juvenile Detention Center, Emergency Operations Center, and other public facilities. There is a higher general presence and visibility of law enforcement in this area due to this.

The City of Oregon City currently has no police stations within the planning area. The City Police Station is located at 320 Warner Milne Road, approximately 1.6-miles (2.0-miles by road) from the area. The police department services all of Oregon City from this office. In the future as individual properties annex into the City the police jurisdiction for the area will be transferred to the City's police department.

The City of Oregon City's police department is currently operating with a less than ideal budget. The department has typically requested that developers voluntarily contribute a per lot fee to the department upon application to the City for building permits. The department currently does not have plans for any new facilities within or adjacent to the planning area.

Fire and Emergency Services

The plan area is within Clackamas County Fire District #1 service area. Currently there are no fire stations within the area. The closest Fire Station (South End Station 17) that provides service to the study area is approximately 0.2 miles north of the study area at 19001 South End Road. Station 17 provides protection service for the South End area of Oregon City. The County's Fire district will continue to provide service to the area upon annexation of properties within the district to the City.

School Facilities

Oregon City School District provides education services for the planning area. The John McLoughlin Elementary is located within the planning area at 19230 S South End Road. The nearest middle and high schools are Gardiner Middle School, two miles away at 180

Ethel Street, and Oregon City High School, four miles away at 19761 Beaver Creek Road. The City also owns the King Elementary School located approximately two miles from the project site. The King Elementary School is currently leased to a charter school.

The District has indicated that sufficient capacity exists at the McLoughlin Elementary school to add many new students. If additional demand is anticipated, the King Elementary school may be re-opened by the District in order to provide capacity for potentially new 400 students. The district reviews the annual population forecasts and its Facilities Master Plan on an annual basis. If additional facilities are required, the School district may seek to adjust their master plans.

Chapter 5: Natural Resources

The following section summarizes the findings of the Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces) Resource inventories. These findings are the result of research of historic aerial photographs, State of Oregon archives, and other available datasets.

Wetlands and Water Resources

Wetland and water resources were identified and located based on the Local Wetland Inventory for Oregon City (1999), National Wetland Inventory data (2012), USGS survey data (2012), aerial photography (2002), and available Metro datasets (2010). Two potentially jurisdictional wetlands and seven other waters of the State/United States comprising approximately 3.7 acres and 2.38 miles, respectively were identified within the Plan area.⁸

Both wetland areas are associated with channels and are comprised of mixed forest and emergent vegetation assemblages. Most of the wetland acreage is comprised of a somewhat linearly-shaped depression along a stream channel located in the northernmost portion of the study area. The other wetland area is east of the intersection of Forest Ridge Road and South End Road, near the confluence of two channels. Figure 5.1 is a map of streams and buffers. Buffers are calculated according to Oregon City stream buffer criteria per OCC 17.49.110. Field-level reconnaissance may reveal more complexity within the study area. A summary of wetlands and waters within the planning area is presented in Table 5.1. Figure 5.2 is a map of vegetation classifications and wetlands.

Table 5.1. Wetlands and Water Resources, South End, 2012

Resource Type	Classification	Acreage/Length
Wetland	<i>Palustrine emergent/forested</i>	3.7 acres
Stream/other waters	<i>Ephemeral/Seasonal</i>	2.38 miles

Source: Local Wetland Inventory, 9/1/1999; Water Resource Inventory, September 27, 2012.

⁸ Jurisdictional wetlands and waters are those that meet the definition of these features based on the 1987 Corps of Engineers Wetland Delineation Manual, and updates and supplements.

Vegetation and Wildlife Habitat

Existing wildlife habitat types are defined by basic vegetation assemblages that include forested areas, open grass/forb dominant space, and woody non-forested space. Habitat types present within the study area are summarized in Table 5.2.

Wildlife habitat areas are established via interpretation of vegetation coverage type using Metro's 2002 digital orthophotographs. Irregular shapes called “polygons” are digitized around forest, woody non-forest vegetation, grass/forb dominant open spaces, and developed gaps. For the South End project area, Forest landcover types are delineated. Woody non-forest vegetation and open space are delineated only within 300 feet of a mapped stream. As a result, open grassy areas and woody non-forested areas are likely underrepresented by the data.

Clackamas County Water Environment Services GIS mapping for Metro Title 13 areas indicates the presence of low, medium and high value Habitat Conservation Areas within the UGB area. These areas are generally associated with the presence of Title 3 riparian areas, water features and wetlands, and match the mapping done by Oregon City for the concept plan area.

It is anticipated that these areas would fall under the protection of the city's Natural Resources Overlay District upon annexation.

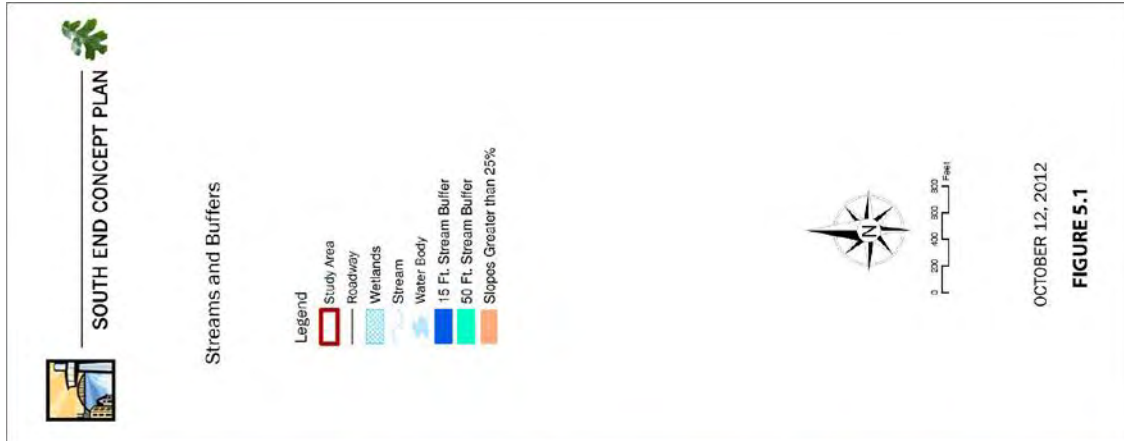
The upland areas outside of these low, medium and high value buffers are designated as “Allow”, meaning they are areas that are not regulated or protected by Title 13.

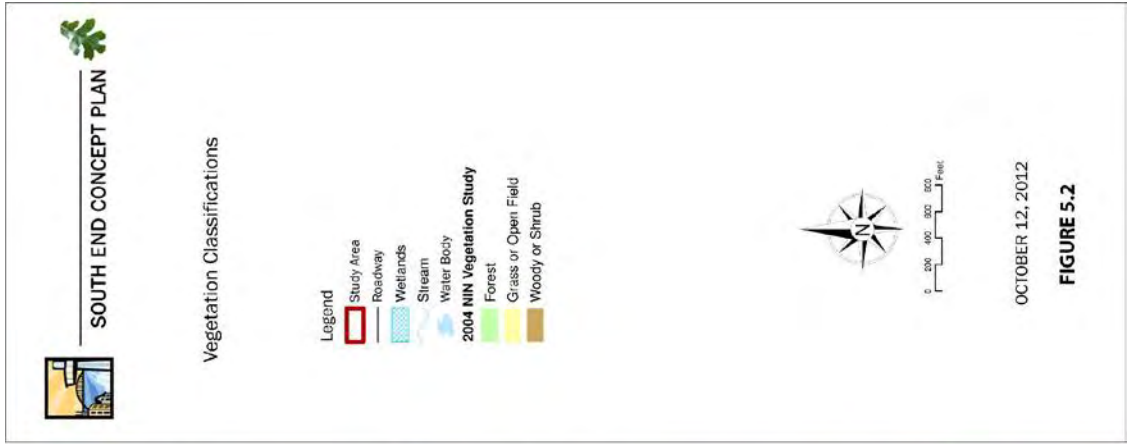
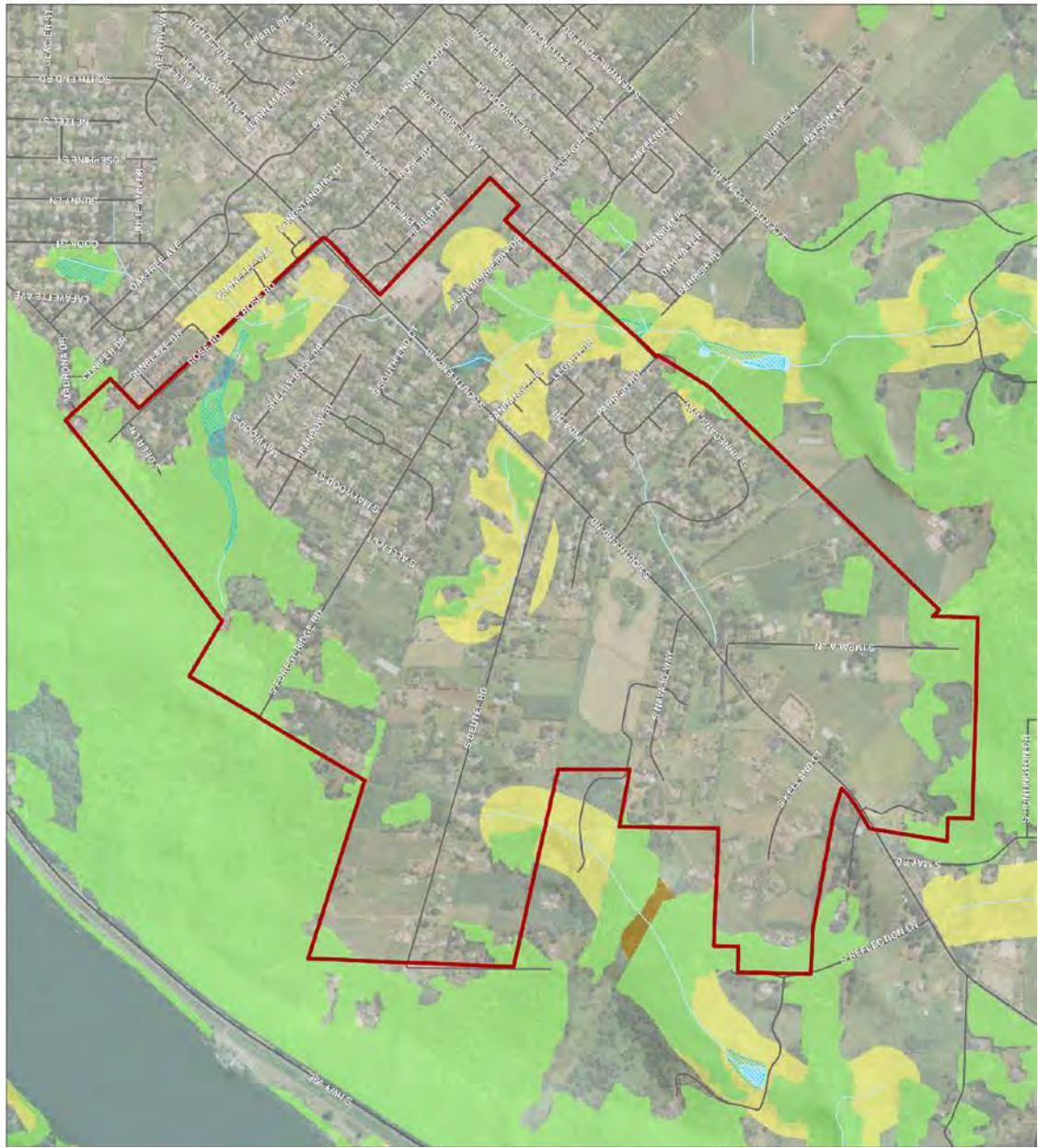
As stated earlier, field-level reconnaissance may reveal more complexity within the study area. Subsequently, prior to annexation of lands within the concept plan area, field level surveys may be required to verify the presence or absence of these resources in order to comply with statewide planning Goal 5.

Table 5.2. Terrestrial Wildlife Habitat Summary

Habitat Type	Acreage
Forested	102.5
Grass/Forb/Open Space Dominant	42.9
Woody Non-Forested	0

Source:





Federal Wild and Scenic Rivers

The National Wild and Scenic Rivers (WSR) list of designated river was reviewed. No federally-designated WSR occur within the existing study area (WSR 2012).

State Scenic Waterways

The Oregon Parks and Recreation Department (OPRD) map of designated Scenic Waterways was reviewed. No state-designated Scenic Waterways occur within the study area (OPRD 2012).

Groundwater Resources

No records for wells or groundwater aquifer sources were located using the Oregon Water Resources Department groundwater resources database query tool (OWRD 2012).

Approved Oregon Recreation Trails

The study area contains no Oregon Parks and Recreation Commission-designated Oregon Recreation Trails.

Natural Areas

Under Oregon Statewide Land Use Planning Goal 5, “natural areas” are defined as “... land and water that has substantially retained its natural character, which is an important habitat for plant, animal, or marine life. Such areas are not necessarily completely natural or undisturbed, but can be significant for the study of natural, historical, scientific, or paleontological features, or for the appreciation of natural features.” Natural areas may include passive and active parks.

Areas adjacent to the study area have the potential to meet one or more of these criteria occur along the western bluffs overlooking the Willamette River. The Willamette River is an American Heritage River and the Willamette River Water Trail is one of 14 nationally recognized water trails. These areas include potential for the appreciation of the Willamette River and adjacent landscape, among other potential attributes.

Wilderness Areas

The study area is located in an area of mixed residential and agricultural usage. There are no federally-designated wilderness areas within the study area.

Soils

Soils were identified and located based on the USDA Natural Resource conservation Service (NRCS) web soil survey. NRCS survey data identified 12 soils series within the study area. In general, soils in the project area are silt loam soils formed from mixed alluvium on hillslope terraces. One of the soils series, Delena silt loam, is considered hydric. Areas with mapped hydric soils may indicate the presence of wetlands; such soils may constrain infrastructure development, but may also provide opportunities for complex habitat development. Delena soils are mapped in the northern portion of, and comprise a small percentage of the total project area.

The NRCS database mapping also includes Cottrell, Jory, and Nekia silty clay loams, a Jory stony silt series, and steep, rocky outcrops. Figure 5.3 is a map of Concept Plan area soils and Table 5.3 includes a list of all soils in the project area.

Table 5.3. Soils Series

Aloha silt loam	Amity silt loam	Bornstedt silt loam
Cottrell silty clay loam	<i>Delena silt loam</i>	Hardscrabble silt loam
Jory stony silt	Helvetia silt loam	Jory silty clay loam
Saum silt loam	Nekia silty clay loam	Woodburn silt loam
Xerochrepts and Haploxerolls		

Italics indicate hydric soils

Source: NRCS Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/app/>

Mineral and Aggregate Resources

There are no known mineral or aggregate resources documented in the study area (DOGAMI 2012). There is record of a pumicite mine within two miles northeast of the study area. The Terrill mine is located in an exposed bed beneath the terrace upon which much of Oregon City is established. Fine pumicite powder and silica sands were extracted from the site for commercial use beginning in 1916. DOGAMI records appear to show the site as inactive since 1930.

Energy Sources

There are no known documented energy sources within the study area according to the Oregon Department of Energy. There are no facilities under review for site certification, certification amendment, or that hold site certification or site exemption for energy production (ODOE 2012).

Historic and Cultural Resources

There are several above ground historic resources around the study area. The State Historic Preservation Office (SHPO) Historic Sites Inventory lists a total of 2,980 historic sites for Oregon City and vicinity. There are three properties designated as being within the study area, one of which is on the National Register of Historic Places:

- The White-Kellogg House, 1900 S. Central Point Road, also known as the Four Elms and the Judge Samuel S. White House. The wood frame structure was built in 1849/1850 in the Classical Revival style, and was listed on the National Register in 1989. It is one of 25 homes shown on the historic sites inventory as listed on the National Register for Oregon City and vicinity.
- A house at 19142 Central Point Road. The house was built in 1900 and sided with horizontal boards. While considered eligible for the National Register, the structure is not so listed.
- The John H. and Margaretta Barck House, 18952 South End Road. The single family house was built in 1890 and has synthetic wood siding. It is not considered eligible for National Register listing.

Additionally, the historic sites database (www.oregon.gov/OPRD/hcd) shows 73 historic properties on roads highlighted within the project area map. They are:

- 14 properties on South Buetel Road,
- 2 on South Forest Ridge Road,
- 1 house at 1973 S. Parrish Road,
- 3 on South Rose Road, and

- 53 total on South End Road and S. South End Road (33 on South End Road; 20 on S. South End Road).

A review of General Land Office (GLO) maps showed several land claims within the study area. No donation land claims were noted on the 1852 GLO maps within Section 12, although a road to Oregon City is shown passing diagonally through the section from the southwest to the northeast passing through the southwest, northwest and northeast quarters of Section 12. It is possible that cultural material related to that road might be found during any subsequent survey or excavation in the area. Donation Land Claims within Section 12 first appear on the 1860 GLO map.

The 1860 map shows:

- Donation Land Claims within Section 12 registered to M.M. McCarver (445 acres shown as claim No. 41);
- Claim No. 42 (262.7 acres) registered to S.S. White;
- Claim No. 39 (435 acres) registered to Samuel D. Pomeroy;
- Claim No. 40 (416.73 acres) registered to Absalom F. Hedges, primarily to the north in Section 1, but touching on Section 12.

The GLO record also shows claims to the west registered to:

- Milton Brown (Claim No. 38);
- Claim No. 37 (633.43 acres) registered to Elizabeth Alprey

Overall, these are the closest Donation Land Claims to the study area; it is possible cultural materials related to them could be encountered during subsequent survey or excavation in the area.

Native American Resources/Tribal Interest

Oregon City Municipal Code requires notification of the following tribes during land use review of ground disturbing activities: Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and Confederated Tribes of the Yakama Nation.

Threatened and endangered species

There are no federally or state listed rare, threatened, or endangered (RTE) species within the study area according to the Oregon Biodiversity Information Center. There are 20 occurrences of RTE species within a two-mile radius of the South End study area.

Aquatic species

There are no historic or current records of listed fish occurring in waterways in the study area (ORBIC 2012). No fish survey of waterways in the project area was located. According to an Oregon Department of Fish and Wildlife study on fish usage of Clackamas County Urban Streams, some urban area streams support a diverse assemblage of native fish species, including salmonids (ODFW 2003). The ODFW study did not include the South End project area.

Terrestrial Species

There are no known plant or animal species in the study area or its vicinity listed as rare, threatened or endangered by the Oregon Biodiversity Information Center (ORBIC 2012). Mature trees on the wooded bluff found on the western portion of the study area overlooking the Willamette River may provide opportunities for raptor roosting and nesting.

Chapter 6: Parks and Trails

This chapter describes the existing conditions of South End as it relates to parks, open space, natural areas and on-street and off-street pedestrian/bicycle trails. The South End concept study area possesses few designated open space areas and recreational facilities within it. However, this condition does not signify a lack of activity. Given the high availability of low speed and low traffic streets, many current residents use the roadway to serve a recreational function. These streets also provide a low-stress connection to destinations such as the Canemah Bluffs natural Area and the McLoughlin Elementary School recreational trail. As the process for developing a concept for South End evolves, it will be vital that steps be taken toward preserving the ability of residents to continue recreating and accessing low-stress walkways and trails right outside their front door. The following describes the existing conditions of South End as it relates to parks, open space, natural areas and on-street and off-street pedestrian/bicycle trails.

Related Planning Documents

This section summarizes existing planning efforts that are relevant to the South End Concept Plan.

Trails Master Plan (2004)

The Trails Master Plan (TMP) offers a long-term vision for trail network planning and development in Oregon City. The Plan also establishes goals for the Oregon City Trails network. Goal 1: Trail Development and Regional Connections is especially important to consider when planning in South End. This goal stipulates that “seamless connections to regionally significant trails with local trails to ensure that new development and subdivisions connect to the [trail] system.” Goal 7: Preservation, can also inform planning in South End. It states:

- Provide trail access to and preserve view corridors and viewsheds at vantage points.
- Preserve existing public rights-of-way and other easements for future trails and access-ways, particularly powerline and utility corridors.
- Preserve sensitive natural areas by designing and planning trails so that the natural area can be experienced without impacting or degrading the environment.
- The trails plan identifies several potential trail alignments that affect planning in the South End Concept Area, which are discussed in a later section. The Plan also establishes a trail hierarchy consisting of three trail types: regional trails, community trails and local trails.

Trails Master Plan Update (2012)

This update to the 2004 Trails Master Plan is being handled by the Oregon City Parks and Recreation Department and provides an up-to-date existing and proposed trail inventory,

analyzes priority gaps and clarifies trail types to more closely align with the 2012 Transportation System Plan (TSP). For example, the previous TMP made no distinction between off-street and on-street trails. The current TSP adopted a new 'Family-Friendly Route' designation for on-street pedestrian and bicycle connections, where traffic calming, pavement markings, and wayfinding can be used to enhance the active transportation user experience.

Park and Recreation Master Plan (1999)

The first iteration of the Park and Recreation Master Plan helped to establish the means to develop a stand-alone Parks Department that would oversee existing park maintenance and operations, as well as plan for new parks facilities. This Plan conducted a comprehensive inventory of existing park lands and recreational facilities and surveyed the community regarding their needs and desires.

Parks and Recreation Master Plan Update (2008)

This update to the 1999 Park and Recreation Master Plan helps clarify the short- and long-term goals of the Parks and Recreation Department. The plan summarizes the existing challenges faced by the department—lack of steady funding, inadequate staffing, and the high cost of on-going maintenance operations. The Parks and Recreation Department continues to pursue a dedicated funding source that will allow them to best meet the needs and desires of the community. A third piece of the Update was the administration of a community survey to better gauge resident's interests and needs. The following demonstrates the expressed community attitudes and desires that affect the South End Concept Plan process:

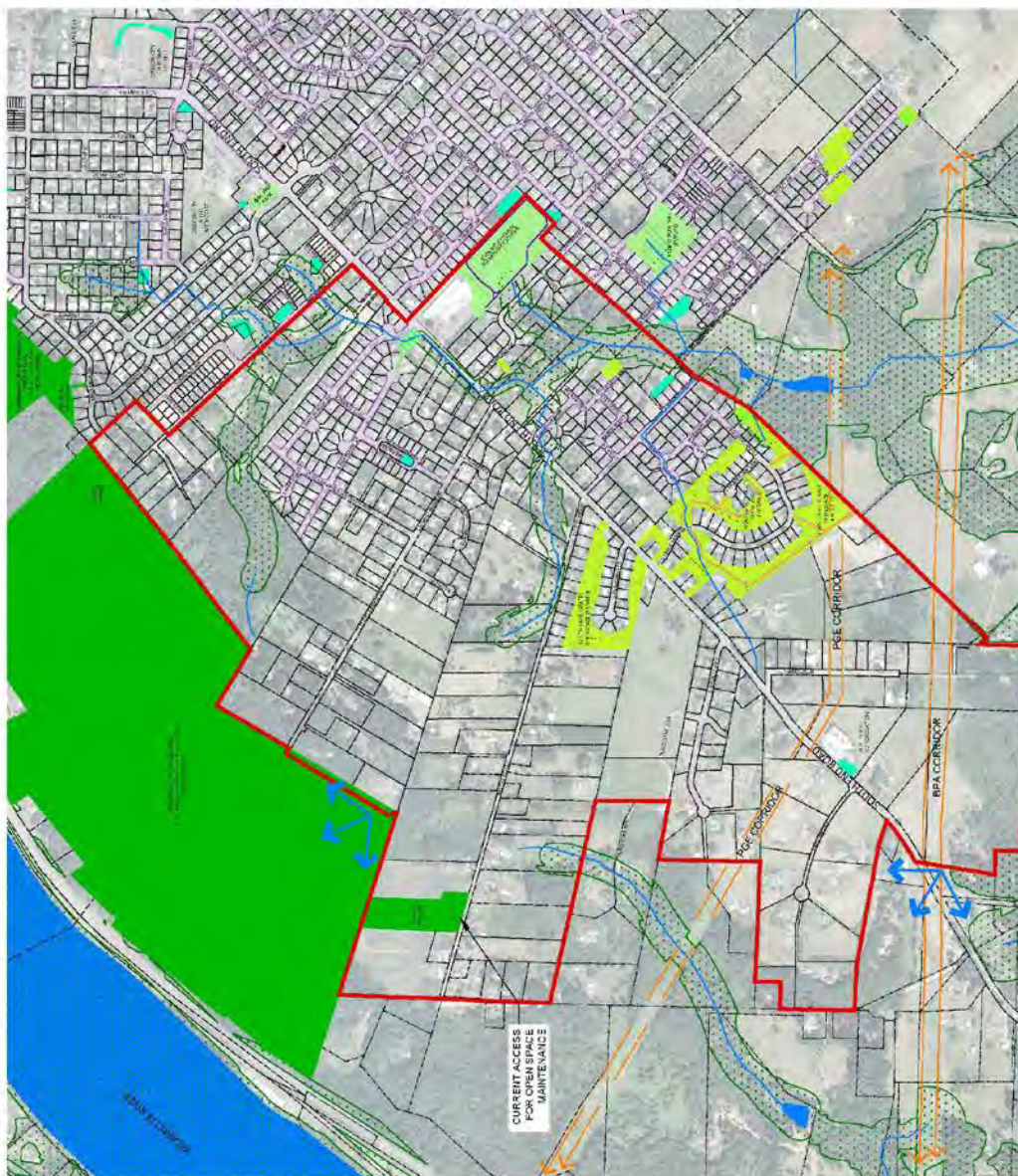
- Sixty-eight percent of respondents indicated that parks and recreation services were very, or somewhat, important.
- The majority of residents are willing to pay some kind of increased fee to directly fund parks and trails development and maintenance.
- The top three programs that are desired for the community (in order of preference) include: adult fitness and wellness programs, city-wide special events, and water fitness programs.
- The top three facilities that are desired in the community (in order of preference) include: walking and biking trails, new parks, open space and natural areas.

Parks and Open Spaces Near South End

City-Owned Locations

There are no public parks within the South End study area—existing open space is privately owned and maintained and signed as restricted access. One of the goals of the South End Concept Plan is to plan for the provision of parks and open space that provide opportunities for recreation and relaxation. Though no existing parks are available, residents living in South End can utilize some nearby City-owned parks and open spaces shown in Figure 6.1. These areas include:

FIGURE 6.1: EXISTING TRAILS, PARKS AND OPEN SPACE



- **Madrona Open Space** is a small 1.2-acre open space area, just northwest of South End, which is owned by the City. Though an existing right-of-way could provide access to the open space, at this time no signs mark the entrance to the Madrona Open Space, and to the casual observer it would appear that access is provided via the adjacent property owner's side yard (see Figure 6.1). The Madrona Open Space area backs up to the Canemah Bluff Natural Area and could potentially serve as a gateway from the neighborhood.
- **McLoughlin Elementary School** has an existing field and recreation trail that is open to the public. There are two existing access-ways to the field from the surrounding neighborhood.

Private Locations

Privately maintained open spaces are a great way to disperse opportunities for leisure and recreation throughout the neighborhood. These smaller spaces act as de facto neighborhood "parks" and can augment the larger, publicly owned, parks network. Providing low-stress, pedestrian and bicycle friendly connections between existing neighborhood private spaces and public parks and natural areas is a priority for the South End Concept Plan. Moreover, new development can be encouraged to develop green open spaces within subdivisions.

Currently in South End, there is a precedent for this style of private open space development. South Park Estates and Finnegan's Terrace are both privately developed subdivisions that maintain open space areas. These locations offer amenities such as natural surface walking trails, sitting benches and recreational fields. However, these may be accessed by residents only. The Merchant Meadows subdivision also maintains a central open green space courtyard that the front of each home faces.

Though it is a future development site and is north of the study area boundary, The United Methodist Church maintains a large open space area that includes a soft-surface walking trail. This space is mainly used for Church-related activities, such as camps and potlucks, but it is also open to the public and serves as a popular neighborhood destination for people out for a stroll, or walking their dog.

Metro Owned Locations

The Metro owned and maintained Canemah Bluff Natural Area provides the greatest potential to provide residents of South End with opportunities for engaging in hiking, nature viewing, and other recreational activities. This 308-acre natural area is split into two distinct sections and serves as a significant wildlife habitat resource for the region. The northern section currently provides opportunities for recreation and nature viewing on designated trails and unimproved roadways. In September 2011, Metro published the Canemah Bluff Natural Area Natural Resource Area Conservation and Site Management Plan. This document offers recommendations for the improvement of some existing trails and the construction of others. Planned trails and roads in this area do not connect to the residential neighborhood on the eastern border of the Canemah Bluff Natural Area—an area identified as being sensitive wildlife habitat.

The southern section of Canemah Bluffs does not yet have a formal master planning document. Metro plans to thoroughly inventory and master plan this area in the next five to ten years.

This section of Canemah Bluffs is closest in proximity to the residents of South End and could potentially serve as an important resource for future residents. Currently, there are no existing access points into the natural area from South End and no designated trails for hiking and nature viewing.

Table 6.1. Summary of parks, recreation and open space areas near South End, 2012

Name	Type	Acres	Amenities/Services	Outside Study Area	Ownership
Filbert Run Park (Future)	Park	3.5	n/a	X	Oregon City
Oak Tree Park	Park	0.5	None	X	Oregon City
Madona Open Space	OpenSpace	1.2	None	X	Oregon City
Canemah Bluff Natural Area	Open Space	308	Nature Trails, Historic Pioneer Cemetery Access	X	Metro
McLoughlin Elementary School	Park	7.7	Recreational trail and ball fields		Oregon City School District
South Park Estates Open Space (Private)	Open Space	5.7	Soft-surface trails, ball fields		South Park Estates Homeowners
Finnegans Terrace Open Space (Private)	Open Space	13.3	Soft-surface trails, benches, ball field		Finnegans Terrace Homeowners
Wetland	Wetland	0.25	Informational Signage and Benches		Oregon City
Oregon City United Methodist Church (Private)	Future Development Site	7.6	None	X	United Methodist Church
Merchant Meadows Subdivision	Open Space	0.5	None		Merchant Meadows Subdivision

Source: Geographic Information System Data, City of Oregon and Portland Metro (Regional Land Inventory System)

Parks Planning in Oregon City

The Oregon City Parks and Recreation Department is charged with carrying out the planned parks improvements and capital projects that are described in the 2008 Parks Master Plan Update. The Parks and Recreation Department currently faces significant staffing and budget challenges. As such, the department is concerned with the potential burden of

developing additional park properties without a dedicated funding mechanism to support maintenance and parks operations. The goals for parks development in the South End Concept area should provide for community needs without imposing an unsustainable long-term maintenance burden on the Parks and Recreation Department. In addition, the South End Concept Plan should address:

- The need to ensure quality park access for pedestrians, bicyclists and individuals with disabilities. A complete ADA compliant pedestrian and bicycle network increases the distance the people are willing to travel to a park by active transportation modes.
- The need to develop creative funding strategies for long-term maintenance and operations of parks in South End.
- Creative ways to provide recreation opportunities in the public rights-of-way.

Planned Parks

Filbert Run Park is a planned 3.5 acre park site that will be located south of Hazelnut Avenue, just two blocks northeast of the South End study area. Park amenities have yet to be determined, but once complete, this park will provide a recreational opportunity for existing and future residents of South End.

Existing and Proposed Trails and On-Street Active Transportation Connections

Trail Network

Community surveys that were circulated during the planning process for the Parks and Recreation Master Plan Update indicate that the community has a strong preference for, and interest in increasing shared use trails in Oregon City. Currently, the South End study area does not have any publicly designated walking or biking trails.

Planned Trails

The Trails Master Plan (2004) identifies several trail projects that would improve active transportation access in South End. For example, the proposed Oregon City Loop Trail is identified as a potential regional trail that would serve both a recreation and transportation function. The proposed trail, which is located at the northern edge of the South End study area (the southern boundary of the UGB prior to expansion), would link the planned Filbert Run Park, McLoughlin Elementary School, and the southern and northern sections of the Canemah Bluffs Natural Area. This trail is identified as a high priority (Tier 1) project in the Trails Master Plan Update (2012) and is also included as a project in the City's recent TSP Update.

In addition to the Oregon City Loop Trail, several smaller community trails were proposed in the TMP. The project that is most salient to the needs of South End is the proposed Canemah Bluff Trail. This trail's alignment loops around the South End study on three sides and would provide a connection to the area's largest natural open space area. According to the Trails Master Plan, "this earthen trail would follow the contours on Canemah Bluff and travel around the southwestern point of the plateau. Two spur trails would connect to Beutel Rd. and Navajo Way."

Other proposed trails include the BPA Powerline trail, which follows the utility corridor right-of-way (ROW) from the Willamette River and links to Highway 213. Trails Master Plan states

that “the grades would be moderate to steep in some areas but would provide a pastoral natural experience for local walkers and horse riders.”

Lastly, the TMP identifies two local trails—the Finnegan’s Trail and Parkland Trail—to serve as inter-neighborhood connectors and to link to the larger trail network. Finnegan’s Trail would require negotiations with the Finnegans Terrace Homeowners Association. The Parkland Trail would connect a future development area at Navaho Way to the proposed Canemah Bluff Trail.

Table 6.2. Summary of trails near South End (by type, status, linear miles, and owner)

Name	Status	Length (miles)	Type	Ownership
McLoughlin Elementary School Trail	Existing	0.45	Hardscape recreational trail	Oregon City School District
Oregon City Loop Trail	Proposed	3.4	Regional Shared Use Path	Unknown
Canemah Bluff Trail	Proposed	3.5	Undetermined	Oregon City
Parkland Trail	Proposed	0.8	Undetermined	Oregon City
Finnegans Trail	Proposed	0.85	Undetermined	Oregon City
Beaver Ridge Trail	Proposed	6	Undetermined	Oregon City

Source: City of Oregon City Transportation System Portland Metro Regional Land Inventory System

On-Street Active Transportation Network

The existing on-street walking network is hindered by a general lack of sidewalks and large gaps in the sidewalk network where these facilities exist. The Transportation System Plan (TSP) Update 2012 identifies several sidewalk and two bike lane striping projects in the South End area, but these projects are mainly low priority projects, or pending future roadway development. Given the low speed and low traffic volume conditions of the local streets in the area, the existing roadways often serve an active transportation function—even without facilities to support walking and biking. Current residents are able to walk and bike comfortably on some of the existing streets now, but as the population increases with development, dedicated facilities will be preferred. With the exception of South End Road, most streets in the study area do not require separate on-street bicycle facilities. Instead, an emphasis should be placed on developing Family Friendly Routes that provide a low-stress, safe, and comfortable environment for pedestrians and bicyclists. Family Friendly Routes are a new addition in the Oregon City 2012 TSP Update and define this facility as:

“...an adaptation of shared roadways that modify existing low volume, low speed streets to prioritize the through movement of bicyclists and pedestrians while maintaining local access for automobiles. Family Friendly Routes typically include wayfinding signage and pavement markings (shared lane markings), as well as traffic calming features that reduce motor vehicle speeds and volumes. Where these facilities cross major roadways it is important to provide safe and comfortable pedestrian and bicycle crossings.”

Further enhancements may include “green street” features such as bio-swales and street trees, in addition to wider sidewalks and improved pedestrian amenities (e.g., benches and pedestrian-scale lighting). A network of Family Friendly Routes helps encourage active

transportation by providing comfortable, low-stress routes between neighborhoods and local parks, schools, and shopping areas.”

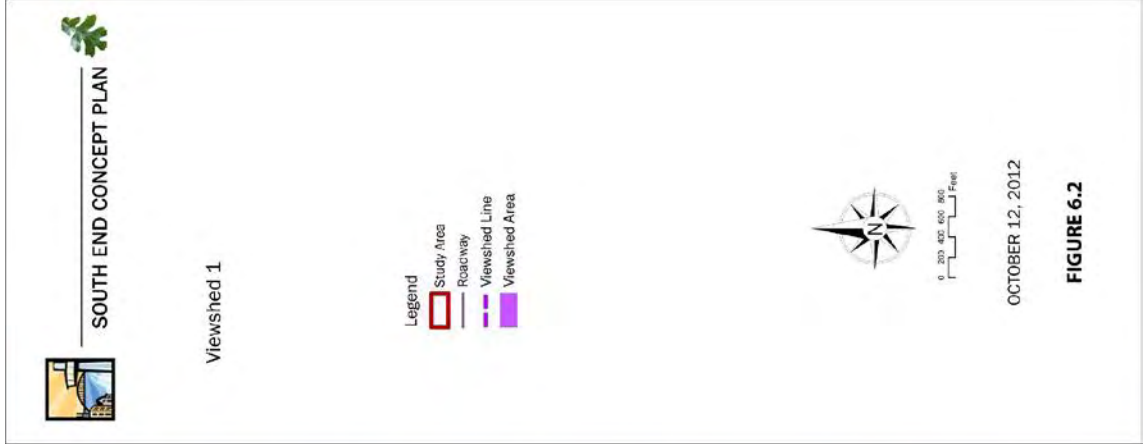
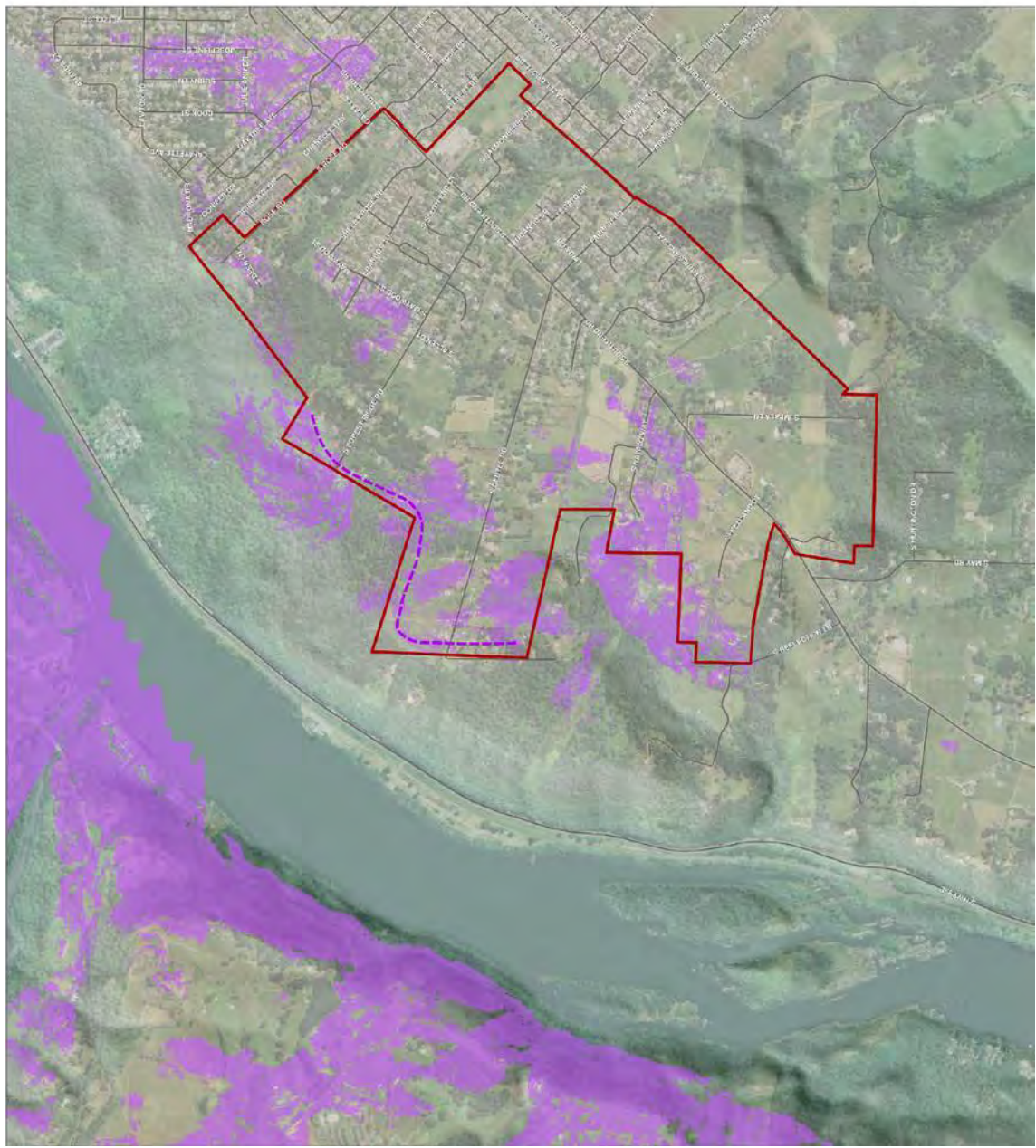
Utility Rights-of-Way, Wetlands, and Viewsheds

There are two existing utility ROWs in the project study area. One of these corridors—the BPA Powerline—is located toward the southern edge of South End and has already been identified as a potential trail connection in the Parks and Recreation Master Plan and the Trails Master Plan. A second corridor is located west of Navajo Way and, barring any significant topographical constraints, could serve as a potential connection from South End to the Willamette River. This utility easement is leased from the current private landowners and would require negotiating an additional trail ROW easement.

The proposed Oregon City Loop Trail plans to take advantage of the existing wildlife wetlands habitat area on the northern edge of the South End study boundary. The wetlands area south of Rose Rd and west of South End Rd is comprised of several large taxlots with limited development potential. With thoughtful and environmentally sensitive design, a shared use path in this area could take advantage of the naturally occurring wetlands to provide nature viewing opportunities and access to the Canemah Bluffs Natural Area. This trail would also serve a transportation function by providing residents with the ability to access the McLoughlin Elementary School.

South End has several excellent viewsheds within the UGB, offering panoramic views of the Willamette River and the Canemah Bluff Natural Area as shown in Figures 6.2 and 6.3⁹. One of these locations is the BPA powerline ROW just east of South End Rd on May Rd and a second is at the western terminus of Forest Ridge Rd. As mentioned in Chapter 5, the adjacent Canemah Bluff provides a scenic overlook of the Willamette River.

⁹ Viewscape maps were developed using digital elevation models. The data were used to identify and shade distant areas and landforms whose elevation would not be obscured or blocked by ‘foreground’ topographic features. The calculations were made from two vantage points, focusing the view towards the river and distant hills.

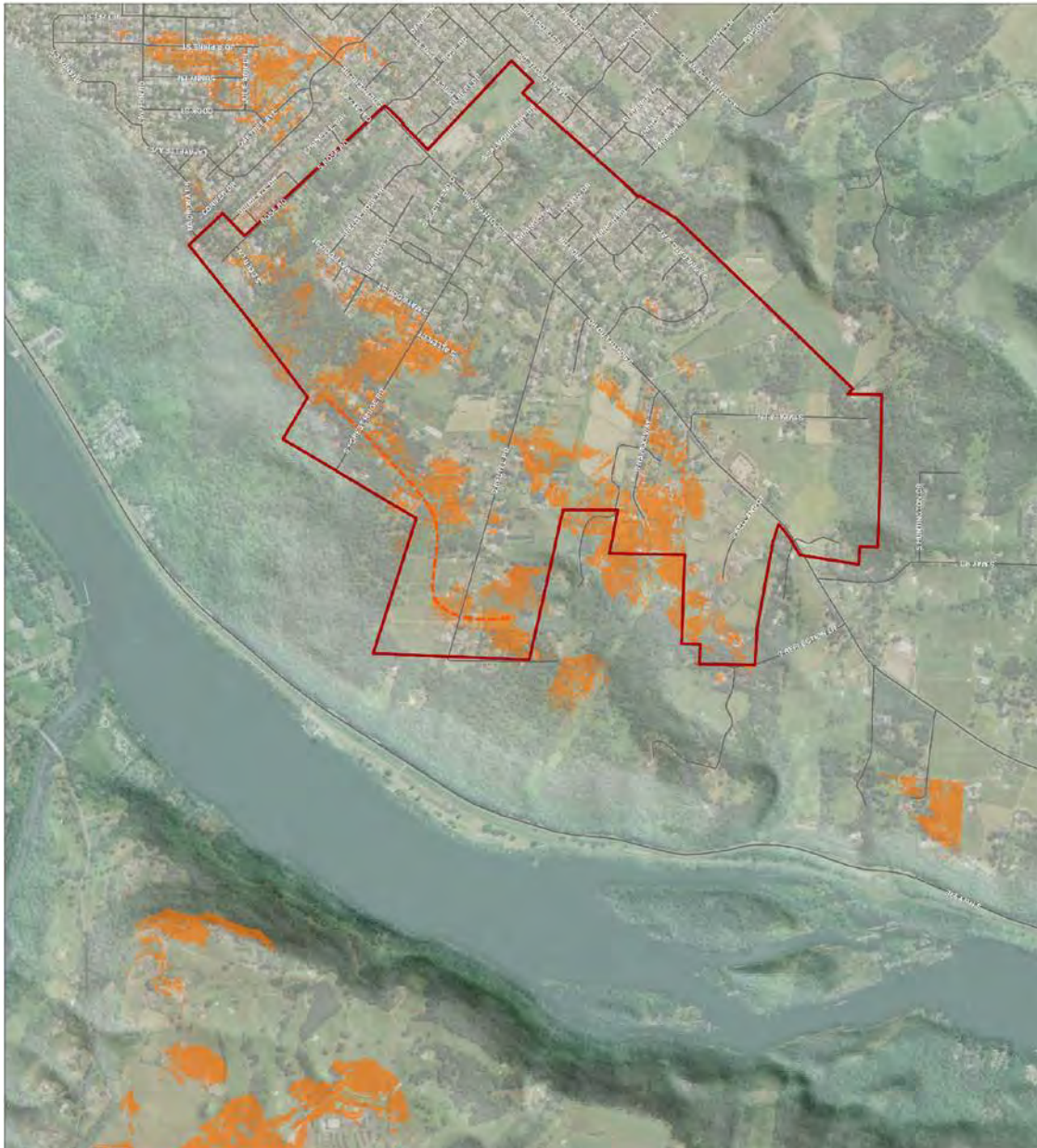




0 200 400 600 800 Feet

OCTOBER 12, 2012

FIGURE 6.3



Chapter 7: Housing and Commercial Market

This chapter provides an overview of the real estate and demographic trends in Oregon City for the South End Concept Plan area. As part of this task, FCS GROUP (subconsultant) performed the following activities:

- Evaluated current real estate trends in retail and office lands within the Portland Metro area as well as the primary market area for the Oregon City South End.
- Evaluated state and regional data, which identifies projected growth patterns in population and employment in Oregon City and the South End area.
- Used Census and local market data to identify further demographic and socioeconomic trends that define the Oregon City South End.
- Formulated draft recommendations that help inform a market-supportable development program for housing, commercial, and office development in the South End over the long-term planning period.

A complete understanding of regional economic and demographic conditions and market trends is needed to inform decisions regarding land use development types that can be successfully developed over the next 20 years.

Economic Overview

This analysis includes an economic overview and real estate market analysis of commercial office, retail, and housing development potential in a defined Primary Market Area (PMA).

The PMA is considered to be the area that will provide the primary support/ demand for new development within the Oregon City South End area. The South End area may also derive market support from a much larger Secondary Market Area that extends well beyond the PMA to include the southeast portion of the greater Portland Region.

The Primary Market Area is defined as consisting of the Oregon City service boundary (area slightly greater than the current city limits) for housing; and the area within a 5-minute drive (20 minute walk) for retail/service/office uses.

In addition to evaluating current market conditions within the Oregon City and Southeast Market areas, the analysis includes retail inflow/outflow characteristics for the area within a 3, 5 and 15 minute drive of the South End area (see Appendix B).

National and Regional Overview

The current economic slowdown, which began in December, 2007 is now the longest on record since World War II. Consumers are still very cautious as unemployment and underemployment rates remain high. Over the past year, Oregon posted an overall job gain of 17,000 jobs between July 2011 and July 2012, as the state's unemployment rate fell to 8.7% (compared to a national rate of 8.3%).

The US and Oregon economies appear poised for a sluggish economic recovery according to many business economists. National economic growth (as measured by Gross Domestic

Product) is expected to increase by 1.9 to 2.4 percent in 2012, and by 2.2 to 2.8 percent in 2013, according to the Federal Reserve Bank.¹⁰ However, growth forecasts are now full of uncertainty in light of overseas fiscal problems in Europe, slower growth in China, and budget deficits within the U.S.

Like many regions across the U.S., the greater Portland Region experienced a decline in home values, stagnate income levels, high unemployment, and relatively high office and retail vacancies over the past few years. However, as population continues to increase within the greater Portland Region and new households are formed, there will be emerging development opportunities, especially once the current housing inventory is absorbed. Commercial development opportunities will likely follow, once firms begin to hire new workers, and household incomes begin to rise.

Natural population increases (births less deaths) combined with in-migration from other parts of the U.S. are expected to drive population and housing growth for the greater Portland Region that exceeds national averages. The population of the Portland-Beaverton-Vancouver Primary Metropolitan Statistical Area (PMSA) increased from 1.9 million in 2000 to nearly 2.2 million by 2010. According to Metro, the regional government, PMSA population is forecasted to increase over the foreseeable future. Metro expects the PMSA to add between 650,000 and 950,000 people over the next 20 to 30 years.¹¹

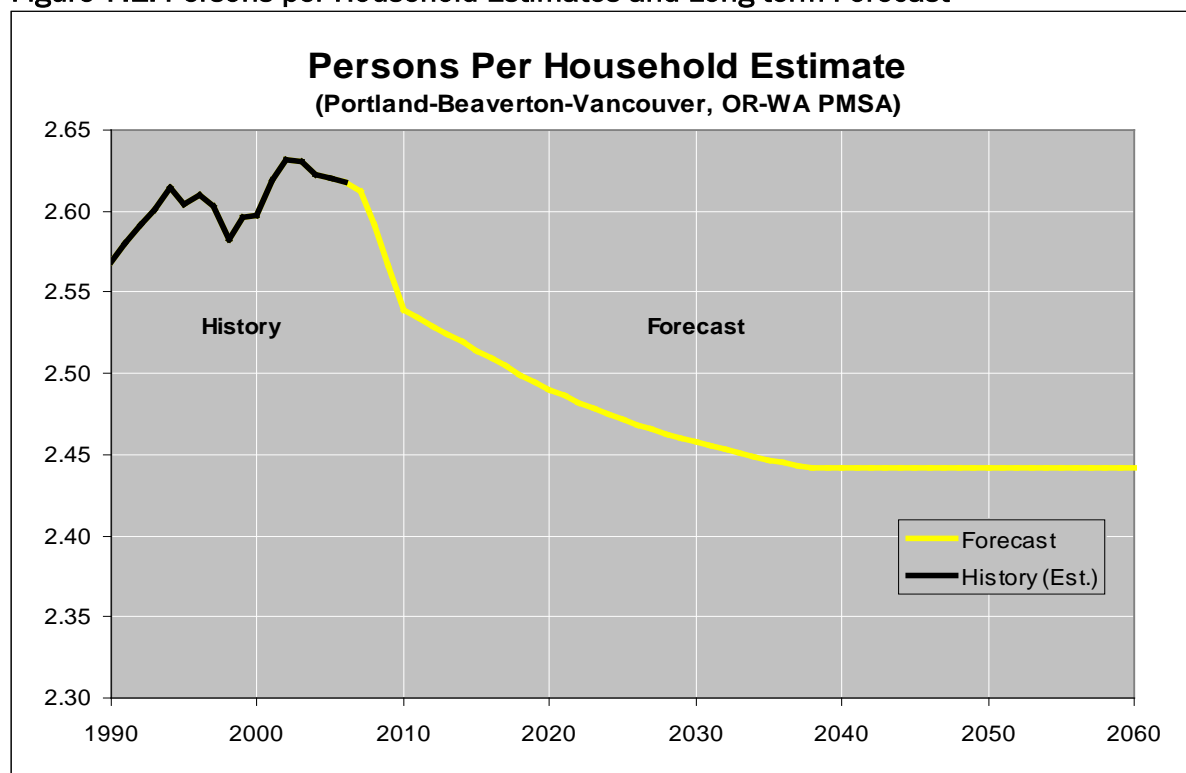
Within Clackamas County, the historic 2000 to 2010 population growth rate averaged 1.1 percent per year, as the County expanded in population from 340,000 to 376,000 people. Household size is a key driver in understanding housing demand. An aging baby boom population (U.S. citizens born between 1945 and 1964) combined with changes in socioeconomic patterns (such as single-parent households and fewer children per couple) are driving down the average household size. As indicated in Figure 7.1, the number of persons per household within the Portland Region was 2.62 in 2005 and is forecasted to decline to 2.49 by 2020.

As a result of declining household size, the rate of household formations is expected to exceed population growth over the next few decades. Also, smaller household sizes will lead to more demand for smaller home sizes, such as single family attached townhomes and apartments.

¹⁰ Reported at July 18, 2012 testimony to Committee on Financial Services, U.S. House of Representatives by Federal Reserve Chairman, Ben Bernanke.

¹¹The PMSA consists of Clackamas, Multnomah, Washington, Yamhill, Columbia counties in Oregon; and Clark and Skamania counties in Washington State.

Figure 7.1. Persons per Household Estimates and Long-term Forecast



Source: Metro

Increasing population within the greater Portland Region will also result in an expanding labor force, which should lead to more employment when businesses add jobs. Long-term job growth forecasts by Metro expect between 167,000 and 282,000 new jobs to be added to the PMSA between 2010 and 2020.

Oregon City Overview

According to the U.S. Census, Oregon City had a population of 25,754 in 2000 and 31,859 people in 2010. Between 2000 and 2010, Oregon City added 6,105 people and 2,502 households. U.S. Census data substantiates a relatively rapid increase in population for Oregon City over the past decade. As identified in Table 7.1, population growth in Oregon City far exceeded the county, regional, and state growth rates.

Table 7.1. Population Trends, 2000-2010

	2000	2010	Change	% Change
Oregon City	25,754	31,859	6,105	24%
Clackamas County	338,391	375,992	37,601	11%
Tri County Region*	1,444,219	1,641,036	196,817	14%
Oregon	3,421,399	3,831,047	409,648	12%

* Tri County Region includes Multnomah, Washington and Clackamas Counties.

Source: U.S. Census; Compiled by FCS GROUP.

The median age of Oregon City households went from 32.7 years in 2000 to 36.3 years in 2010, and average household size has fallen over the past, as shown in Table 7.2.

Table 7.2: Oregon City Demographic and Socio-economic Trends, 2000 - 2012

	2000	2010
Population	25,754	31,859
Group Quarters Population	903	650
Households	9,471	11,973
Family Households	6,669	8,206
Nonfamily Households	2,802	3,767
Population per Household	2.72	2.66
Average Household Size	2.62	2.61
Average Family Size	3.06	3.07
Median Age	32.7	36.3
Median Household Income	\$45,531	\$51,499
Median Family Income	\$51,597	\$62,237
Per Capita Income	\$19,870	\$24,322
Source: 2000 Incomes obtained from 2000 Census; Income levels for 2000 are reflected for year 1999.		
2010 incomes obtained from 2008 - 2010 American Community Survey.		
Population and Household statistics for 2000 and 2010 obtained from 2000 and 2010 Census.		

Table 7.3 shows that while median income levels have risen in Oregon City, they are still relatively low compared with the Clackamas County average median income level.

Table 7.3. Demographic and Socioeconomic Characteristics, 2010

	Oregon City	Clackamas County	Oregon
Average Household Size	2.61	2.7	2.5
Average Family Size	3.07	3.2	3.1
Median Age	36.3	39.4	37.7
Median Household Income	\$51,499	\$62,030	\$49,033
Median Family Income	\$62,237	\$74,700	\$60,025
Per Capita Income	\$24,322	\$32,681	\$25,893

Note: Income reported in 2009 dollars.

Source: U.S. Census

A positive trend in Oregon City has been the measurable increase in upper-income households. As indicated in Table 7.4, the number of households earning over \$75,000 per year increased by 1,982 households (71% of the change in households) between 2000 and 2007.

Table 7.4: Households by Income Level, Oregon City

Income Level	Census 2000		2008 - 2010 ACS		Change	
	Number	Dist. %	Number	Dist. %	Number	Percent
Less than \$10,000	728	7.70%	1,180	9.60%	452	62%
\$10,000 to \$14,999	395	4.20%	529	4.30%	134	34%
\$15,000 to \$24,999	1,028	10.80%	1,137	9.30%	109	11%
\$25,000 to \$34,999	1,322	13.90%	1,174	9.60%	(148)	-11%
\$35,000 to \$49,999	1,816	19.10%	1,879	15.30%	63	4%
\$50,000 to \$74,999	2,245	23.60%	2,446	19.90%	201	9%
\$75,000 to \$99,999	1,217	12.80%	1,731	14.10%	514	42%
\$100,000 to \$149,999	599	6.30%	1,843	15.00%	1,244	208%
\$150,000 to \$199,999	80	0.80%	241	2.00%	161	201%
\$200,000 or more	63	0.70%	126	1.00%	63	100%
Total	9,493	100%	12,286	100%	2,793	29.42%

Source: US Census

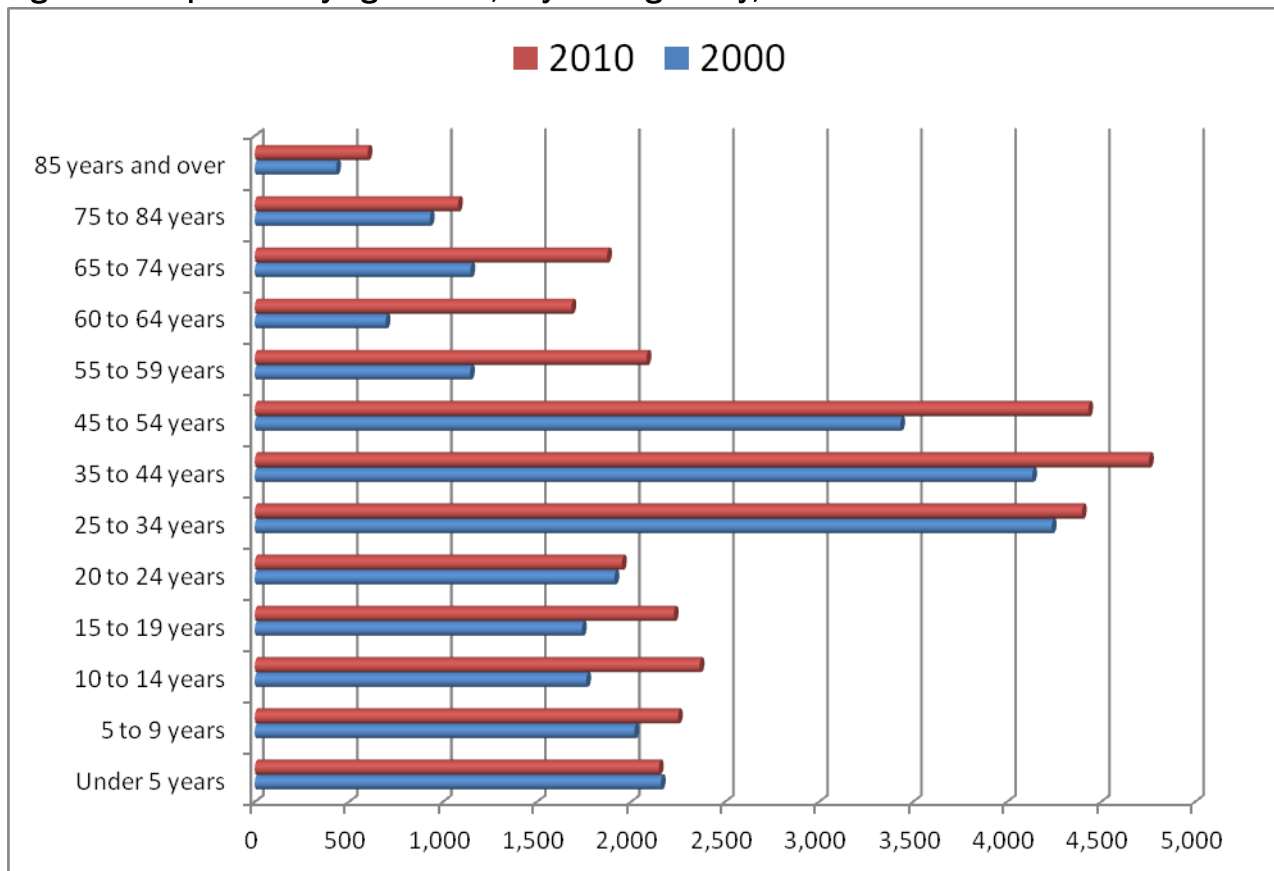
Oregon City has experienced an increase in population in all age cohorts, including young residents (ages 5 to 25), and middle-age residents (ages 25 to 54), and especially older residents (over the age of 64), as indicated in Figure 7.2.

This analysis includes ESRI's "Tapestry Segmentation" database for the South End area, which classifies households into 65 segments based on socio-economic and demographic data. The results indicated the existing households in and around the South End area generally fall into three Tapestry Segments, including:

- In Style (30% of households)
- Exurbanites (29% of households)
- Aspiring Young Families (8% of households)

These three household segments range in median age from 40 to 45 years (household head); include upper-middle income earners; employed in professional/management occupations; and most have some college/bachelor or graduate level education. While they generally prefer single family housing types, they may also consider a mix of small or large lot housing, apartments, townhomes and plexes (includes duplex, triplex, and quad-plex units).

Figure 7.2 Population by Age Cohort, City of Oregon City, 2000 and 2010

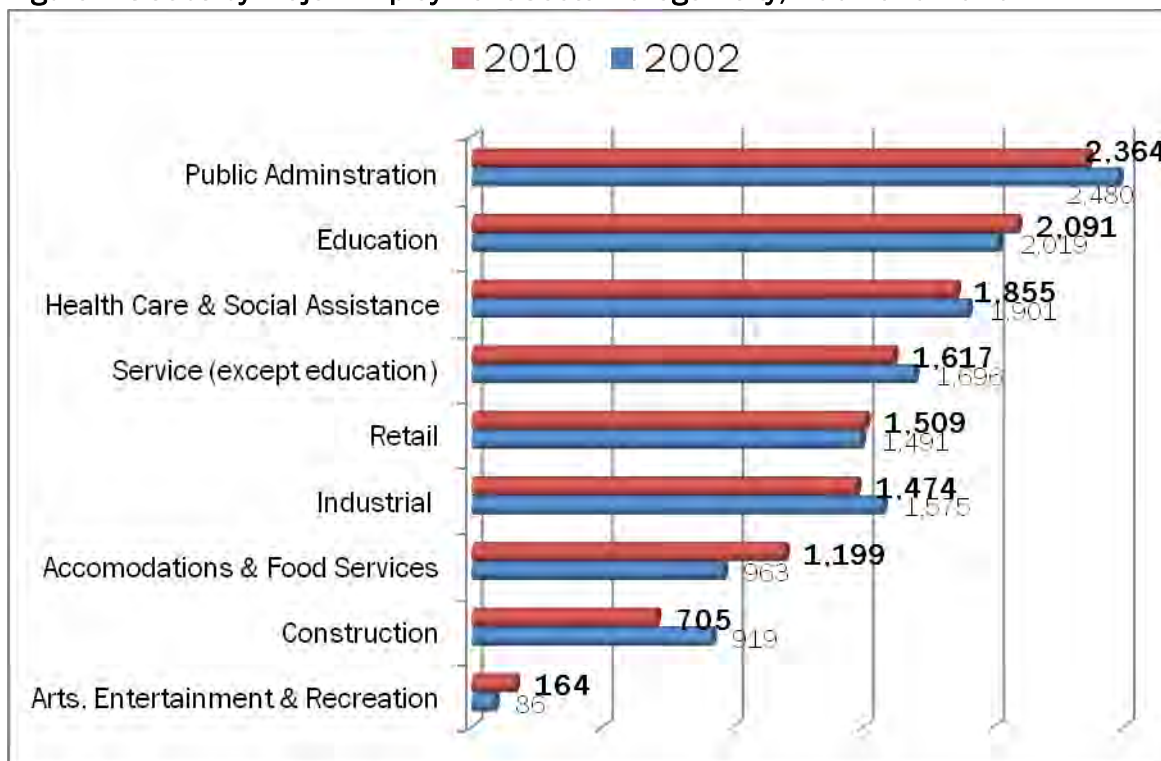


Source: US Census Bureau; Compiled by FCS GROUP.

Existing Employment

Oregon City had approximately 14,388 employees within the local service area in 2010, according to Metro. Figure 7.3 shows that the leading employment sectors (by number of employees) in Oregon City are public administration, education, health care and social assistance, services, retail and industrial job sectors.

Figure 7.3 Jobs by Major Employment Sector: Oregon City, 2002 and 2010

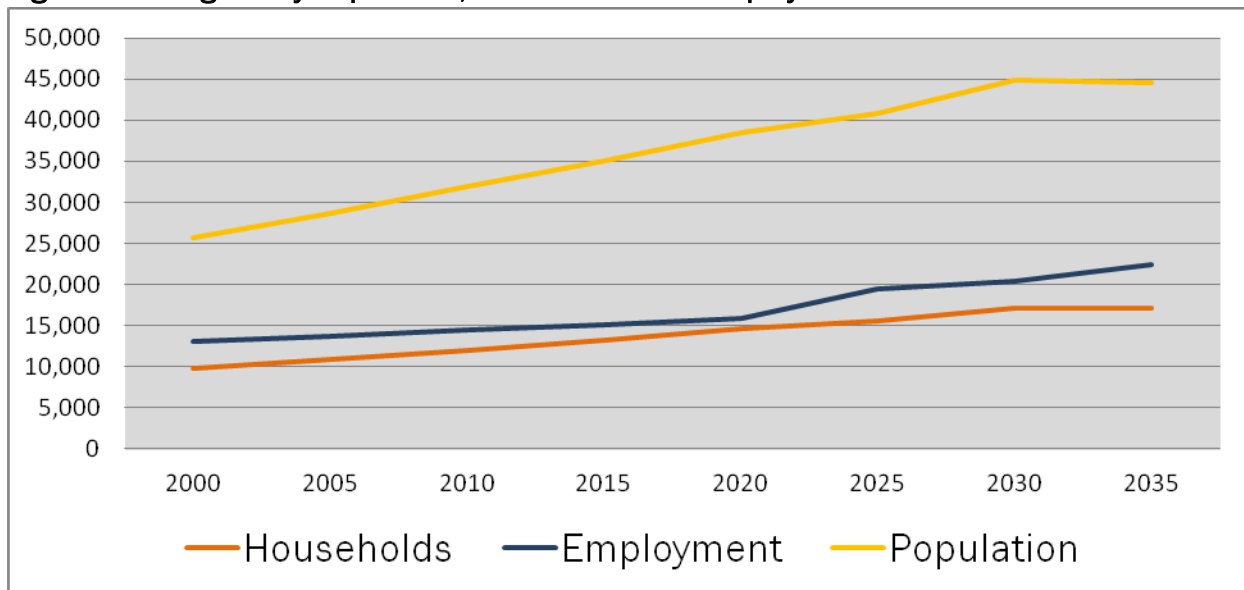


Source: US Census.

Long-term Growth Forecasts

The most current long-term growth forecast by Metro anticipates that Oregon City will add another 5,073 new households and 8,098 new jobs between 2010 and 2035, as shown in Figure 7.4.

Figure 7.4 Oregon City Population, Households and Employment: 2000-2035



Source: Trends by U.S. Census, and forecasts by Metro.

Over the 2010 to 2035 time period, Metro forecasts Oregon City will add 2,337 retail jobs, 3,263 service jobs and 2,498 other (industrial and government) jobs, as indicated in Table 7.5. Primary locations for new employment include downtown Oregon City as well as planned development areas such as Beaver Creek, and locations in and around the Clackamas Community College campus.

Table 7.5 Oregon City Growth Forecast: 2010 to 2035

	2010	Proj. 2025	Proj. 2035	Proj. Change: 2010 - 2025	Proj. Change: 2025 - 2035
Households	11,974	15,514	17,047	3,540	1,533
Employment (jobs)					
Retail	3,081	4,584	5,418	1,503	834
Service	3,727	5,657	6,990	1,930	1,333
Other	7,580	9,246	10,078	1,666	832
Total Employment	14,388	19,487	22,486	5,099	2,999

Source: Metro, gamma forecast, Aug. 2012.

The South End area (consisting of TAZ #740 and TAZ #754) is expected to add approximately 1,831 households and 13 jobs, according to prior Metro forecasts that were included in the Oregon City Transportation System Plan. More current preliminary Metro forecasts now expect 1,539 households and 76 jobs, based on the Metro gamma forecast released in August 2012.

Table 7.6. Forecasts for Households and Employment, 2005-2035

		2010	Proj. 2035	Proj. Change: 2010 - 2035	Proj. Avg. Annual Change: 2010- 2035
Households					
South End TAZs (per O.C. TSP)		742	2,573	1,831	73
South End TAZs (per Metro)		742	2,281	1,539	62
Oregon City		11,974	17,047	5,073	203
Clackamas County		140,469	198,459	57,990	2,320
Tri-County Metro Region		647,765	935,411	287,646	11,506
Employment (jobs)					
South End TAZs (per O.C. TSP)		150	163	13	1
South End TAZs (per Metro)		150	226	76	3
Oregon City		14,388	22,486	8,098	324
Clackamas County		127,386	194,920	67,534	2,701
Tri-County Metro Region		778,569	1,174,762	396,193	15,848
Source: Metro gamma forecast, Aug. 2012; and Oregon City TSP, draft 2012; South End Traffic Analysis Zones (TAZs) include #740 and #754.					

Market Analysis

Housing Market

Single-family detached housing units have traditionally dominated Oregon City's residential development patterns. Oregon City added 246 single-family dwellings between 2000 and 2009, according to the U.S. Census. Oregon City also added 12 single-family attached homes (townhomes or duplexes), six multifamily dwellings and 12 mobile homes during that time period (see Table 7.7). Median home values at the end of 2009 were approximately \$289,200 and median rent levels were \$907 per month, according to U.S. Census estimates.

Housing vacancy rates are beginning to stabilize in the greater Portland Metropolitan Region, as few new developments have occurred since the recent recession. Low vacancy rates are especially prevalent in multifamily developments. According to a study by NAI Norris, Beggs and Simpson, the multifamily vacancy rate in the Portland market area for the first quarter of 2011 was 2.7 percent, and the vacancy rate in the Clackamas sub-area (area includes Oregon City PMA) had a vacancy rate of only 3.24 percent.¹²

¹² NAI Norris, Beggs & Simpson Market Summaries First Quarter 2011 Portland Metro Area.

Table 7.7 Oregon City Housing Inventory: 2000 and circa 2009

	Census 2000	ACS Survey 2008 - 2010	Avg. Annual Absorption
<u>Dwelling Units</u>			
Owner Occupied	5,661	7,761	233
Renter Occupied	3,810	4,525	79
Vacant	639	354	(32)
Total	10,110	12,640	281
Owner Occupied %	60%	63%	
Renter Occupied %	40%	37%	
Total	100%	100%	
Vacant Dwellings %	6.3%	2.8%	
<u>Structure Type</u>			
Single-family Detached	6,320	8,534	246
Townhome/Plexes	1,506	1,610	12
Multifamily	1,991	2,042	6
Mobile Home	348	454	12
Total	10,165	12,640	275
Median Home Value	\$164,400	\$289,200	
Median Gross Rent	\$686	\$907	

Source: US Census; Compiled by FCS GROUP.

In comparison to other market areas, Oregon City home values are on the rise, with a 13.1% increase in median home sales prices over the past 12 months ending July 2012. As indicated in Table 7.8, median home sales prices in Oregon City increased to \$244,800 in July, according to Zillow.com, an online real estate database.

Table 7.8 Median Home Sales Price Trends in Selected Markets, 2011-2012

	July 2011	July 2012	Change %
Oregon City	\$216,500	\$244,800	13.1%
Lake Oswego	\$441,000	\$422,100	-4.3%
West Linn	\$369,500	\$339,300	-8.2%
Tualatin	\$342,300	\$268,600	-21.5%
Portland	\$263,200	\$270,700	2.8%
Wilsonville	\$285,800	\$295,600	3.4%
Canby	\$184,400	\$219,000	18.8%

Source: Zillow.com, Sept. 7, 2012.

A compilation of statistics for Oregon City, which reflects real estate sales over the past 24 months show that, as of September 7, 2012, there were 343 homes listed for sale in Oregon City, of which 45 percent were priced under \$250,000; 36 percent were priced between \$251,000 and \$450,000; and 19 percent were priced above \$451,000, as indicated in Table 7.9.

Over the past 24 months, there have been 1,285 recorded home sales in Oregon City, all of which were single family detached or attached homes. This pace of sales indicates that the current standing inventory of unsold homes in Oregon City now stands at fewer than 12 months, with the exception of homes prices above \$551,000.

Table 7.9 Oregon City Homes Sales Trends, 2010-2012

	Homes Sold	Homes Listed	Inventory
Less than \$150,000	240	50	5
\$151,000 to \$250,000	645	106	4
\$251,000 to \$350,000	281	87	7
\$351,000 to \$450,000	73	35	12
\$451,000 to \$550,000	17	8	11
\$551,000 or More	29	57	47
Total	1,285	343	6

Source: Zillow.com; reflects 24 month period from Sept. 2010 to Sept. 7, 2012; includes Oregon City and areas within approximately 1 mile of the city limits.

Oregon City has experienced a significant decrease in residential permits issued. New residential permitting activity in Clackamas County increased measurably in 2011 compared with the post recession years of 2008-2010. As shown in Table 7.10, the number of total privately-owned residential building permits increased to 1,172 in 2011, compared with 665 permits in 2010. The largest increase in permitting activity has been in the multifamily structure types.

Table 7.10. Privately-Owned Residential Building Permits Issued, Clackamas County: 2007-2011

Units in Structure			Recession			
	2006	2007	2008	2009	2010	2011
Single Family	2,212	1,942	865	580	625	800
2 Family	2	8	-	-	32	4
3-4 Family	4	-	-	7	3	-
5+ Family	564	100	-	128	5	368
Total	2,782	2,050	865	715	665	1,172

Source: US Census estimates for Clackamas County, compiled by FCS GROUP.

Oregon City has also seen an increase in residential building permit activity since 2010. Oregon City issued 223 total residential permits during the first eight months of 2012—an amount greater than the total permits issued during any of the four preceding years (2008-2011). As indicated in Table 7.11, during the November 2007 to August 2012 time frame, Oregon City issued 13 single family dwelling unit permits, and approximately five multifamily dwelling unit permits per month on average. Oregon City housing absorption over the past three years equated to an average of 156 single family and 60 multifamily dwellings per year, which is between 20-30 percent of the total Clackamas County residential permitting activity.

Table 7.11 Oregon City Residential Building Permits: November 2007 to August 2012

Multifamily Residential Units	
Additional square footage from MFR Dwellings ¹	303,703
Assumed Average size of MFR DU (sqft)	1,000
Number of MFR Dwelling Units	304
Average Absorption of New MFR DU per Month*	5
Single Family Residential Dwelling Units	
Number of added SFR Dwelling Units ²	743
Average Absorption of New SFR DUs per Month*	13
*Number of months over time period	
(Nov 2007 - Aug 2012)	58 months

The strength of local housing market demand is evidenced by several recent and ongoing housing subdivisions along South End Road. Recent housing developments include a mix of single-family detached homes (standard lot size), small lot detached homes, townhomes and duplexes. Home sales prices for new housing range from \$169,000 for a townhome to about \$350,000 for a single family detached home (see Figure 7.5).

Figure 7.5 Examples of Recent South End Housing Developments in Oregon City



Sequoia Landing along Glen Oak Road



Dawn Meadows along Rose Road/South End Road



Fandango Drive Subdivision

Retail Market

According to COSTAR, the Southeast market has remained a bit stronger for retail than for office demand. The overall average vacancy rate for retail space in the Southeast market was 4.2 percent for general retail and 8.4 percent for shopping centers at the end of the second quarter in 2012. However, Oregon City had relatively high vacancy rates for general

retail and has shown negative absorption levels for both general retail and shopping center space over the past 12 months, as shown in Table 7.12.

Table 7.12 Retail Market Statistics: 2nd Quarter 2012

General Retail Market Statistics								
Market	Existing Inventory		Vacancy		YTD Net Absorption	YTD Deliveries	Under Const SF	Quoted Rates
	# Buildings	Total RBA	Total SF	Vacant %				
Southeast	2,019	12,383,121	520,057	4.2%	49,752	61,713	4,125	\$13.10
Selected Subareas:								
Oregon City	148	768,094	68,771	9.0%	(3,795)	-	-	\$12.19
Clackamas/Milwaukie	789	5,482,887	251,012	4.6%	12,377	6,713	4,125	\$13.21
SE Close In	481	3,131,746	71,275	2.3%	56,570	55,000	-	\$16.41
West Linn/Hwy. 43	97	586,172	2,125	0.4%	5,539	-	-	\$21.64
Wilsonville	35	563,007	4,900	0.9%	1,100	-	-	\$22.50
Total in Region	7,348	56,677,037	2,054,392	3.6%	159,241	130,685	63,013	\$14.01

Shopping Center Market Statistics								
Market	Existing Inventory		Vacancy		YTD Net Absorption	YTD Deliveries	Under Const SF	Quoted Rates
	# Buildings	Total RBA	Total SF	Vacant %				
Southeast	143	6,328,834	528,953	8.4%	(19,873)	-	-	\$15.46
Selected Subareas:								
Oregon City	15	1,129,634	91,232	8.1%	(5,743)	-	-	\$19.78
Clackamas/Milwaukie	72	3,340,483	222,761	6.7%	4,868	-	-	\$15.23
SE Close In	14	289,247	17,145	5.9%	567	-	-	\$16.80
West Linn/Hwy. 43	32	1,313,947	80,149	6.1%	1,957	-	-	\$21.59
Wilsonville	11	862,152	46,019	5.3%	7,479	-	-	\$20.52
Total in Region	727	34,913,630	3,028,128	8.7%	(160,124)	-	6,000	\$16.42

Note: Southeast Market includes: Oregon City, Clackamas/Milwaukie, Mall 205, and SE Close-In areas.

Source: CoStar Office Report Mid-Year 2012; Cressa Partners.

Within the Primary Market Area for the South End area there is significant retail trade leakage, which occurs as households travel outside the area to make retail purchases. Table 7.13 reflects the retail sectors within the five minute drive (20 minute walk) which experienced a trade leakage during 2010. By adding a neighborhood or community shopping center, the South End could be positioned to intercept a portion of the retail trade leakage and benefit from long-term growth in household buying power that would occur as additional people move into Oregon City.

The findings of the retail inflow/outflow analysis indicate that the retail trade leakage from existing households within a five minute drive of the South End area could support 120,602 square feet square feet of commercial floor area (See Appendix B).

Over the long-term, as the South End area develops with additional households, the amount of retail purchase power is expected to increase and would “easily” support a new neighborhood shopping center or a community shopping center in the South End area.

Table 7.13 Retail Trade Leakage, South End Primary Market Area

Retail Inflow/Outflow Analysis

5-Minute Drive (20-minute walk) Area Analysis

Existing Conditions (2010):					
Population	6,895				
Households	2,494				
Median Income	\$51,283				
Per Capita Income	\$27,932				
	Demand	Supply	Retail Gap (Trade Leakage)	Support- able Floor Area (SF)	Support- able Acres
Retail	\$60,396,000	\$10,942,000	\$49,454,000	104,114	6.8
Food & Drink	\$10,278,000	\$2,446,000	\$7,832,000	16,488	1.1
Total	\$70,674,000	\$13,388,000	\$57,286,000	120,602	7.9
Source: ESRI "Retail Marketplace Profile report, 2010.					

Proj. Conditions (2035):					
New South End					
Households	1,685				
Households (5 Min. Drive)	4,179				
	Demand	Supply	Retail Gap (Trade Leakage)	Support- able Floor Area (SF)	Support- able Acres
Retail	\$101,200,836	\$10,942,000	\$90,258,836	190,019	12.5
Food & Drink	\$17,222,038	\$2,446,000	\$14,776,038	31,107	2.0
Total	\$118,422,873	\$13,388,000	\$105,034,873	221,126	14.5

Source: analysis by FCS GROUP; based on mid-point growth forecast for South End area per Oregon City TSP and Metro gamma forecast. Assumes current levels of retail spending and retail supply remain constant. Assumes average annual sales per square foot of \$475; and average building density level of 0.35 FAR (floor to area ratio).

Office Market

According to COSTAR, the Southeast area had a total Class A office inventory of nine buildings with 681,685 square feet of rentable building area, an 19.1 percent average vacancy rate, and average lease rates of \$22.66. The Southeast market area experienced a net increase in absorption during 2012 of 21,093 square feet. Oregon City did not account for any of the Class A office inventory as of 2nd Quarter 2012, as shown in Table 7.14.

Table 7.14 Office Characteristics, Southeast Market Area, Second Quarter 2012

Class A Market Statistics

Market	Existing Inventory		Vacancy		YTD Net Absorption	YTD Deliveries	Under Const SF	Quoted Rates
	# Buildings	Total RBA	Total SF	Vacant %				
Southeast	9	681,685	130,509	19.1%	21,093	-	-	\$22.66
Selected Subareas:								
Oregon City	-	-	-	-	-	-	-	-
Clackamas/ Milwaukie	9	681,685	130,509	19.1%	21,093	-	-	\$22.66
SE Close In	-	-	-	-	-	-	-	-
West Linn/Hwy. 43	1	65,000	21,617	33.3%	-	-	-	\$21.25
Wilsonville	4	325,501	39,409	12.1%	8,843	-	-	\$23.32
Total in Region	182	27,489,280	3,352,493	12.2%	(49,839)	135,000	-	\$23.26

Class B and C Market Statistics

Market	Existing Inventory		Vacancy		YTD Net Absorption	YTD Deliveries	Under Const SF	Quoted Rates
	# Buildings	Total RBA	Total SF	Vacant %				
Suburban Southeast	882	11,497,325	903,938	7.9%	(52,625)	-	2,000	\$17.72
Oregon City	121	954,631	83,210		(36,650)	-	-	\$15.73
Clackamas/ Milwaukie	347	2,503,598	153,830	6.1%	951	-	2,000	\$16.60
SE Close In	182	2,488,012	180,006	7.2%	(12,692)	-	-	\$15.23
West Linn/Hwy. 43	135	1,055,754	124,041	11.7%	(32,928)	-	-	\$19.33
Wilsonville	51	896,744	184,747	20.6%	13,110	-	45,880	\$16.26
Total in Region	4,825	65,702,198	6,666,784	10.1%	197,768	226,349	309,591	\$17.35

Note: Southeast Market includes: Oregon City, Clackamas/Milwaukie, Mall 205, and SE Close-In areas.

Source: CoStar Office Report Mid-Year 2012; Cressa Partners.

Chapter 8. Opportunities and Constraints

The following list of opportunities and constraints was developed based on comments received at the December 13 Community Open House. The opportunities and constraints diagram in Figure 8.1 synthesizes those comments and findings from this existing conditions report.

Opportunities

- Residents can connect to public sewers and discontinue use of septic systems.
- Large lot sizes within the planning area allow for large assemblages of property.
- New and existing properties can be consolidated into a regionally managed stormwater system to upgrade the aging system and address current drainage issues. Bringing the area up to new storm standards will help enhance and preserve existing natural resources and sensitive areas.

- A network of street lights within the plan area can help address community concerns.
- Roadways, paths and trails can better link homes with local and regional amenities.
- New development can launch a process through which power lines and utility services are placed underground.
- Future water services in the area can be provided by the City of Oregon City rather than under the joint usage agreement with Clackamas River Water.
- The lack of services and retail uses present an opportunity for centralized planning.
- Tremendous views of surrounding property may provide lasting amenities for future residents.
- Future residential development potential within the study area looks favorable in light of the well-defined market demand segments which prefer suburban neighborhoods, increasing householder income levels, and proximity to local schools and parks.
- Low single family and multifamily vacancy in Oregon City indicate favorable near- and long-term development potential for virtually all types of single family and multifamily apartments, and townhomes. Aging Oregon City households, who prefer to remain close to home, may also create a market for assisted living or senior housing developments.
- Future development potential within South End is likely to consist of a mix of single-family (standard and small lot “cottage” units), townhomes, plexes and multifamily (apartments) development types.
- The overall development forecast for South End assumes a relatively modest overall capture rate of the Portland Metropolitan Area that ranges from 26 to 34 percent of total housing development within Oregon City over a 2010-2035 timeframe. The preliminary market forecast for housing within the South End area is provided in Table 8.1. The analysis assumes that the adequate infrastructure conditions to serve new growth and improved market conditions.

Table 8.1 Preliminary Residential Development Program, 2011 to 2035

	2010 - 2014	2015 - 2020	2020 - 2025	2025 - 2030	2030- 2035	Total
Single family (dwellings)	*	175 - 224	175 - 224	175 - 224	175 - 224	698 - 898
Townhomes (dwellings)	*	70 - 90	70 - 90	70 - 90	70 - 90	279 - 359
Multifamily (dwellings)	*	-	-	168 - 215	168 - 215	335 - 431
Assisted Living (units)	*	-	-	-	84 - 108	84 - 108
Total New Dwellings	*	244 - 314	244 - 314	412 - 530	496 - 637	1,397 - 1,796

* Nominal levels of development are expected over next few years, as Public Facility Plans, funding strategies and zoning gets solidified.

See Appendix D for the analysis of residential development market capture rate assumptions.

- The preliminary commercial development program for South End is summarized in Table 8.2.¹³ The potential retail/commercial development assumes a 25 percent trade leakage capture rate, and is somewhat consistent with the most recent Metro gamma forecast for job growth in the South End area. This analysis assumes that South End could potentially be positioned to develop a small neighborhood

¹³ Derived from the retail trade inflow/outflow analysis contained in Appendix B.

commercial center (55,000 sf on about 4-5 acres of land), or a slightly larger community center anchored by a medium size grocery store (110,000 sf on 7-9 acres). The center could be developed with a mix of 1-2 level buildings with office above retail space. Demand would likely not occur until the housing elements of the South End area were developed (about year 2025 to 2035). Potential tenants could include:

- convenience store or a grocery store (community center scenario only)
- specialty food store
- full-service restaurant
- bakery/deli
- coffee shop
- day care center
- upper-level office/services

The actual amount of development will vary from year to year, and will depend upon related strength in employment growth (business investment) and household growth and buying power in the area. However, these long-range forecasts are generally in line with the Oregon City TSP and Metro growth forecasts for the area.

Table 8.2 Preliminary Retail/Commercial Services Development Program, Oregon City South End, 2010 to 2035 (gross floor area in square feet)

Neighborhood Shopping Center Scenario					
	Proj. 2035 Retail Need/Gap (annual sales)	Proj. South End Capture (@25% of Need/Gap) (annual sales)	Potential Supportable Floor Area (SF)	Supportable Net Land Need (acres)	Estimated Permanent Jobs (on site)
Retail/Commercial	\$90,258,836	\$22,564,709	47,505	3.1	95
Eating & Drinking	\$14,776,038	\$3,694,009	7,777	0.5	16
Total	\$105,034,874	\$26,258,718	55,282	3.6	111

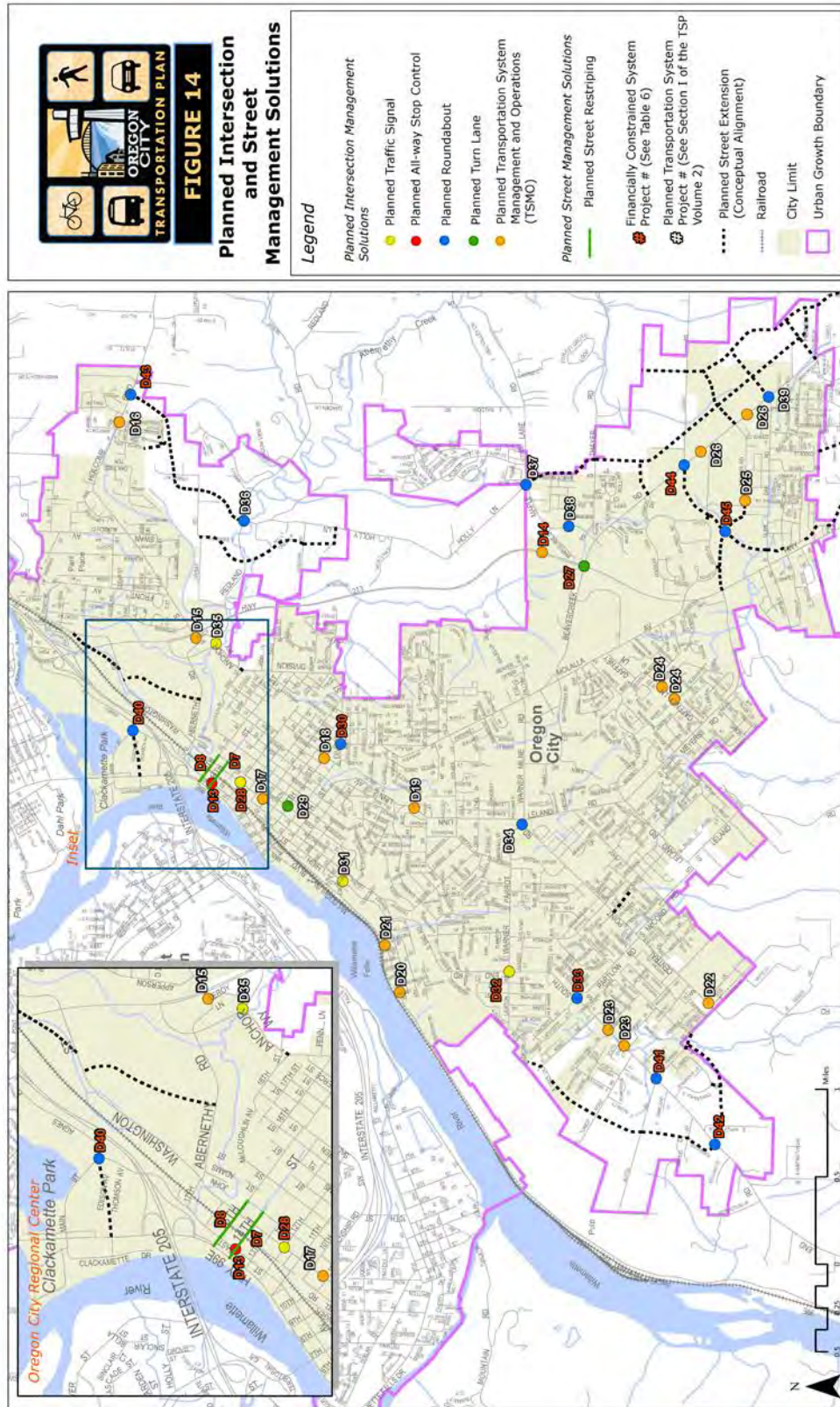
Community Shopping Center Scenario					
	Proj. 2035 Retail Need/Gap (annual sales)	Proj. South End Capture (@50% of Need/Gap) (annual sales)	Potential Supportable Floor Area (SF)	Supportable Net Land Need (acres)	Estimated Permanent Jobs (on site)
Retail/Commercial	\$90,258,836	\$45,129,418	95,009	6.2	190
Eating & Drinking	\$14,776,038	\$7,388,019	15,554	1.0	31
Total	\$105,034,874	\$52,517,437	110,563	7.2	221

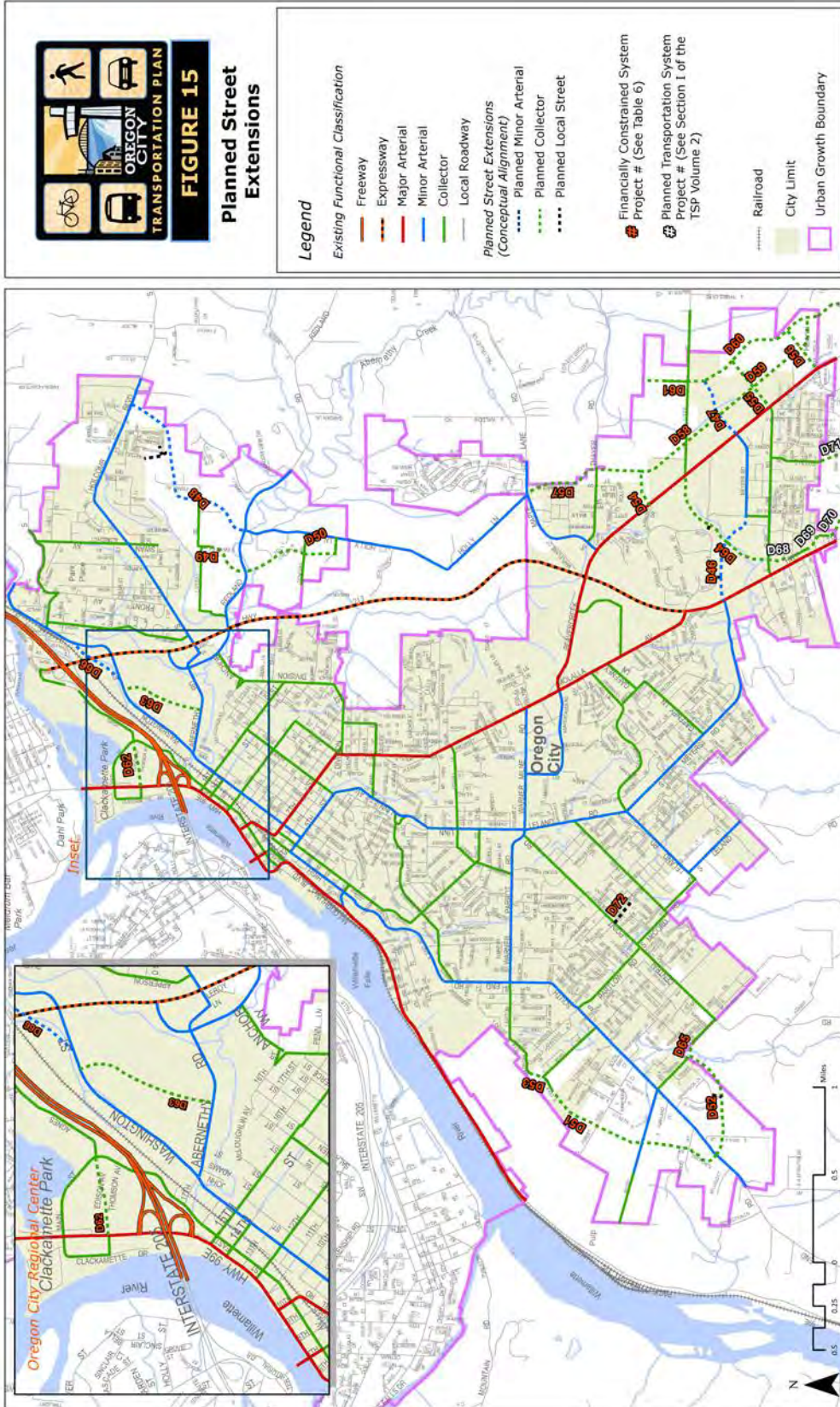
Source: derived from analysis by FCS GROUP, based on mid-point of housing growth forecast for South End area per the Oregon City TSP and Metro gamma forecasts. Assumes current level of retail spending patterns with average annual required sales per square foot of \$475; and an average building density of 0.35 floor area ratio (FAR); and 500 FAR SF per job.

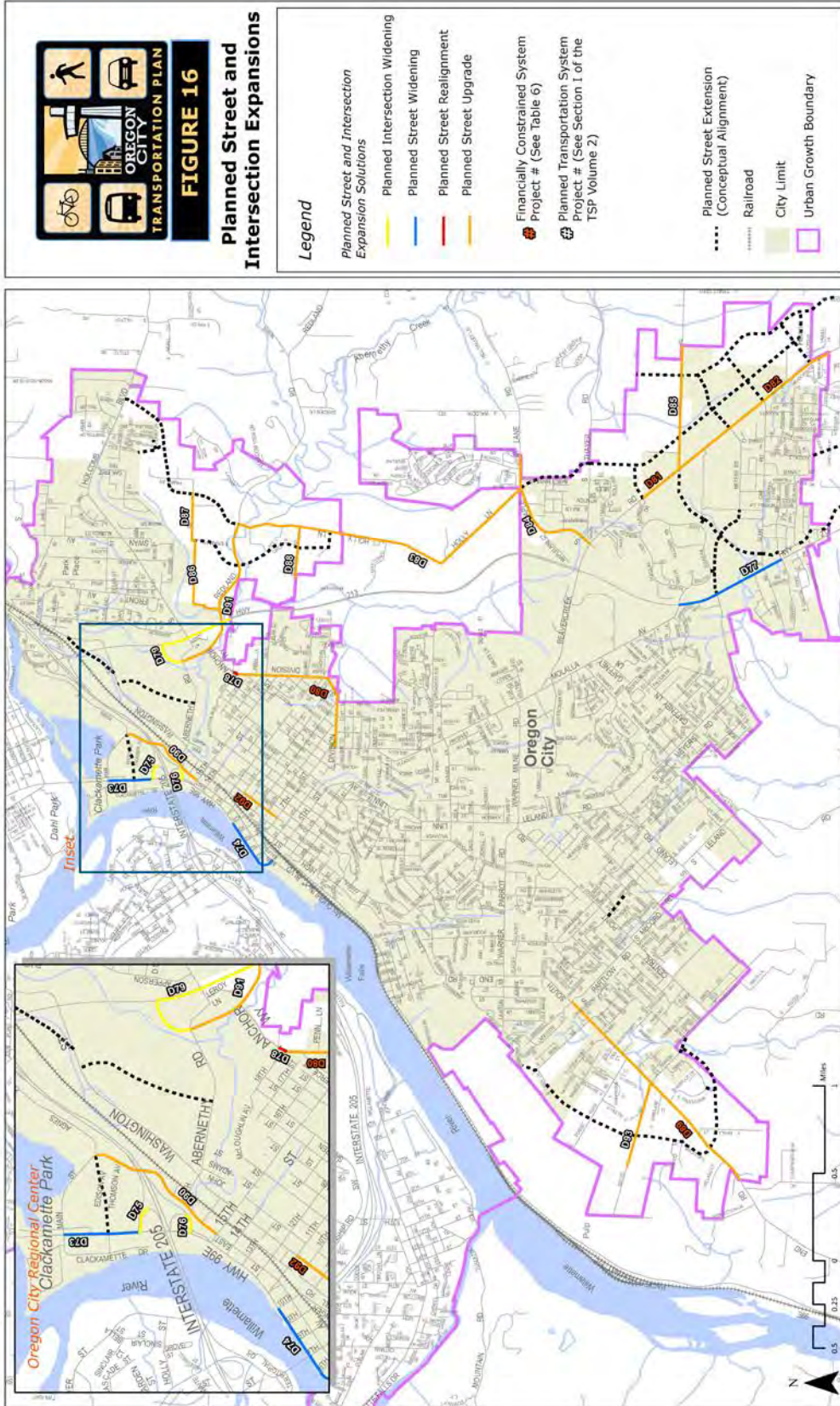
Constraints

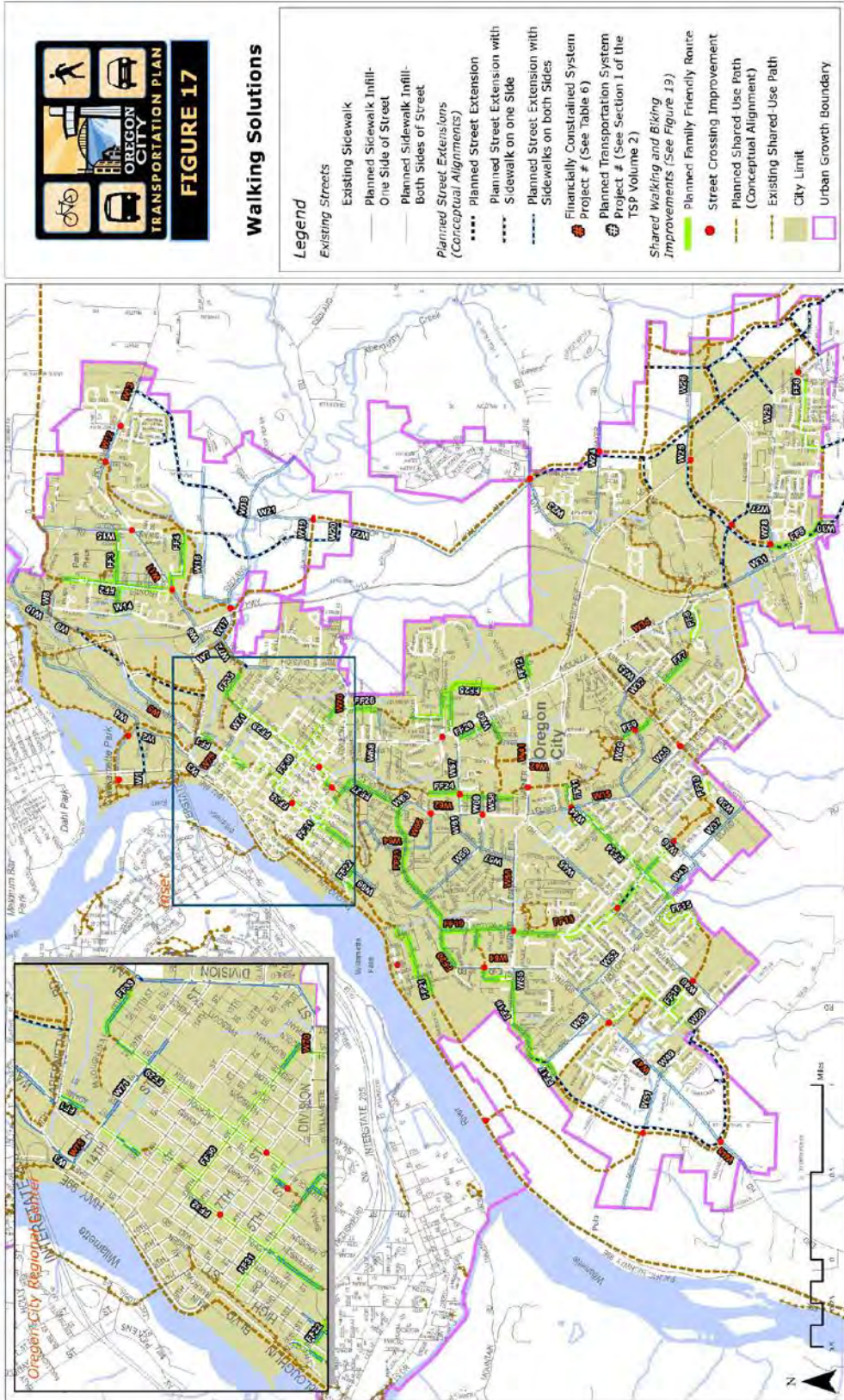
- The existing development pattern and ownership fragmentation may make assembly of properties difficult.
- The established linear road network may make it difficult to provide new connections between existing roads.
- Large existing developments may reduce the ability to link roads and trails.
- Somewhat fragmented development along main roadways may have low redevelopment potential.
- The lack of neighborhood amenities, such as pedestrian/bicycle trails, shopping and restaurants may be a drawl back that could be addressed with adequate site planning.

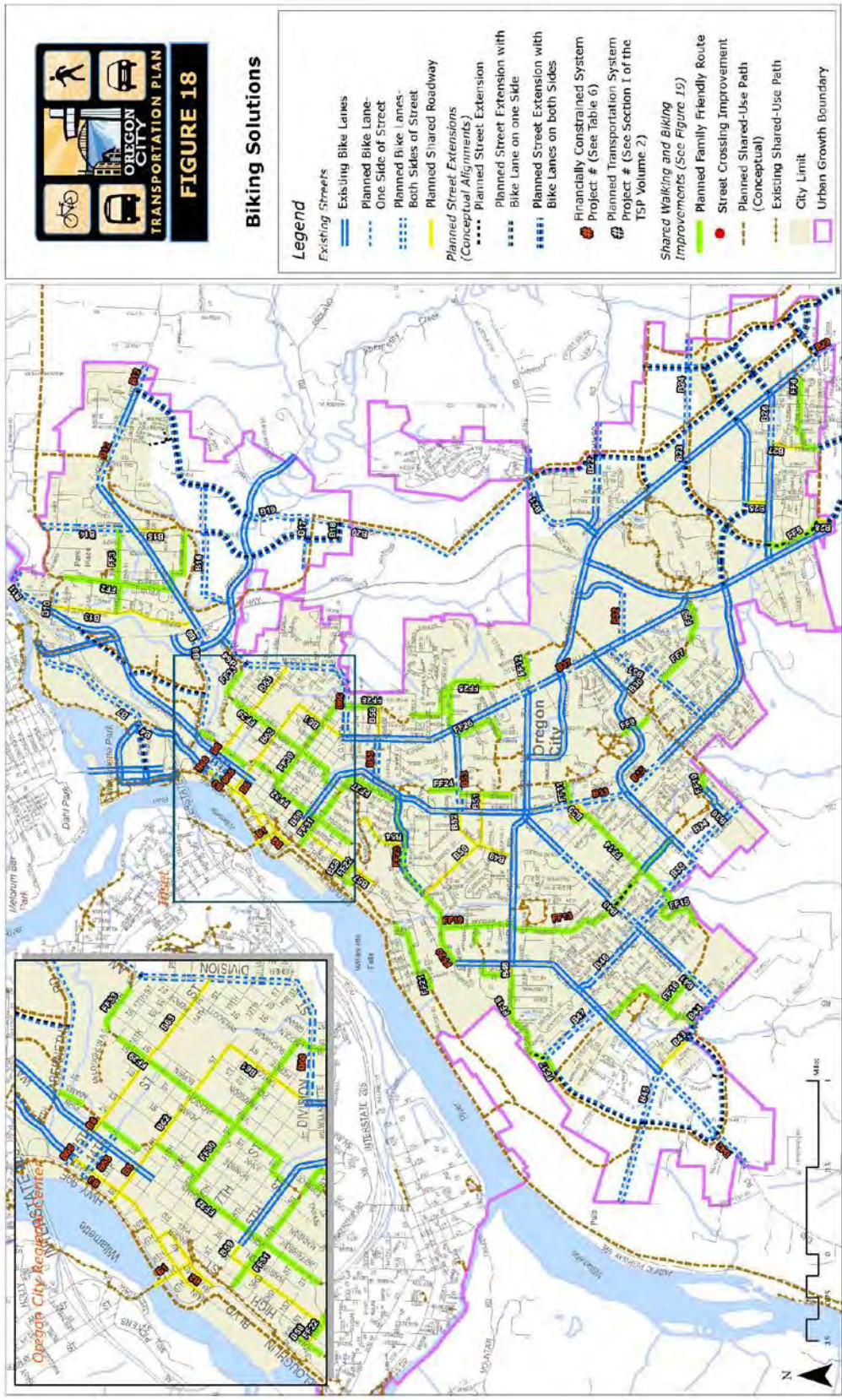
Appendix A. Planned Transportation Improvements





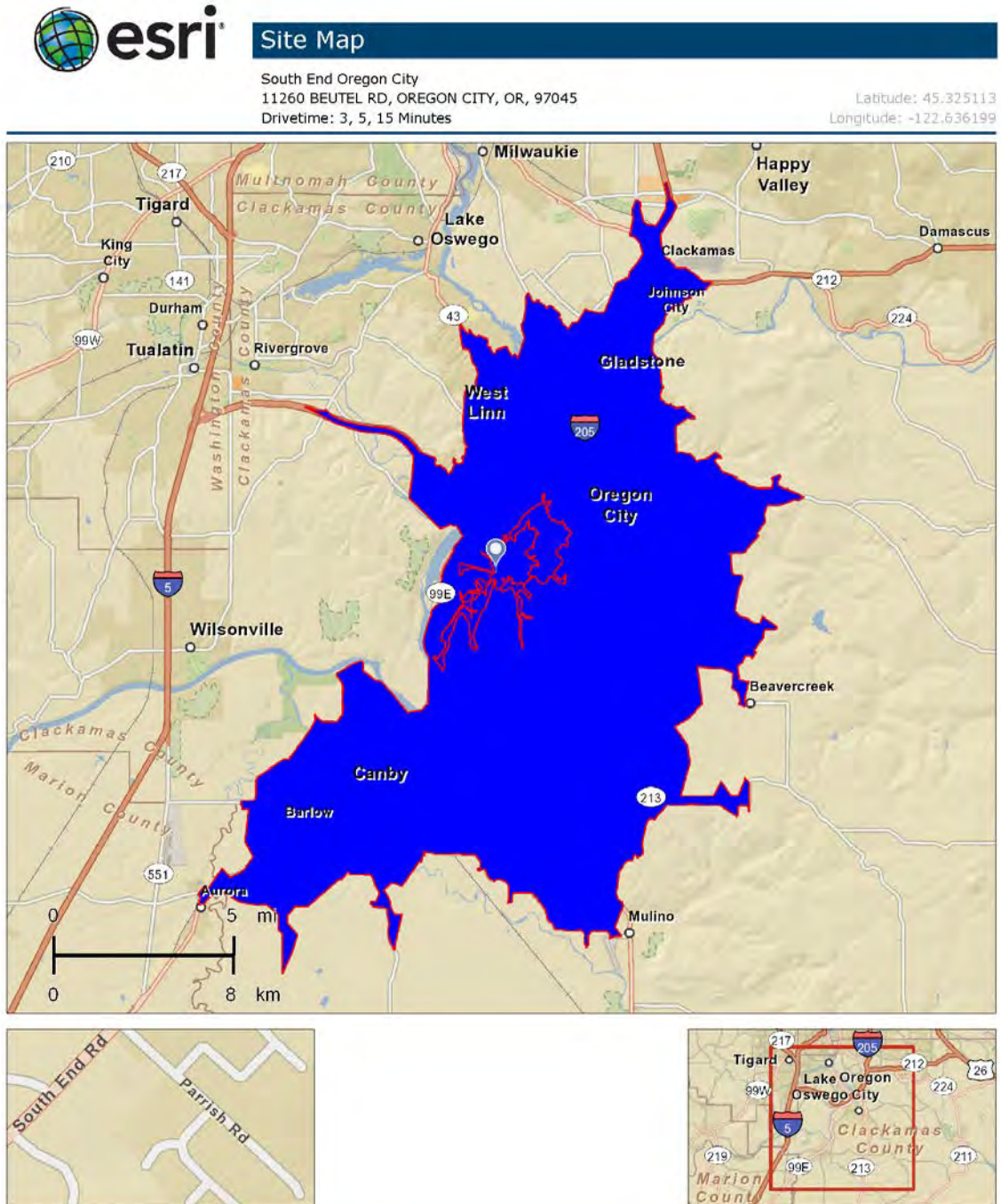






Appendix B: Retail Inflow/Outflow Characteristics

South End Trade Areas, 5 and 15 Minute Drive Times



September 06, 2012

South End Trade Area: 5 Minute Drive Time Retail Inflow/Outflow



Retail MarketPlace Profile

South End Oregon City
11260 BEUTEL RD, OREGON CITY, OR, 97045
Drive Time: 5 minutes

Latitude: 45.325112791
Longitude: -122.6361989

Summary Demographics

2010 Population	6,895
2010 Households	2,494
2010 Median Disposable Income	\$51,283
2010 Per Capita Income	\$27,932

Industry Summary	NAICS	Demand (Retail Potential)	Supply (Retail Sales)	Retail Gap	Leakage/Surplus Factor	Number of Businesses
Total Retail Trade and Food & Drink	44-45,722	\$70,674,268	\$13,388,771	\$57,285,497	68.1	14
Total Retail Trade	44-45	\$60,395,787	\$10,942,374	\$49,453,414	69.3	12
Total Food & Drink	722	\$10,278,481	\$2,446,397	\$7,832,083	61.5	3

Industry Group	NAICS	Demand (Retail Potential)	Supply (Retail Sales)	Retail Gap	Leakage/Surplus Factor	Number of Businesses
Motor Vehicle & Parts Dealers	441	\$14,186,028	\$2,008,602	\$12,177,426	75.2	2
Automobile Dealers	4411	\$11,913,838	\$1,454,963	\$10,458,875	78.2	1
Other Motor Vehicle Dealers	4412	\$1,150,150	\$419,159	\$730,991	46.6	1
Auto Parts, Accessories & Tire Stores	4413	\$1,122,041	\$134,480	\$987,561	78.6	0
Furniture & Home Furnishings Stores	442	\$1,702,317	\$161,209	\$1,541,108	82.7	0
Furniture Stores	4421	\$1,051,093	\$100,786	\$950,307	82.5	0
Home Furnishings Stores	4422	\$651,225	\$60,424	\$590,801	83.0	0
Electronics & Appliance Stores	4431	\$1,958,005	\$77,504	\$1,880,501	92.4	0
Bldg Materials, Garden Equip. & Supply Stores	444	\$2,869,113	\$226,905	\$2,642,208	85.3	2
Bldg Material & Supplies Dealers	4441	\$2,248,959	\$204,569	\$2,044,389	83.3	2
Lawn & Garden Equip & Supply Stores	4442	\$620,154	\$22,335	\$597,819	93.0	0
Food & Beverage Stores	445	\$12,912,080	\$1,314,865	\$11,597,215	81.5	0
Grocery Stores	4451	\$12,421,650	\$1,214,621	\$11,207,029	82.2	0
Specialty Food Stores	4452	\$242,218	\$18,800	\$223,417	85.6	0
Beer, Wine & Liquor Stores	4453	\$248,212	\$81,444	\$166,769	50.6	0
Health & Personal Care Stores	446,4461	\$1,486,834	\$337,477	\$1,149,357	63.0	1
Gasoline Stations	447,4471	\$8,073,680	\$4,089,127	\$3,984,552	32.8	1
Clothing & Clothing Accessories Stores	448	\$2,563,757	\$1,137,743	\$1,426,013	38.5	0
Clothing Stores	4481	\$1,925,541	\$9,101	\$1,916,440	99.1	0
Shoe Stores	4482	\$283,483	\$28,197	\$255,286	81.9	0
Jewelry, Luggage & Leather Goods Stores	4483	\$354,733	\$1,100,445	-\$745,713	-51.2	0
Sporting Goods, Hobby, Book & Music Stores	451	\$885,860	\$36,638	\$849,222	92.1	0
Sporting Goods/Hobby/Musical Instr Stores	4511	\$567,826	\$17,125	\$550,701	94.1	0
Book, Periodical & Music Stores	4512	\$318,034	\$19,513	\$298,521	88.4	0
General Merchandise Stores	452	\$10,066,191	\$938,359	\$9,127,832	82.9	0
Department Stores Excluding Leased Depts.	4521	\$3,970,173	\$324,860	\$3,645,312	84.9	0
Other General Merchandise Stores	4529	\$6,096,019	\$613,499	\$5,482,520	81.7	0
Miscellaneous Store Retailers	453	\$908,499	\$423,441	\$485,057	36.4	4
Florists	4531	\$37,041	\$33,213	\$3,828	5.4	1
Office Supplies, Stationery & Gift Stores	4532	\$194,881	\$263,330	-\$68,450	-14.9	1
Used Merchandise Stores	4533	\$95,143	\$33,659	\$61,483	47.7	0
Other Miscellaneous Store Retailers	4539	\$581,434	\$93,238	\$488,196	72.4	2
Nonstore Retailers	454	\$2,783,423	\$190,503	\$2,592,921	87.2	0
Electronic Shopping & Mail-Order Houses	4541	\$1,941,195	\$144,460	\$1,796,735	86.1	0
Vending Machine Operators	4542	\$40,459	\$46,043	-\$5,584	-6.5	0
Direct Selling Establishments	4543	\$801,770	\$0	\$801,770	100.0	0
Food Services & Drinking Places	722	\$10,278,481	\$2,446,397	\$7,832,083	61.5	3
Full-Service Restaurants	7221	\$4,138,355	\$1,061,728	\$3,076,627	59.2	1
Limited-Service Eating Places	7222	\$5,217,305	\$1,223,639	\$3,993,666	62.0	1
Special Food Services	7223	\$221,675	\$4,253	\$217,422	96.2	0
Drinking Places - Alcoholic Beverages	7224	\$701,147	\$156,778	\$544,368	63.5	0

Data Note: Supply (retail sales) estimates sales to consumers by establishments. Sales to businesses are excluded. Demand (retail potential) estimates the expected amount spent by consumers at retail establishments. Supply and demand estimates are in current dollars. The Leakage/Surplus Factor presents a snapshot of retail opportunity. This is a measure of the relationship between supply and demand that ranges from +100 (total leakage) to -100 (total surplus). A positive value represents 'leakage' of retail opportunity outside the trade area. A negative value represents a surplus of retail sales, a market where customers are drawn in from outside the trade area. The Retail Gap represents the difference between Retail Potential and Retail Sales. Esri uses the North American Industry Classification System (NAICS) to classify businesses by their primary type of economic activity. Retail establishments are classified into 27 industry groups in the Retail Trade sector, as well as four industry groups within the Food Services & Drinking Establishments subsector. For more information on the Retail MarketPlace data, please view the methodology statement at <http://www.esri.com/library/whitepapers/pdfs/esri-data-retail-marketplace.pdf>.

Source: Esri and Infogroup

September 06, 2012

South End Trade Area: 15 Minute Drive Time Retail Inflow/Outflow



Retail MarketPlace Profile

South End Oregon City
11260 BEUTEL RD, OREGON CITY, OR, 97045
Drive Time: 15 minutes

Latitude: 45.325112791
Longitude: -122.6361989

Summary Demographics

2010 Population	102,924
2010 Households	37,782
2010 Median Disposable Income	\$48,237
2010 Per Capita Income	\$28,791

Industry Summary	NAICS	Demand (Retail Potential)	Supply (Retail Sales)	Retail Gap	Leakage/Surplus Factor	Number of Businesses
Total Retail Trade and Food & Drink	44-45,722	\$1,077,330,488	\$1,137,097,393	-\$59,766,906	-2.7	783
Total Retail Trade	44-45	\$920,882,342	\$946,760,736	-\$25,878,394	-1.4	547
Total Food & Drink	722	\$156,448,146	\$190,336,657	-\$33,888,512	-9.8	236

Industry Group	NAICS	Demand (Retail Potential)	Supply (Retail Sales)	Retail Gap	Leakage/Surplus Factor	Number of Businesses
Motor Vehicle & Parts Dealers	441	\$216,390,741	\$455,101,197	-\$238,710,456	-35.5	75
Automobile Dealers	4411	\$181,644,420	\$395,990,316	-\$214,345,896	-37.1	34
Other Motor Vehicle Dealers	4412	\$17,612,460	\$37,285,376	-\$19,672,916	-35.8	16
Auto Parts, Accessories & Tire Stores	4413	\$17,133,860	\$21,825,504	-\$4,691,644	-12.0	24
Furniture & Home Furnishings Stores	442	\$25,803,208	\$16,450,618	\$9,352,591	22.1	32
Furniture Stores	4421	\$16,005,950	\$9,632,804	\$6,373,146	24.9	13
Home Furnishings Stores	4422	\$9,797,259	\$6,817,813	\$2,979,445	17.9	19
Electronics & Appliance Stores	4431	\$29,828,845	\$10,022,383	\$19,806,462	49.7	29
Bldg Materials, Garden Equip. & Supply Stores	444	\$43,487,461	\$32,641,853	\$10,845,608	14.2	84
Bldg Material & Supplies Dealers	4441	\$34,137,088	\$25,889,930	\$8,247,157	13.7	53
Lawn & Garden Equip & Supply Stores	4442	\$9,350,373	\$6,751,922	\$2,598,451	16.1	31
Food & Beverage Stores	445	\$197,605,395	\$140,851,102	\$56,754,293	16.8	57
Grocery Stores	4451	\$190,083,957	\$130,015,832	\$60,068,124	18.8	31
Specialty Food Stores	4452	\$3,712,666	\$6,167,962	-\$2,455,295	-24.8	17
Beer, Wine & Liquor Stores	4453	\$3,808,773	\$4,667,308	-\$858,536	-10.1	9
Health & Personal Care Stores	446,4461	\$22,565,047	\$16,891,522	\$5,673,526	14.4	38
Gasoline Stations	447,4471	\$122,861,743	\$87,440,976	\$35,420,767	16.8	26
Clothing & Clothing Accessories Stores	448	\$39,103,128	\$32,537,572	\$6,565,555	9.2	31
Clothing Stores	4481	\$29,311,839	\$8,344,118	\$20,967,721	55.7	15
Shoe Stores	4482	\$4,362,438	\$3,932,537	\$429,901	5.2	8
Jewelry, Luggage & Leather Goods Stores	4483	\$5,428,851	\$20,260,916	-\$14,832,066	-57.7	8
Sporting Goods, Hobby, Book & Music Stores	451	\$13,499,207	\$10,832,056	\$2,667,151	11.0	48
Sporting Goods/Hobby/Musical Instr Stores	4511	\$8,628,522	\$9,131,994	-\$503,472	-2.8	44
Book, Periodical & Music Stores	4512	\$4,870,685	\$1,700,062	\$3,170,624	48.3	4
General Merchandise Stores	452	\$153,573,333	\$121,204,512	\$32,368,821	11.8	22
Department Stores Excluding Leased Depts.	4521	\$60,462,858	\$23,838,207	\$36,624,651	43.4	7
Other General Merchandise Stores	4529	\$93,110,475	\$97,366,305	-\$4,255,830	-2.2	16
Miscellaneous Store Retailers	453	\$13,873,333	\$17,109,735	-\$3,236,403	-10.4	99
Florists	4531	\$557,226	\$1,395,611	-\$838,385	-42.9	19
Office Supplies, Stationery & Gift Stores	4532	\$2,972,694	\$3,535,406	-\$562,713	-8.6	18
Used Merchandise Stores	4533	\$1,453,616	\$1,890,649	-\$437,033	-13.1	16
Other Miscellaneous Store Retailers	4539	\$8,889,797	\$10,288,068	-\$1,398,272	-7.3	47
Nonstore Retailers	454	\$42,290,901	\$5,677,210	\$36,613,691	76.3	5
Electronic Shopping & Mail-Order Houses	4541	\$29,608,284	\$2,763,217	\$26,845,066	82.9	1
Vending Machine Operators	4542	\$618,130	\$887,384	-\$269,254	-17.9	1
Direct Selling Establishments	4543	\$12,064,487	\$2,026,609	\$10,037,878	71.2	3
Food Services & Drinking Places	722	\$156,448,146	\$190,336,657	-\$33,888,512	-9.8	236
Full-Service Restaurants	7221	\$63,001,382	\$85,470,377	-\$22,468,994	-15.1	114
Limited-Service Eating Places	7222	\$79,473,702	\$91,422,034	-\$11,948,332	-7.0	87
Special Food Services	7223	\$3,379,839	\$4,409,562	-\$1,029,723	-13.2	11
Drinking Places - Alcoholic Beverages	7224	\$10,593,222	\$9,034,684	\$1,558,538	7.9	24

Data Note: Supply (retail sales) estimates sales to consumers by establishments. Sales to businesses are excluded. Demand (retail potential) estimates the expected amount spent by consumers at retail establishments. Supply and demand estimates are in current dollars. The Leakage/Surplus Factor presents a snapshot of retail opportunity. This is a measure of the relationship between supply and demand that ranges from +100 (total leakage) to -100 (total surplus). A positive value represents 'leakage' of retail opportunity outside the trade area. A negative value represents a surplus of retail sales, a market where customers are drawn in from outside the trade area. The Retail Gap represents the difference between Retail Potential and Retail Sales. Esri uses the North American Industry Classification System (NAICS) to classify businesses by their primary type of economic activity. Retail establishments are classified into 27 industry groups in the Retail Trade sector, as well as four industry groups within the Food Services & Drinking Establishments subsector. For more information on the Retail MarketPlace data, please view the methodology statement at <http://www.esri.com/library/whitepapers/pdfs/esri-data-retail-marketplace.pdf>.

Source: Esri and Infogroup

September 06, 2012

Appendix C: Housing Development Forecast, South End Area, 2010-2035

Oregon City Household Growth Forecast, 2010-2035					
	2010	Est. 2015	Est. 2035	Change: 2010-15	Change: 2015-35
Households	11,974	13,216	17,047	1,242	3,831
Source: Metro Gamma forecast, Aug. 2012.					
Oregon City Household Growth Forecast, 2010-2035					
		2010-15	2015-25	2025-35	Change: 2015-35
South End PMA Household Change		1,242	1,915	1,915	3,831
South End Area Capture Rate					
Low Capture		0%	25%	35%	1,341
Medium Capture		0%	30%	40%	1,532
High Capture		0%	35%	45%	1,724
Projected Potential South End Housing Demand, 2015-2035					
	Low	Med	High		
Household Change	1,341	1,532	1,724		
Vacancy Rate (@ 4%)	56	64	72		
Total New Dwellings	1,397	1,596	1,796		
Projected Potential Housing Demand by Type, 2015-2035 (Dwellings)					
	Low	Med	High	Dwelling Mix Assumptio ns	
Single Family Detached	698	798	898	50%	
Townhomes	279	319	359	20%	
Multifamily	335	383	431	24%	
Assisted Living	84	96	108	6%	
Total New Dwellings	1,397	1,596	1,796	100%	

South End Capture Rates by Time Period (Dwellings)						
	2010 - 2014	2015 - 2020	2020 - 2025	2025 - 2030	2030 - 2035	Total
Single family (dwellings)	*	175 to 224	175 to 224	175 to 224	175 to 224	698 to 898
Townhomes (dwellings)	*	70 to 90	70 to 90	70 to 90	70 to 90	279 to 359
Multifamily (dwellings)	*	-	-	168 to 215	168 to 215	335 to 431
Assisted Living (units)	*	-	-	-	84 to 108	84 to 108
Total New Dwellings	*	244 to 314	244 to 314	412 to 530	496 to 637	1,397 to 1,796
* note: nominal levels of development are expected over next few years, as infrastructure plans, funding and zoning classificaitons are solidified.						
South End Buildable Land Need for Residential Development by Year 2035 (acres)						
Land Demand (acres)	Low	Med	High	Density Assumption		
Single Family	116	133	150	6.0	per acre	
Townhomes	17	20	22	16.0	per acre	
Multifamily	10	12	13	32.0	per acre	
Assisted Living	3	3	3	45.0	per acre	
Net Acre	147	168	189			
or Net Acre Avg. (rounded)	10	10	10			
Plus roads/easements	32	37	41	18%	percent	
Buildable Land Need	179	205	230			

Appendix D: Office and Retail/Commercial Development Forecast
South End Area, 2010-2035 (gross floor area in square feet)

Potential South End Retail Capture					
Estimated Capture Rate:	25% of trade leakage from area within 5 minute drive				
New South End Households	1,685				
Households within 5 Min. Drive	3,370				
	Proj. 2035 Retail Gap*	South End Capture (@25%)	Support-able Floor Area (SF)	Support-able Net Acres	Est Jobs (on site)
Retail	\$90,258,836	\$22,564,709	47,505	3.1	95
Food & Drink	\$14,776,038	\$3,694,009	7,777	0.5	16
Total	\$105,034,873	\$26,258,718	55,282	3.6	111
Possible tenants:					
convenience store					
specialty food store					
full-service restaurant					
bakery/deli					
day care center					
upper-level office/services					
* derived from Table x.					
Source: analysis by FCS GROUP; based on mid-point growth forecast for South End area per Oregon City TSP and Metro gamma forecast. Assumes current levels of retail spending and retail supply remain constant Assumes average annual sales per square foot of \$475; and average building density level of 0.35 FAR (floor to area ratio).					

Appendix B



MEMORANDUM

Land Use Evaluation – October 18, 2013

This memorandum has been prepared in order to summarize the potential number of units and densities within the South End Concept Plan area. We analyzed the Concept Plan to provide an estimate of the maximum and minimum densities which may be possible assuming the development of the planning areas. For the purposes of the density calculations, developed areas within the City's existing boundaries, major future roadways, and open spaces have been omitted from the calculations. The plan area also has been adjusted to reflect the pre-2002 UGB area and 2002 UGB expansion area. The following table illustrates the density ranges possible within the current conceptual development scenario:

Concept Plan Designation	Potential Zoning	Gross Area (Acres)	Net Area (-20%) ² (Acres)	Lot Size Range (sf)	High Density Range ^{3,5} (Units)	Low Density Range ^{4,5,6} (Units)	Average Density (Units)
Pre - 2002 UGB Area							
Large Lot Residential	R10 - R8, or R6	111.6	89.3	6,000 - 10,000 x 80%	544	326	435
Medium Lot Residential	R5 - R3.5	99.3	79.5	3,500 - 5,000 x 80%	830	581	706
Small Lot Residential	R3.5 - R-2	23.0	18.4	2,000 x 80%	336	256	296
Neighborhood Commercial	MUR	11.2	9.0	No Density Assumed			
Totals		245.1	196.1		1,711	1,164	1,438
Units Per Net Acre					8.8	6.0	7.4
Concept Plan Designation	Potential Zoning	Gross Area (Acres)	Net Area (-20%) ² (Acres)	Lot Size Range (sf)	High Density Range ^{3,5} (Units)	Low Density Range ^{4,5,6} (Units)	Average Density (Units)
2002 UGB Area							
Large Lot Residential	R10 - R8, or R6	133.1	106.5	6,000 - 10,000 x 80%	649	389	519
Medium Lot Residential	R5 - R3.5	33.0	26.4	3,500 - 5,000 x 80%	276	193	234
Small Lot Residential	R3.5 - R-2			2,000 x 80%			
Neighborhood Commercial / Mixed Use	MUR			No Density Assumed			
Totals		166.1	132.9		925	582	754
Units Per Net Acre					6.9	4.4	5.6
Concept Plan Designation	Potential Zoning	Gross Area (Acres)	Net Area (-20%) ² (Acres)	Lot Size Range (sf)	High Density Range ^{3,5} (Units)	Low Density Range ^{4,5,6} (Units)	Average Density (Units)
Combined South End Plan Area							
Large Lot Residential	R10 - R8, or R6	244.7	195.8	6,000 - 10,000 x 80%	1,193	716	955
Medium Lot Residential	R5 - R3.5	132.3	105.9	3,500 - 5,000 x 80%	1,106	774	940
Small Lot Residential	R3.5 - R-2	23.0	18.4	2,000 x 80%	336	256	296

Neighborhood Commercial / Mixed Use	MUR	11.2	9.0	No Density Assumed			
Totals		400.0	320.0		2,637	1,747	2,192
Average Density Per Net Acre					8.0	5.3	6.7

1. The Gross Area of the plan includes the developable areas of the plan which are located outside of the City's limits. This figure excludes previously identified resource corridors and existing rights-of-way. This figure also excludes future collectors and arterials within the plan area.
2. The Net Developable Area has been calculated by reducing the Gross Area by 20% to account for both new and existing local roads and infrastructure necessary to serve the development area.
3. The high density calculation assumes development at 80% of the units available within the highest density zone within the range of zoning districts shown.
4. The low density calculation assumes development at 80% of the lowest density zoning available within the range of zoning districts shown.
5. Density Range assumes a 5% increase for Accessory Dwelling Units (ADU).
6. No ADU's have been assumed within the lower range of the small lot residential category. This omission accounts for the fact that ADU's are not permitted within the R-2 zoning district.

The table above indicates that a potential buildable range of between 1,747 and 2,637 dwelling units within the South End Plan area, with a mean of 2,192 units. State and Metro requirements indicate that UGB expansion areas within the Metro region must provide for average densities of 8 units per acre for areas added prior to 2002 and 10 units per acre for areas added in 2002 or later. The net developable area of the pre-2002 expansion area is 196 acres, resulting in a need to provide for approximately 1,568 dwelling units at 8 units per acre. The net developable area of the 2002 expansion area is 133 acres, resulting in the need to provide for 1,330 dwelling units at 10 units per acre. Therefore the Metro target for the provision of total units in South End is approximately 2,898 units, 261 more units than provided at the high end of the South End Concept Plan density range.



720 SW Washington St.
Suite 500
Portland, OR 97205
503.243.3500
www.dksassociates.com

MEMORANDUM

DATE: October 17, 2013
TO: South End Concept Plan Team
FROM: Carl Springer, Kevin Chewuk

SUBJECT: South End Concept Plan- Transportation Element

P12125-000

This memorandum documents our recommendations for the South End Concept Plan transportation element. This transportation element refines the 2013 Transportation System Plan (TSP) based on the latest growth estimates and goals for the Concept Plan. The outcomes include a listing of the recommended multi-modal transportation improvements for South End along with a list of requirement amendments to the TSP to implement them.

Transportation Vision for the South End Concept Plan

The South End Concept Plan envisions an interconnected network of multi-modal streets, one that takes advantage of the relatively flat terrain at the top of the bluff, yet builds upon and connects with the existing streets in the area. The design of the streets will represent the context of the neighborhood, reinforcing its rural nature while accommodating all modes of travel for users of all ages and abilities. The streets will be more than just places for automobile travel, recognizing that they are also where people gather, walk, bike, access transit, and park their vehicles. They will be designed to safely connect people to where they need to go, giving residents, and visitors more travel choices to destinations.

As a major street connection through the Concept Plan area, South End Road will continue to connect residents, commuters, and visitors to the regional transportation system. It will be designed in a manner to serve the through travel demand, while still being viewed as an asset to the neighborhood rather than a barrier. Bicyclists will be accommodated with an exclusive on-street bike facility that is physically separated from motor vehicle traffic with a parking lane and/or a buffer. Where on-street parking is allowed, the cycle track will be located to the curb-side of the parking (in contrast to bike lanes). Those walking will be accommodated with sidewalks buffered from the street with landscaping and/or street furnishings. Safe and comfortable pedestrian and bicycle crossings will be provided where facilities cross South End Road.

To the east and west of South End Road will be a connected network of streets and shared-use paths providing on and off street connections to schools, parks, housing and shopping. Primary street connections to South End Road for those driving in the Concept Plan area will be via Deer Lane-Madrona Drive, Beutel-Parrish Road, and Rose Road. These streets will employ design techniques to create safe, slow streets without significantly changing vehicle capacity, mitigating the impacts of the traffic on the adjacent housing and providing greater balance between safety and mobility.

Those walking and biking in the Concept Plan area will be accommodated primarily through street side sidewalks or pathways, or on-street shared-roadways. Off the main street system will be a network of comfortable, low-stress walking and biking routes between neighborhoods and local parks, schools, and



shopping areas. It is intended to attract less experienced walkers and bikers, acting like a linear park system linking parks, schools, jobs and other destinations in the Concept Plan area to other parts of the City.

Growth

Land use is a key factor in developing a functional transportation system. The amount of land that is planned to be developed, the type of land uses, and how the land uses are mixed together have a direct relationship to the expected demands on the transportation system. Understanding the amount and type of land use is critical to maintaining or enhancing transportation system operations.

The Urban Growth Boundary (UGB) for the Portland metropolitan area was expanded in 2002 by about 200 acres to accommodate future growth within the South End area. This land, coupled with another 300 acres in the immediate area, is currently zoned for future urban uses by Clackamas County¹, but is intended to be rezoned as part of this concept plan and made available for housing and economic development.

The proposed rezoning is expected to include as many as 2,900 housing units and 340,000 square feet of neighborhood commercial/mixed uses². Prior to establishing the needed zoning to allow for such development, the city is required to update all public facilities plans, including the 2013 Transportation System Plan (TSP).

In updating the TSP, the impact of the increased vehicle trip generation on the surrounding transportation system, as a result of the proposed rezone, will be evaluated through the year 2035. Any improvements needed to the transportation system to maintain adequate operations will be identified for incorporation into the TSP.

Estimating Driving Trips

A determination of future street network needs requires the ability to accurately forecast travel demand resulting from estimates of future population and employment for the South End Concept Plan area, and the rest of the City and Metro region. The objective of the transportation planning process is to provide the information necessary for making decisions about how and where improvements should be made to create a safe and efficient transportation system that provides travel options.

The travel demand forecasting process generally involves estimating travel patterns for new development based on the decisions and preferences demonstrated by existing residents, employers and institutions around the region. Travel demand models are mathematical tools that help us understand future commuter, school and recreational travel patterns including information about the length, mode and time of day a trip will be made. The latest travel models are suitable for motor vehicle and transit planning purposes, and can produce total volumes for autos, trucks and buses on each street and highway in the system. Comparing

¹ Clackamas County Zoning. http://www.clackamas.us/planning/documents/ZoningFull_17Sept2012.pdf

² South End Concept Plan Preliminary Land Use Evaluation, 3J Consulting, Draft July 29, 2013



outputs with observed counts and behaviors on the local system refines model forecasts. This refinement step is completed before any evaluation of system performance is made. Once the traffic forecasting process is complete, the 2035 volumes are used to determine the areas of the street network that are expected to be congested and that may need future investments to accommodate growth. Additional details on the travel forecasting can be found in Section E: Model Assumptions, Volume II of the 2013 Oregon City TSP.

Land Use and Motor Vehicle Trip Assumptions

As of August 2013, the South End Concept Plan includes about 2,886 housing units and two neighborhood commercial/mixed-use areas with approximately 340,000 square feet. To convert concept plans of neighborhood commercial land uses into forecasts in the Metro travel demand model, estimates of land use by acreage were converted into employment (number of retail employees or other employees). The following Table 1 describes the assumptions that were used. For the recent update to the Oregon City TSP, vehicle trips within the South End Concept Plan area were estimated based on around 300 fewer housing units and without around 340,000 square feet of neighborhood commercial/mixed uses.

Vehicle trips that would be generated by the Concept Plan area were estimated by applying the Metro Regional Travel Forecast model trip generation rates by land use type. Overall, the South End Concept Plan area is expected to generate about 2,000 motor vehicle trips during the p.m. peak hour, or 425 more than what was assumed in the 2013 TSP.

Table 1: Land Use Assumptions for the South End Concept Plan

Scenario	Housing Units	Retail Employees	Other Employees	PM Peak Hour Vehicle Trips Ends
2013 TSP Update*	2,580	0	163	1,565
South End Concept Plan	2,886	204	163	1,991

Source: *2013 Oregon City Transportation System Plan

Serving Growth

The starting point for the 2035 performance analysis relied on the list of street system improvement projects contained in the recently adopted Oregon City Transportation System Plan and the Draft Clackamas County Transportation System Plan. These projects (shown in Table 2 and Figure 7 later in this document) represent only those that are expected to be funded, and therefore can be used in the baseline traffic forecasts for the South End Concept Plan analysis for 2035. Additional transportation projects will be needed to support growth in the South End Concept Plan area, however, they cannot be assumed for the baseline traffic analysis.

**Table 2: Funded Street System Improvements**

Project	Location	Project Source
Install a traffic signal at the South End Road/ Warner Parrott Road intersection with dedicated left turn lanes for the South End Road approaches to Warner Parrott Road	Outside of the Concept Plan area	2013 Oregon City TSP Project D32
Install a roundabout at the South End Road/ Lafayette Avenue-Partlow Road intersection	Inside the Concept Plan area	2013 Oregon City TSP Project D33
Install a roundabout at the South End Road/ Beutel Road-Parrish Road intersection	Outside of the Concept Plan area	2013 Oregon City TSP Project D41
Install a roundabout at the South End Road/ Deer Lane extension intersection	Inside the Concept Plan area	2013 Oregon City TSP Project D42
Extend Deer Lane from Rose Road to Buetel Road as a Residential Collector	Inside the Concept Plan area	2013 Oregon City TSP Project D51
Extend Deer Lane east from Buetel Road to Central Point Road as a Residential Collector	Inside the Concept Plan area	2013 Oregon City TSP Project D52
Extend Madrona Drive to Deer Lane as a Family Friendly Collector	Inside the Concept Plan area	Modified version of 2013 Oregon City TSP Project D53 (Change from Residential Collector to Family Friendly Collector)
Complete the gap between Parrish Road as a Residential Collector	Inside the Concept Plan area	2013 Oregon City TSP Project D65
Improve South End Road from Partlow Road to south of South End Court to a Residential Minor Arterial	Inside the Concept Plan area	Modified version of 2013 Oregon City TSP Project D89 (Street type changes for two segments from Residential to Mixed-Use)
Improve South End Road from south of South End Court to north of Fandango Drive to a Mixed-Use Minor Arterial		
Improve South End Road from north of Fandango Drive to north of Navajo Way as a Residential Minor Arterial		
Improve South End Road from north of Navajo Way to north of the Deer Lane extension as a Mixed-Use Minor Arterial		
Improve South End Road from north of the Deer Lane extension south to the UGB as a Residential Minor Arterial		
Improve Beutel Road north of South End Road as a Residential Collector*	Inside the Concept Plan area	2013 Oregon City TSP Project D93

* The Beutel Road improvement project (Project D93) included on the "Not Likely to be Funded" list of the TSP was also assumed since it is a collector street within the South End Concept Plan area. It would need to be improved before development could occur.

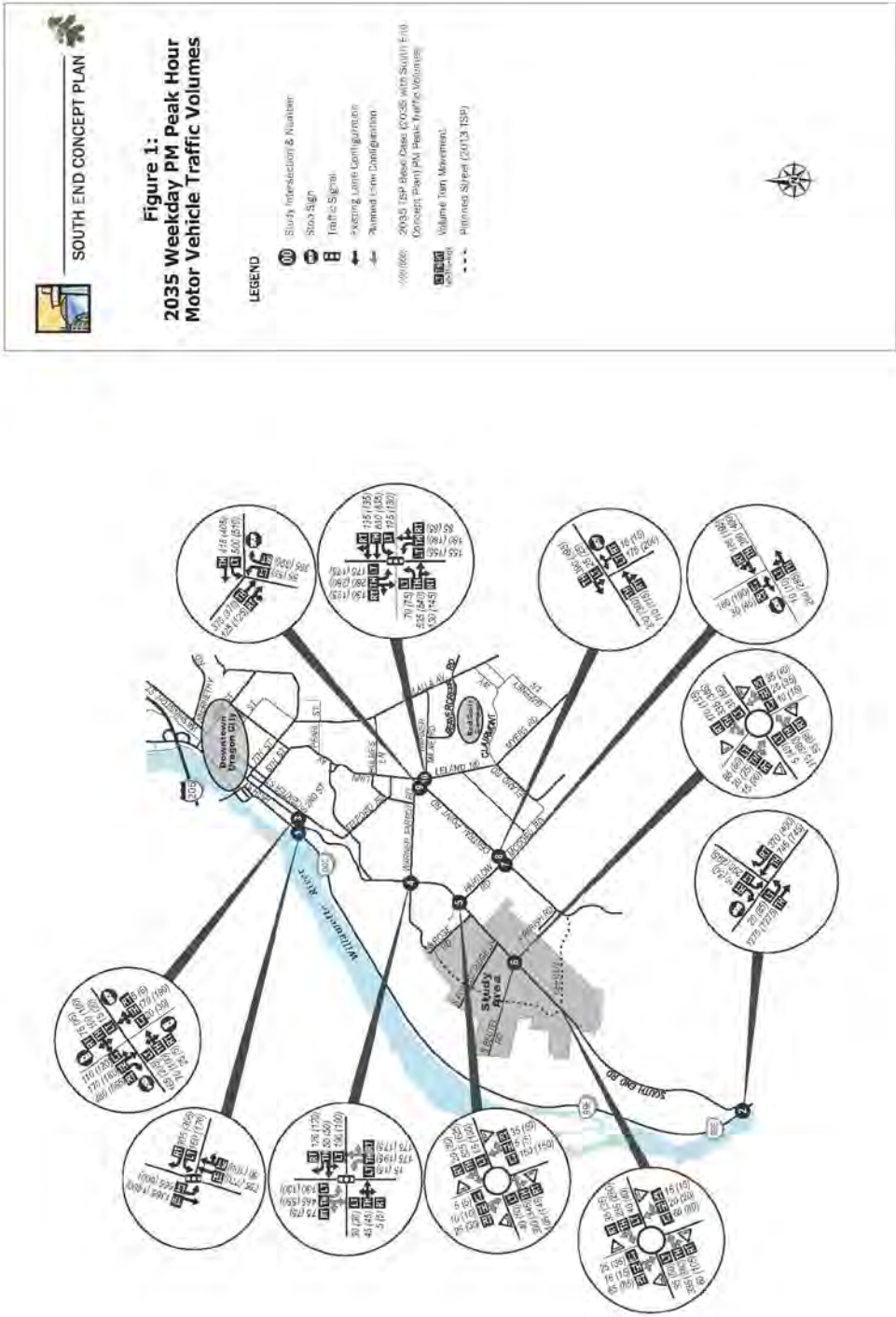
2035 Motor Vehicle Operations

Future traffic forecasts were prepared for 2035 for two major scenarios:

- **2035 TSP Base Case** – this assumes the 2013 TSP Update land use within the concept plan area as described in Table 1. It includes the street system improvement projects listed in the "Serving Growth" section and the traffic volumes shown in Figure 1.
- **2035 With South End Concept Plan** – this scenario assumes the highest level of potential development for the South End Concept Plan area. It also includes the street system improvement projects listed in the "Serving Growth" section and the traffic volumes shown in Figure 1.



Figure 1: 2035 Motor Vehicle Traffic Volumes (PM Peak)





Motor vehicle conditions were evaluated during the 2035 evening peak hour at the ten intersections reviewed, in addition to the planned South End Road/Deer Lane extension intersection. The evaluation utilized 2000 Highway Capacity Manual methodology for signalized and 2010 Highway Capacity Manual methodology for unsignalized intersections. Two common measures of intersection performance are level of service (LOS) and volume-to-capacity (v/c) ratios.

Level of service (LOS) is similar to a report card rating (A through F) and is based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.

Volume-to-capacity (V/C) ratios are decimal representations (between 0.0 and 1.0) of the proportion of capacity that is being used (i.e., the saturation) at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic flow rate by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.0, congestion increases and performance is degraded. If the ratio is greater than 1.0, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

All study intersections must operate at or below the adopted performance measures or mitigation could be necessary to approve future growth. The adopted intersection mobility targets vary by jurisdiction of the roadways. Two of the intersections reviewed are under state jurisdiction (along McLoughlin Boulevard), while the remaining eight intersections are under the jurisdiction of Oregon City. All intersections under State jurisdiction must comply with the v/c ratios in the 1999 Oregon Highway Plan (OHP), while intersections under City jurisdiction must comply with the v/c ratios in the 2013 TSP. Both the OHP and TSP require a v/c ratio of 0.99 to be met at the intersections reviewed during the evening peak hour.

After assuming the street system improvement projects with expected funding contained in the recently adopted Oregon City Transportation System Plan and the Draft Clackamas County Transportation System Plan, three intersections, including the McLoughlin Boulevard/ South End Road, South End Road/ South 2nd Street and Warner Parrott Road/ Central Point Road intersections, are expected to exceed mobility targets. Each of these intersections were previously forecasted to exceed standards in the 2013 Oregon City TSP and Clackamas County TSP. The following details further improvements (if any) that are needed at these intersections to comply with the mobility targets.

- **McLoughlin Boulevard/ South End Road intersection:** This intersection is located outside of the Urban Growth Boundary for the Portland Metropolitan area, and therefore was not evaluated in the 2013 Oregon City TSP. It was, however, examined as part of the 2013 Clackamas County TSP Update. While no improvements were identified for this intersection under the County's "Full-Build" improvement scenario (which includes all funded and unfunded street system improvements in the



County), the intersection operations would be expected to improve slightly³. Since the recent Clackamas County TSP Update did not identify any feasible or fundable solutions at this intersection, and the intersection is outside of the South End Concept Plan area, no additional improvements are recommended with the South End Concept Plan.

- **South End Road/ South 2nd Street intersection:** An improvement project on the “Not likely to be Funded” project list of the 2013 Oregon City TSP was identified for this intersection. The project (Project D31) would add a traffic signal at the intersection. With this improvement, the intersection would comply with the mobility target.
- **Warner Parrott Road/ Central Point Road intersection:** An improvement project on the “Not likely to be Funded” project list of the 2013 Oregon City TSP was identified for this intersection. The project (Project D34) would restrict left turns from Central Point Road to Warner Parrott Road and install a roundabout at the Warner Parrott Road-Warner Milne Road/ Linn Avenue-Leland Road intersection. To make a left turn from Central Point Road to Warner Parrott Road, drivers would have to make a right onto Warner Parrott Road and travel through the roundabout at the Warner Parrott Road-Warner Milne Road/ Linn Avenue-Leland Road intersection. With this improvement, the intersection would comply with the mobility target.

³ 2013 Clackamas County TSP Update, Full Build Intersection Operations PM Peak Hour

**Table 3: 2035 Motor Vehicle Operations (PM Peak Period)**

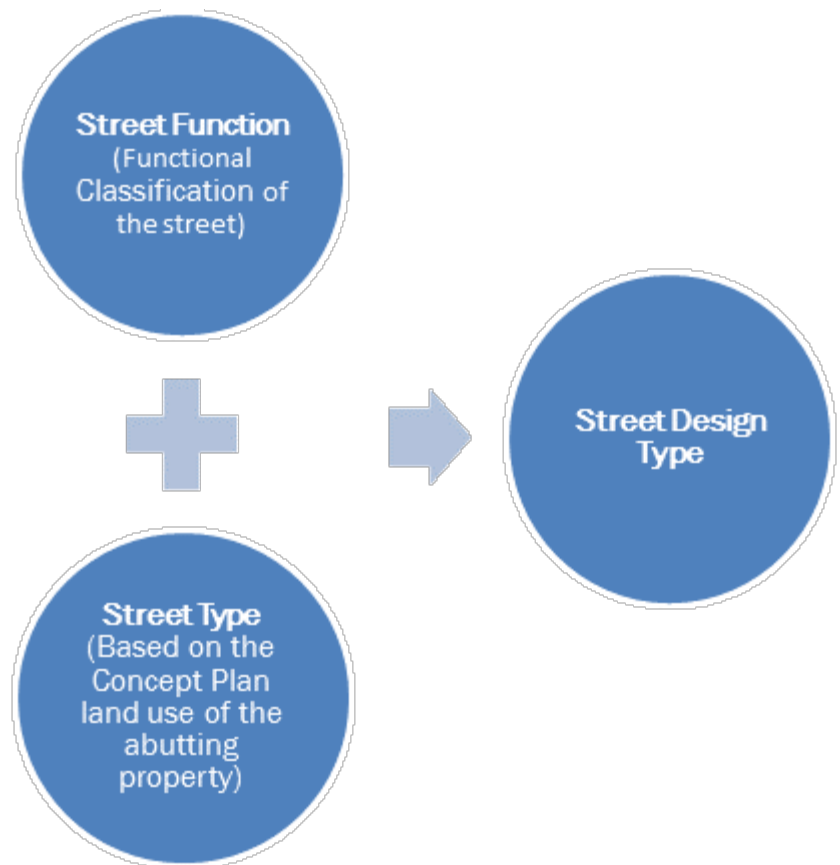
Intersection	Intersection Mobility Target	2035 TSP Base Case		2035 with South End Concept Plan		2035 with South End Concept Plan and Mitigations		Planned Intersection Solution
		Volume/ Capacity	Level of Service	Volume/ Capacity	Level of Service	Volume/ Capacity	Level of Service	
McLoughlin Boulevard/ South 2 nd Street	0.99 v/c	0.95	D	0.98	D	-	-	N/A
McLoughlin Boulevard/ South End Road	0.75 v/c	0.89	F	1.04	F	*	*	N/A; Clackamas County TSP Full Build Projects
South End Road/ South 2 nd Street	0.99 v/c	0.81	E	1.02	F	0.56	A	Install a traffic signal
South End Road/ Warner Parrott Road	0.99 v/c	0.61	A	0.66	A	-	-	Traffic signal; left turns lanes on South End Road
South End Road/ Lafayette Avenue-Partlow Road	0.99 v/c	0.64	A	0.77	B	-	-	Install a roundabout
South End Road/ Beutel Road-Parrish Road	0.99 v/c	0.42	A	0.52	A	-	-	Install a roundabout
Central Point Road/ Partlow Road	LOS E	0.59	D	0.69	D	-	-	N/A
Central Point Road/ McCord Road	LOS E	0.61	D	0.74	E	-	-	N/A
Warner Parrott Road/ Central Point Road	0.99 v/c	>1.20	F	>1.20	F	0.64	C	Restrict left turns from Central Point Road to Warner Parrott Road
Warner Parrott Road-Warner Milne Road/ Linn Avenue-Leland Road	0.99 v/c	0.92	E	0.94	E	0.81	B	Install a roundabout
Supplemental Intersection								
South End Road/Deer Lane Extension	0.99 v/c	0.37	A	0.46	A	-	-	Install a roundabout

Bolded Red and Shaded indicates intersection exceeds v/c mobility target or operates with a Level of service "F"

*No intersection improvements assumed in Clackamas County TSP. However, under the "Full-Build" improvement scenario (which included all funded and unfunded street system improvements), the intersection operations would be expected to improve slightly.

Multi-Modal Street System

The 2013 Oregon City TSP classified the street system into a hierarchy organized by function and street type (representative of their places). These classifications ensure that the streets reflect the neighborhood through which they pass, consisting of a scale and design appropriate to the character of the abutting properties and land uses. The classifications also provide for and balance the needs of all travel modes including pedestrians, bicyclists, transit riders, motor vehicles and freight. Within these street classifications, context sensitive design may result in alternative cross-sections. The Oregon City multi-modal street system was modified to reflect the proposed zoning designations in the South End Concept Plan area, and can be seen in Figure 2.



Multi-Modal Street Function

The functional classification of roadways is a common practice in the United States. Traditionally, roadways are classified based on the type of vehicular travel it is intended to serve (local versus through traffic). In Oregon City, the functional classification of a roadway (shown in Figure 2 for the South End Concept Plan area) determines the level of mobility for all travel modes, defining its design characteristics (such as minimum amount of travel lanes), level of access and usage within the City and region. The street functional classification system recognizes that individual streets do not act independently of one another but instead form a network that works together to serve travel needs on a local and regional level. From highest to lowest intended usage, the classifications are freeway, expressway, major arterials, minor arterials, collectors and local streets. Roadways with a higher intended usage generally provide more efficient motor vehicle traffic movement (or mobility) through the City, while roadways with lower intended usage provide greater access for shorter trips to local destinations.

Three classifications were designated for the South End Concept Plan area, including Minor Arterial Street (South End Road), Collector Streets (Buetel Road-Parrish Road, Rose Road, and Deer Lane extension), and local streets (all other streets in the South End Concept Plan area).

Multi-Modal Street Type

Oregon City further classifies the roadways within the City based on the neighborhood it serves and the intended function for pedestrians, bicyclists and transit riders in that specific area. Within the context of Oregon City's multi-modal street system, the street type of a roadway defines its cross-section characteristics

and determines how users of a roadway interact with the surrounding land use. Since the type and intensity of adjacent land uses and zoning directly influence the level of use by pedestrians, bicyclists and transit riders, the design of a street (including its intersections, sidewalks, and transit stops) should reflect its surroundings.

The street types strike a balance between street functional classification, adjacent land use, zoning designation and the competing travel needs by prioritizing various design elements. Three street types were designated for the South End Concept Plan area:

- **Mixed-Use Streets** typically have a higher amount of pedestrian activity and are often on a transit route. These streets should emphasize a variety of travel choices such as pedestrian, bicycle and transit use to complement the development along the street. Since mixed-use streets typically serve pedestrian oriented land uses, walking should receive the highest priority of all the travel modes. They should be designed with features such as wider sidewalks, traffic calming, pedestrian amenities, transit amenities, attractive landscaping, on-street parking, pedestrian crossing enhancements and bicycle lanes.
- **Residential Streets** are generally surrounded by residential uses, although various small shops may be embedded within the neighborhood. These streets often connect neighborhoods to local parks, schools and mixed-use areas. They should be designed to emphasize walking, while still accommodating the needs of bicyclists and motor vehicles. A high priority should be given to design elements such as traffic calming, landscaped buffers, green street treatments, walkways/ pathways/ trails, on-street parking and pedestrian safety enhancements.
- **Family Friendly Streets** to help encourage active transportation by providing comfortable, low-stress routes between neighborhoods and local parks, schools, and shopping areas. The network is generally off the main street system and serves as a greenway that links parks, schools, jobs and other destinations in the City through a network of shared-use streets and off-street shared-use paths. These routes are considered walking and biking streets that are also used by motor vehicles for local access.

Low volume, low speed streets are modified to prioritize the through movement of bicyclists and pedestrians while maintaining local access for automobiles. These routes typically include wayfinding signage and pavement markings, as well as traffic calming features that reduce motor vehicle speeds and discourage through traffic. Where these facilities cross major roadways it is important to provide safe and comfortable pedestrian and bicycle crossings. Further enhancements may include “green street” features such as bio-swales and street trees, pervious concrete or asphalt, in addition to wider sidewalks and improved pedestrian amenities (e.g., benches and pedestrian-scale lighting).

- **Shared Streets** are roadways where bicyclists and motorists share the same travel lane. The most suitable roadways for shared bicycle use are those with low speeds (25 mph or less) and low traffic volumes (3,000 vehicles per day or fewer). These streets serve to provide continuity to other bicycle facilities (e.g. bicycle lanes) and should include shared lane markings. Common practice is to sign the route with standard Manual on Uniform Traffic Control Devices (MUTCD) green bicycle route signs with directional arrows. Shared roadways can also be signed with innovative signing that provides directional information in terms of bicycling minutes or distance (e.g., “South End Road, 3 minutes, ½ mile”).

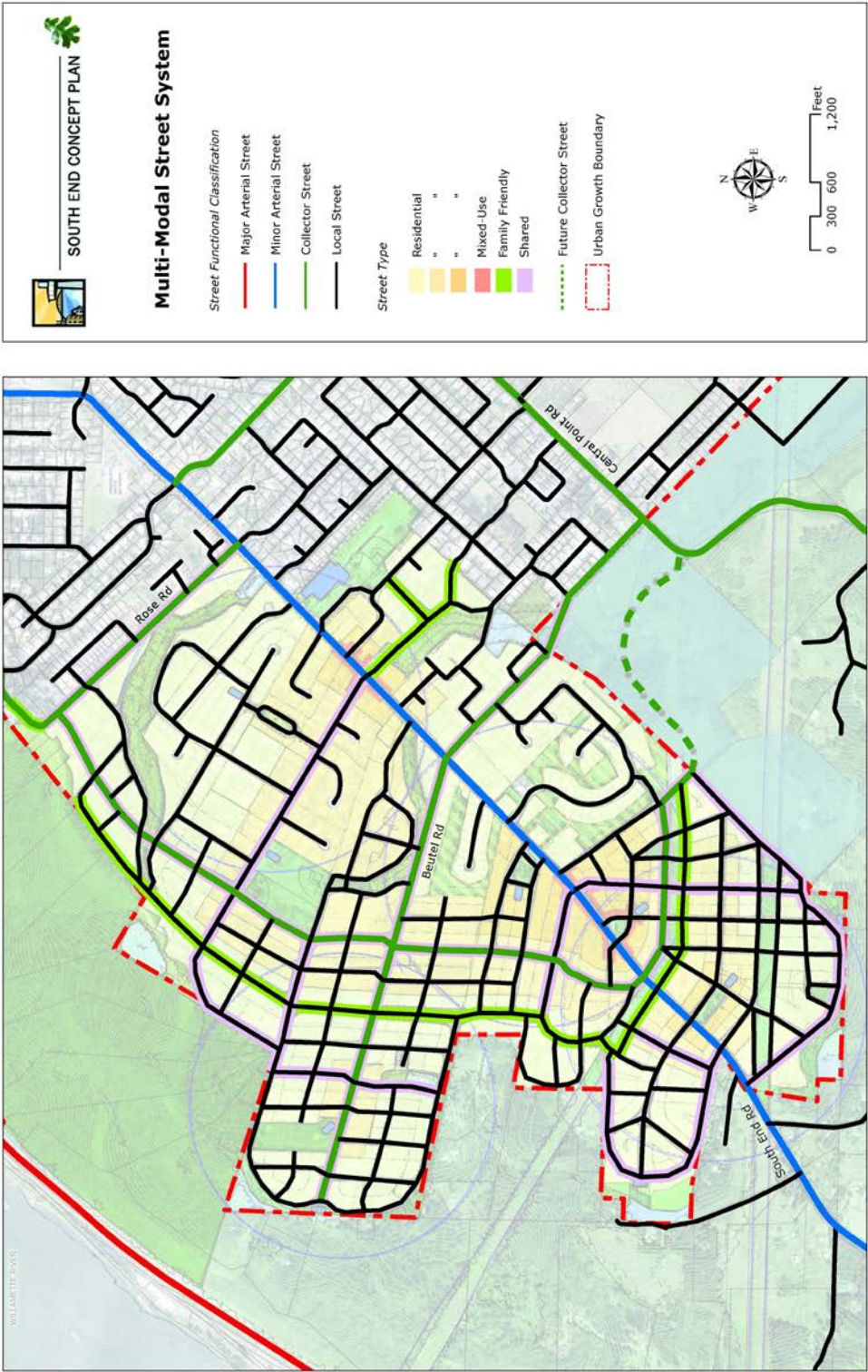


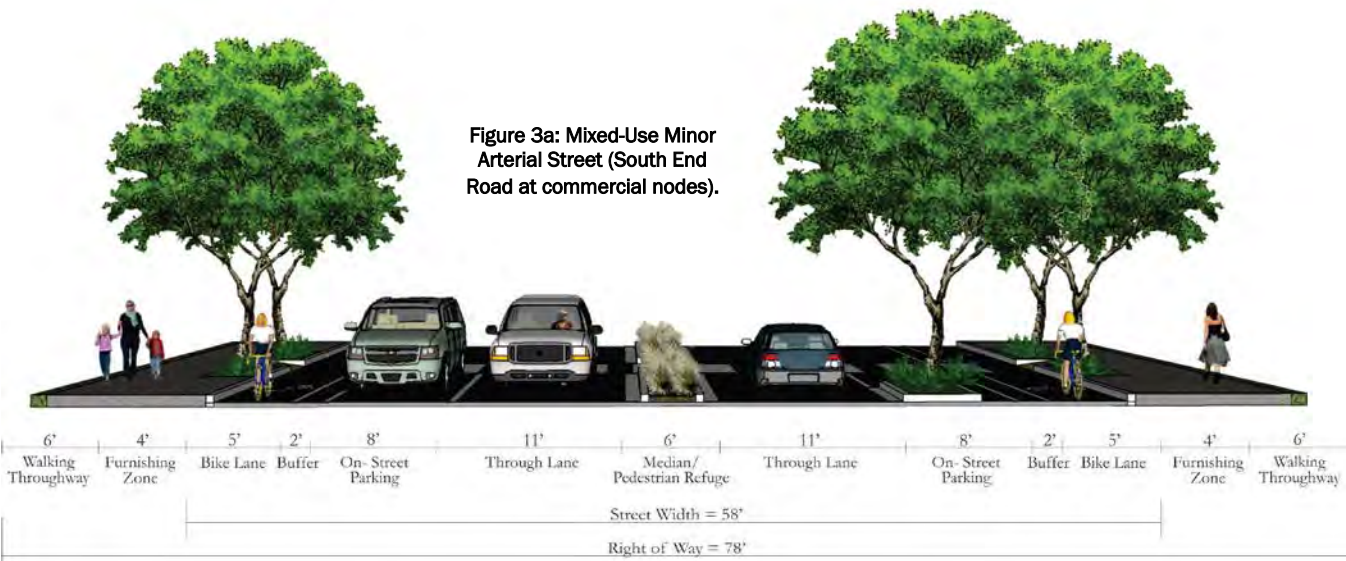
Design Types of Streets

Design of the streets in Oregon City requires attention to many elements of the public right-of-way and considers how the street interacts with the adjoining properties. The design of streets varies based on the functional classification and street type. Overall, there are 10 different design types for streets in the South End Concept Plan area ranging from Mixed-Use Minor Arterial to Shared Local Street, as shown in Figures 3a to 3j. The applicable design type for each street section can be seen in Figure 4.

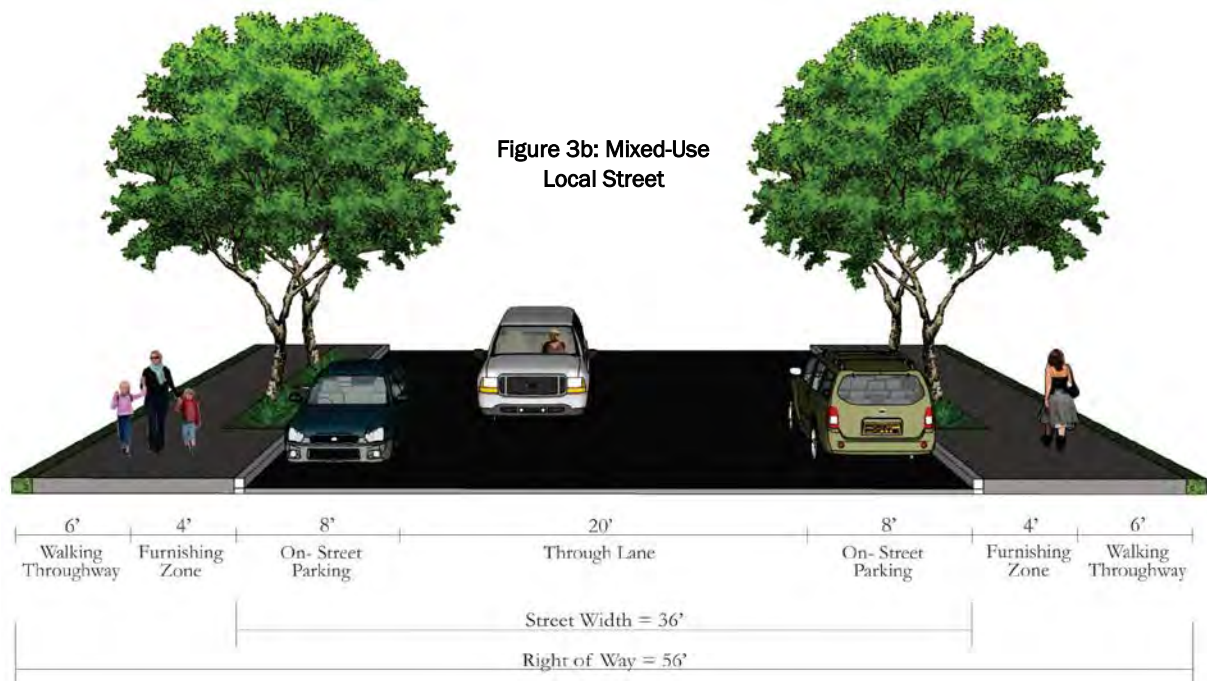


Figure 2: Multi-Modal Street System

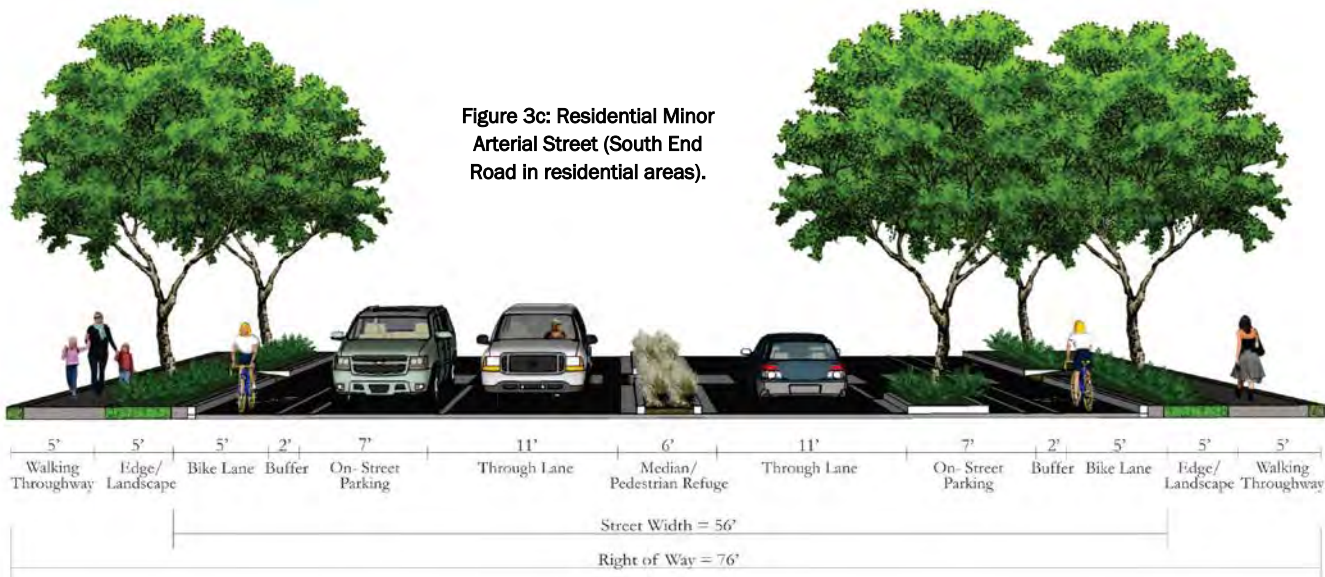




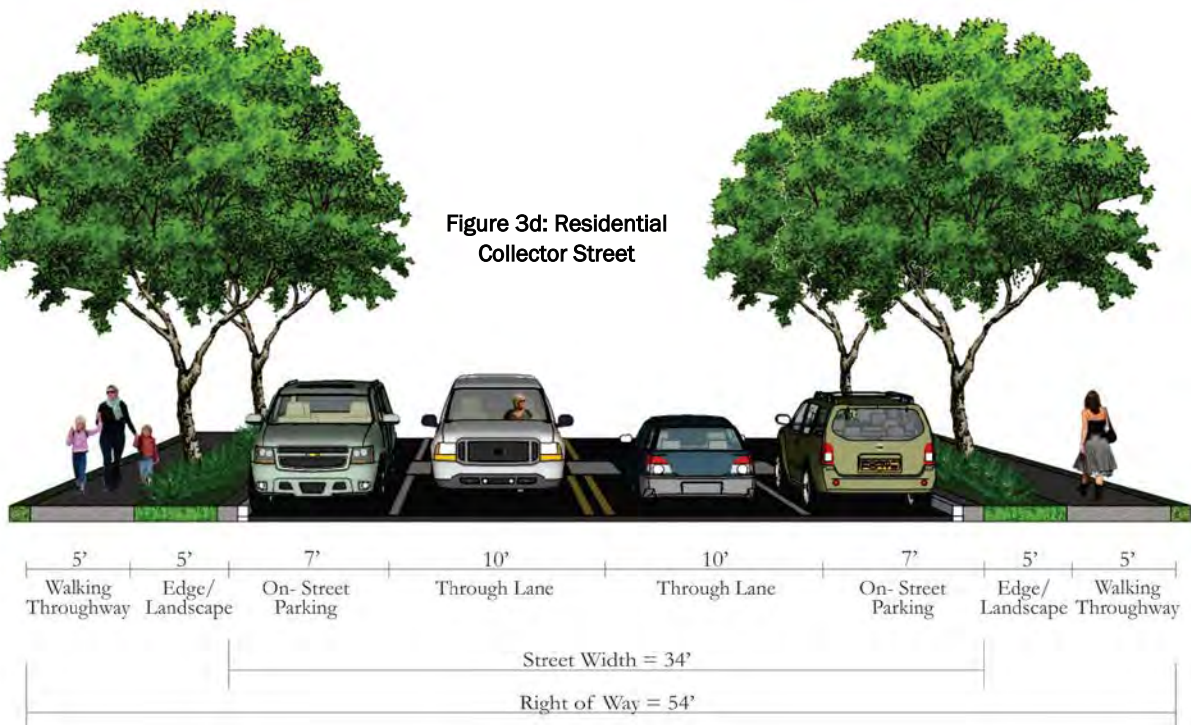
- *On-street parking may be on both, one, or neither side of the street depending on adjacent land use.
- **Landscaping may be added to the parking lane if ten feet of clearance is maintained from the curb to the planting wells.
- ***A six foot median should be provided at mid-block locations. An 11-foot left-turn lane should be provided where left-turns are allowed.



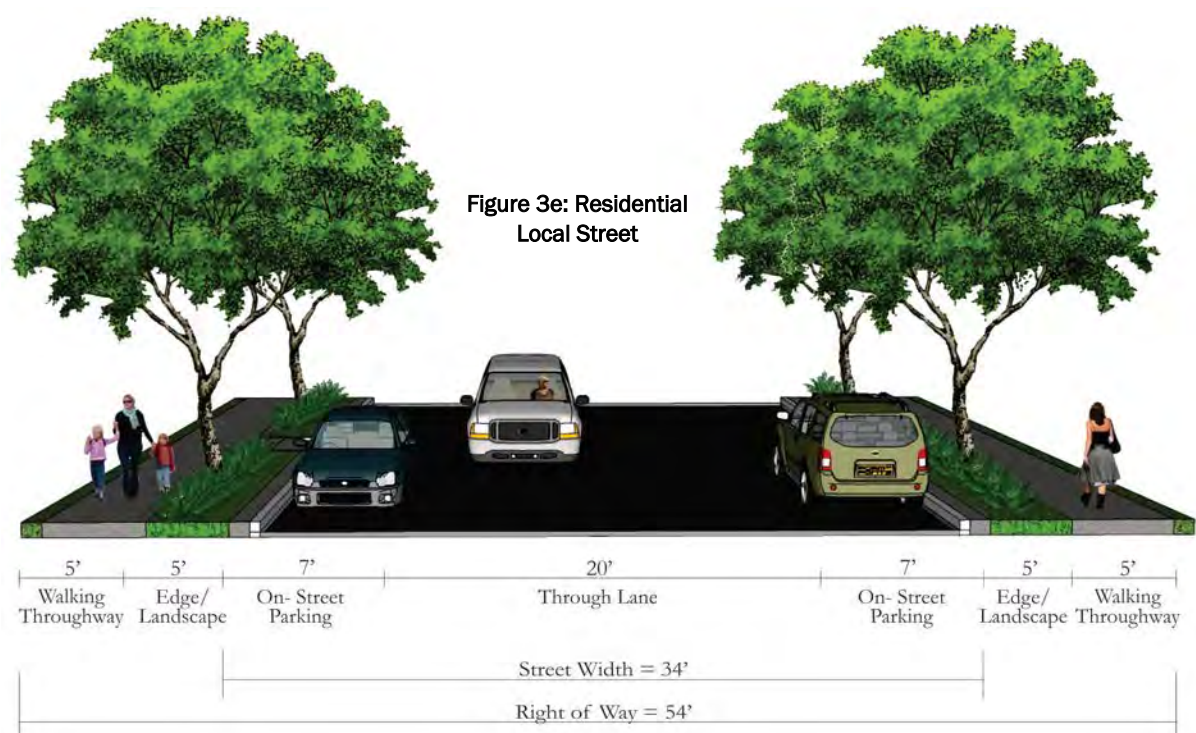
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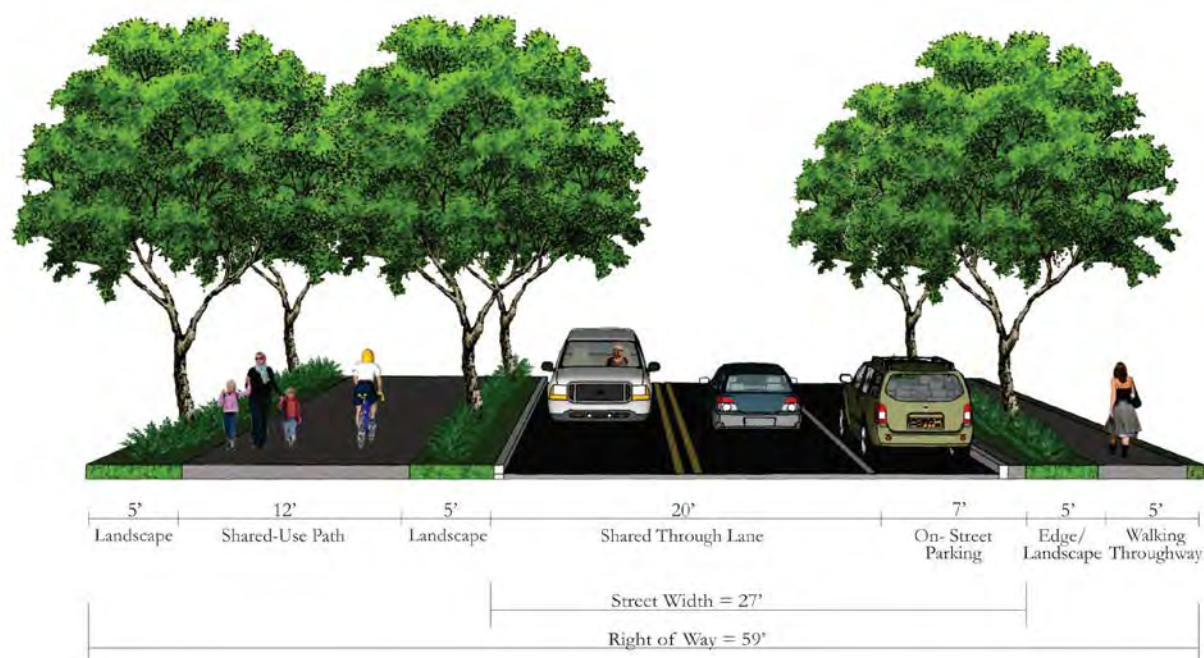


*On-street parking may be on both, one, or neither side of the street depending on adjacent land use.



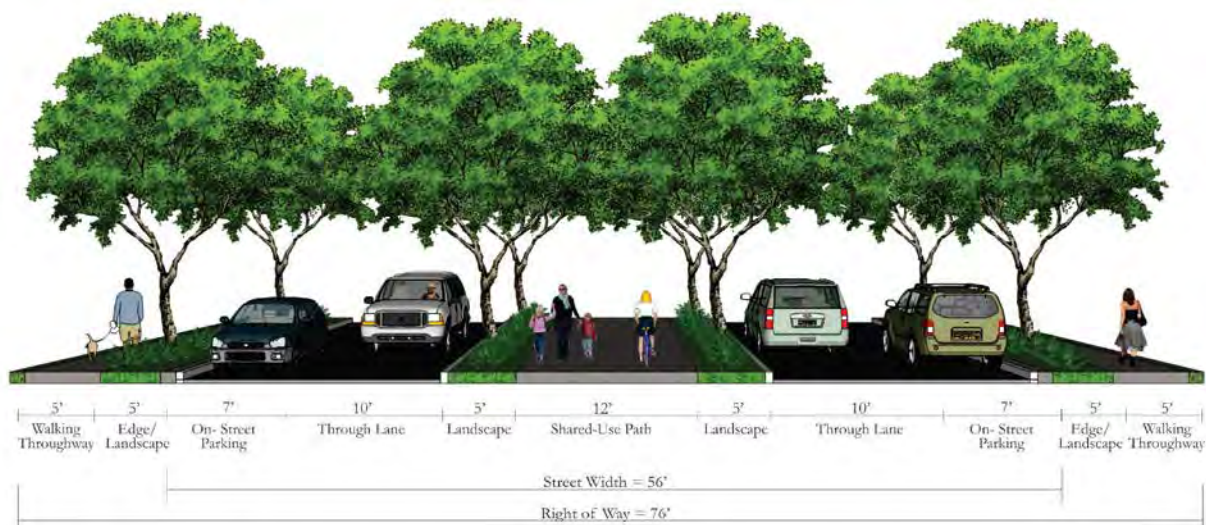
*On-street parking may be on both, one, or neither side of the street depending on adjacent land use.
**Curbs may be excluded at the discretion of the city to match the rural character of the surrounding land use.

Figure 3f: Family Friendly Collector Street with roadside Shared-Use Path



*On-street parking may be on both, one, or neither side of the street depending on adjacent land use.

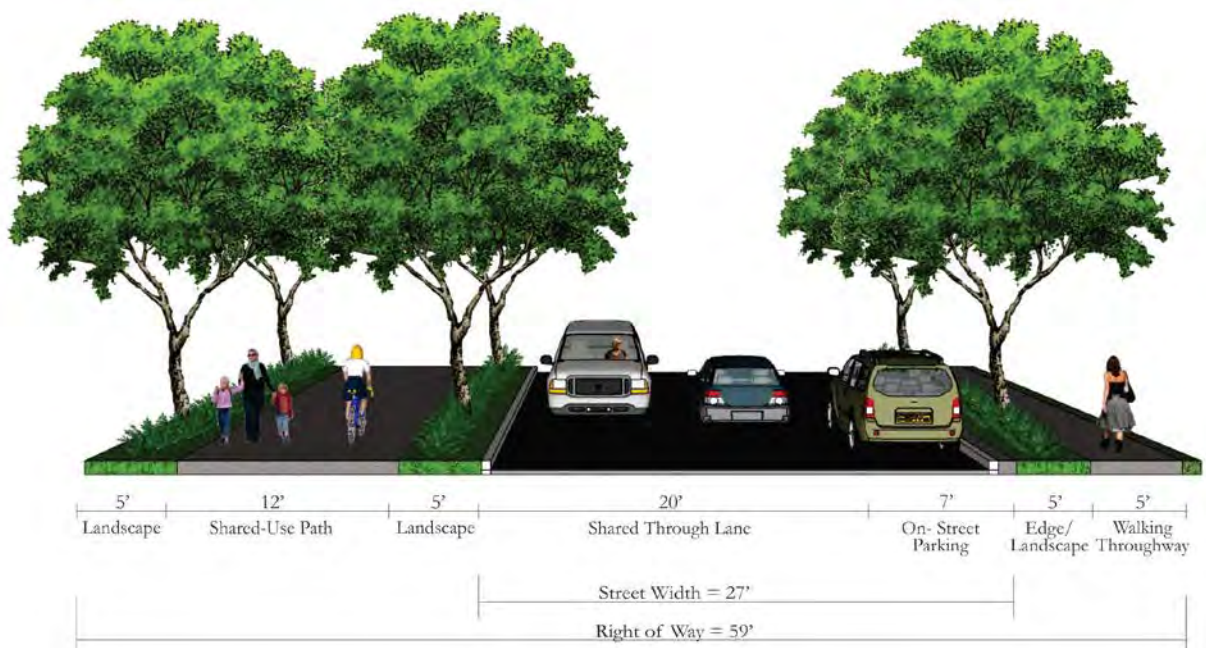
Figure 3g: Family Friendly Local Street with center island Shared-Use Path



*On-street parking may be on both, one, or neither side of the street depending on adjacent land use.

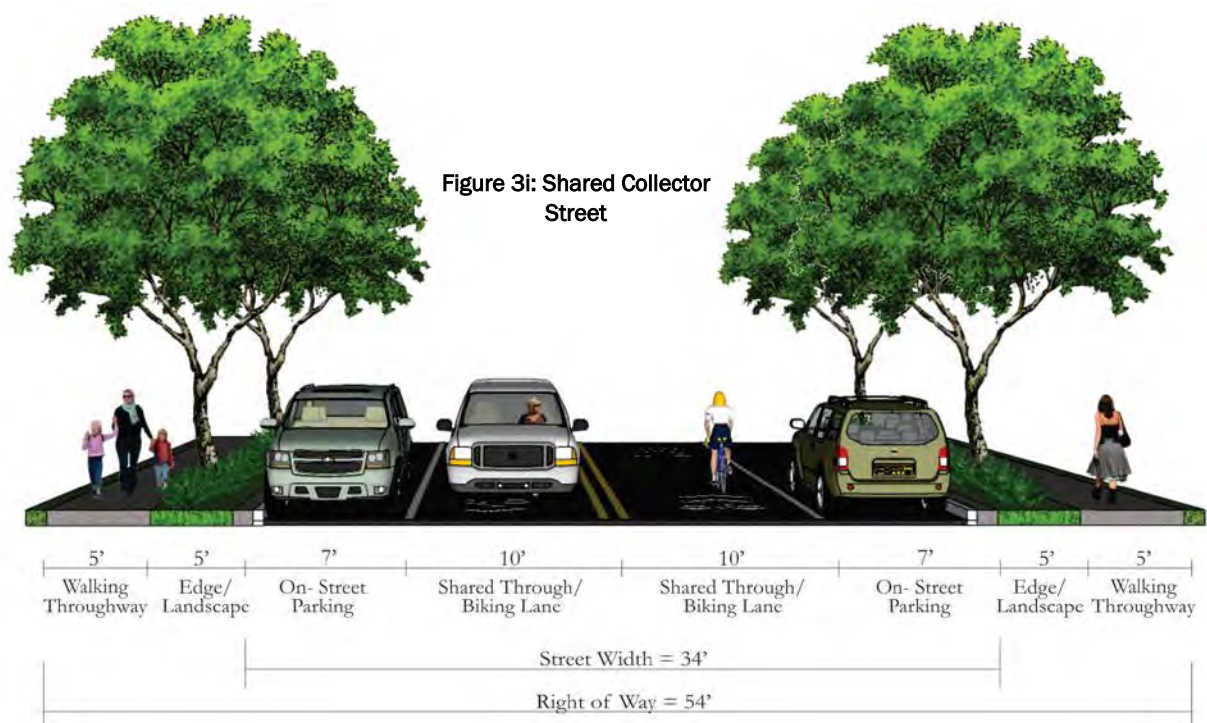
**Curbs may be excluded at the discretion of the city to match the rural character of the surrounding land use.

Figure 3h: Family Friendly Local Street with roadside Shared-Use Path

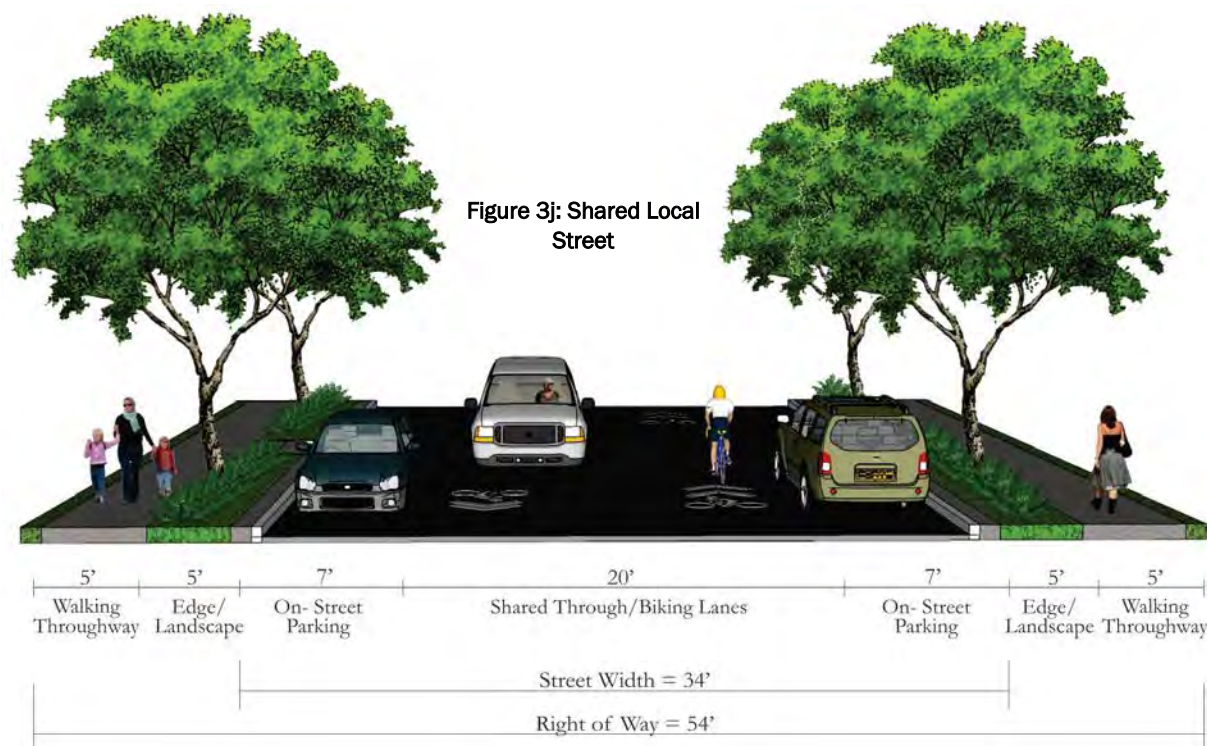


*On-street parking may be on both, one, or neither side of the street depending on adjacent land use.

**Curbs may be excluded at the discretion of the city to match the rural character of the surrounding land use.



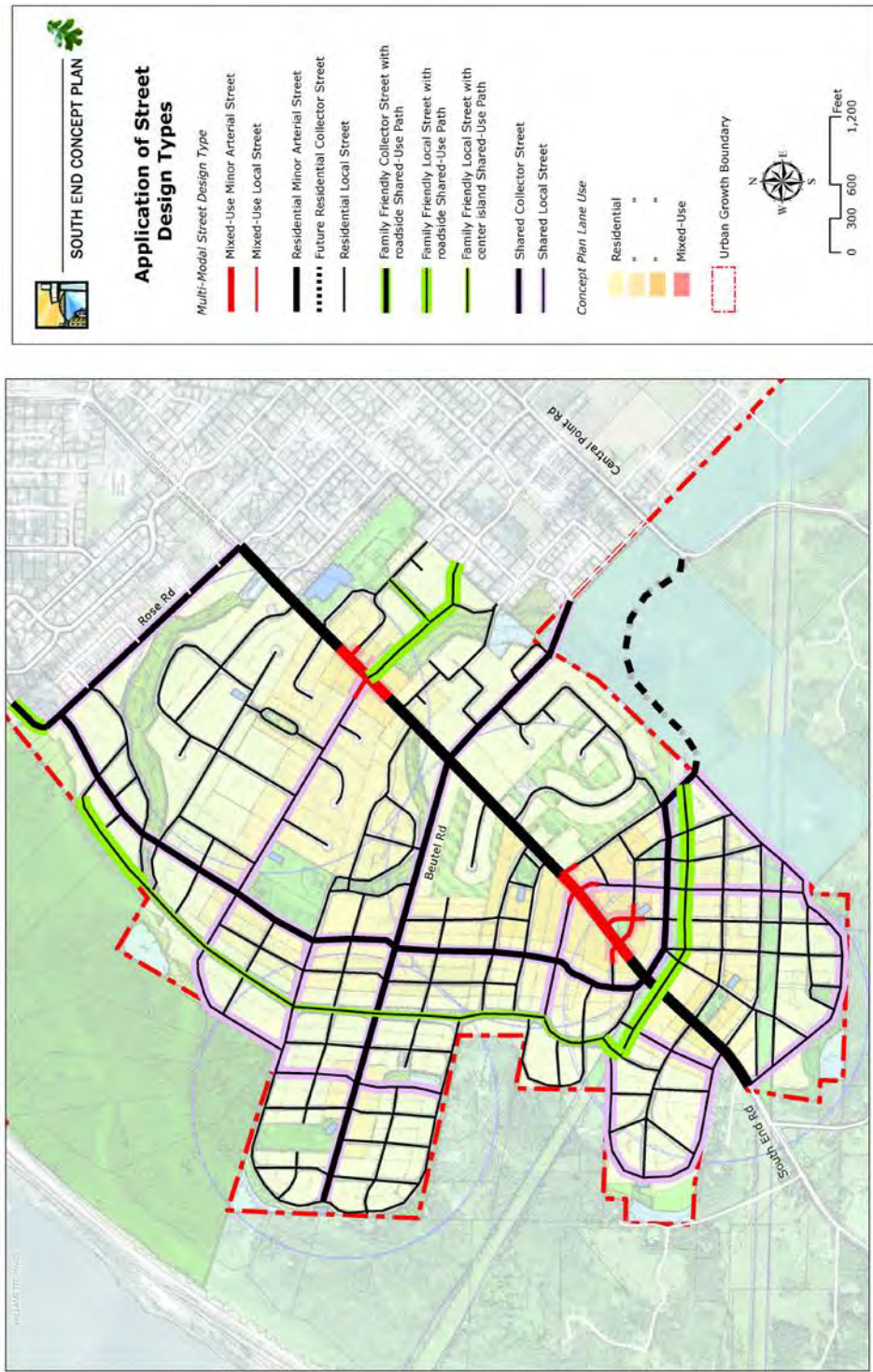
*On-street parking may be on both, one, or neither side of the street depending on adjacent land use.



*On-street parking may be on both, one, or neither side of the street depending on adjacent land use.



Figure 4: Application of Street Design Types



Design Elements for Streets

To better represent and strengthen the rural character of the South End Concept Plan area, and to further enhance planned driving, walking and biking infrastructure, the following design elements should be implemented as appropriate:

- **Permeable Pavement:** Permeable pavements are paved surfaces that infiltrate, treat, and/or store rainwater where it falls. Permeable pavements may be constructed from pervious concrete, porous asphalt, permeable interlocking pavers, and several other materials.
- **Bioswales:** Bioswales are vegetated, mulched, or xeriscaped channels that provide treatment and retention as they move stormwater from one place to another. Vegetated swales slow, infiltrate, and filter stormwater flows. As linear features, vegetated swales are particularly suitable along streets and parking lots.
- **Stormwater Planter Boxes:** Planter boxes are urban rain gardens with vertical walls and open or closed bottoms that collect and absorb runoff from sidewalks, parking lots, and streets. Planter boxes are ideal for space-limited sites in dense urban areas and as a streetscaping element.
- **Green Parking:** Many of the green infrastructure elements described above can be seamlessly integrated into parking lot designs. Permeable pavements can be installed in sections of a lot and rain gardens and bioswales can be included in medians and along a parking lot perimeter. Benefits include urban heat island mitigation and a more walkable built environment.
- **Traffic Calming:** Traffic calming refers to street design techniques used to re-create safe, slow residential and mixed-use streets without significantly changing vehicle capacity and to mitigate the impacts of traffic on neighborhoods and business districts where a greater balance between safety and mobility is needed. Traffic calming seeks to influence driver behavior through physical and psychological means, resulting in lower vehicle speeds or through traffic volumes. Physical traffic calming techniques include:
 - Narrowing the street by providing curb extensions or bulbouts, or mid-block pedestrian refuge islands
 - Deflecting the vehicle path vertically by installing speed humps, speed tables, or raised intersections
 - Deflecting the vehicle path horizontally with chicanes, roundabouts, and mini-roundabouts
 - Narrowing travel lanes and providing visual cues such as placing buildings, street trees, on-



An example of permeable pavers



An example of a planter box adjacent to the sidewalk

street parking, and landscaping next to the street also create a sense of enclosure that prompts drivers to reduce vehicle speeds.

Transit

While transit service is not provided in the study area, it is provided in Oregon City by TriMet via seven fixed bus routes connecting Oregon City to the rest of the Portland Metropolitan area, and an Americans with Disabilities Act (ADA) paratransit service. In addition, seasonal transit service is provided to residents and tourists via the Oregon City Trolley, and regional service is provided via the Canby Area Transit system, South Clackamas Transportation District and Amtrak.

Transit users in the South End Concept Plan area are nearly two miles from the closest bus stop at the Warner Parrott Road-Warner Milne Road/Linn Avenue-Leland Road intersection (greater than the typical trip length for the average walking or biking trip). Park and ride facilities are provided for transit users at two locations in Oregon City, near the Linn Avenue/Williams Avenue intersection (just north of Warner Milne Road) and at Clackamas Community College.

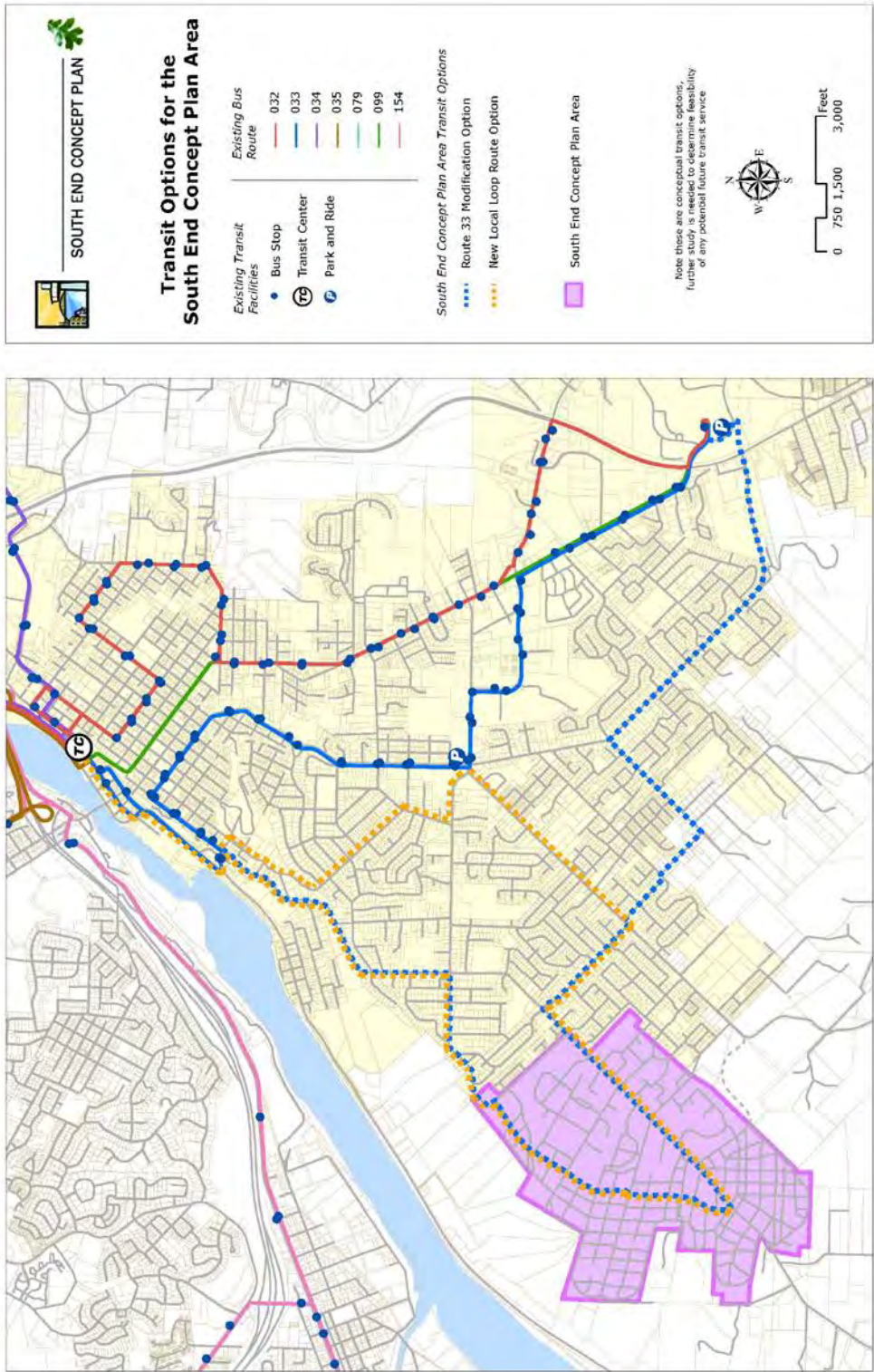
The Concept Plan sets the stage for future transit, recognizing that the type and extent of service improvements will play out over time. Specifics of transit service will depend on the actual rate and type of development built, Tri-Met resources and policies, and, consideration of local options. The land use designations in the South End Concept Plan area make transit a viable option in the future. The City should work with Tri-Met and developers within the Concept Plan area to facilitate transit.

Two conceptual options have been identified (shown in Figure 5):

- A route modification to the existing bus service between the Oregon City Transit Center and Clackamas Community College (Route 33) that would extend the route from Clackamas Community College west down Meyers Road, then south down Leland Road, and west down McCord Road and Partlow Road to South End Road. At South End Road, the route would travel south to serve the South End Concept Plan area, before heading north again returning to the Oregon City Transit Center via the Deer Lane extension, Madrona Drive, Lawton Road and South End Road.
- New local loop route that connects to the Oregon City Transit Center and serves the South End Concept Plan area, and the residential areas along South End Road, Partlow Road, Central Point Road, Warner Parrott Road, Canemah Road, Telford Road, and Center Street not currently served by transit.
- A third option would be to work with another transit provider, such as Canby Area Transit. Canby Area Transit's Orange Line (99E) currently travels from the Canby Transit Center to the Oregon City Transit Center.



Figure 5: Transit Options for the South End Concept Plan Area



Walking and Biking

Residents of South End will be able to safely and efficiently travel between destinations via any number of active transportation modes, such as walking, biking, or skating. A system of Family Friendly Routes, on-street sidewalks and bikeways, and shared use paths will provide quality access to key destinations—improving the overall health and livability of the neighborhood.

Context Sensitive Walking and Biking Facilities

The proximity to the Canemah Bluffs Natural Area and the potential for the development of many smaller neighborhood and larger community parks, is a significant asset for the future of South End. To better serve the access needs of existing and future residents to these scenic natural and recreational areas, a high quality network of low-stress pedestrian and bicycle facilities is envisioned. Many proposed streets in the South End area will include large vegetated medians and/or buffers to help maintain a natural, rural feel to the street. In addition to serving a traffic calming function, these streets will also provide informal areas for social activity, recreation, and play. For pedestrians, this means that sidepaths or sidewalks will be provided on all proposed streets—completely separate from the motor vehicle travelway. For bicyclists, dedicated facilities will vary based on roadway classification. Local streets will include shared lane markings to demonstrate where bicyclists should operate on the roadway—outside the parking lane door zone—and alert motorists to expect bicyclists on the roadway. Arterial and Collector streets will have physically separated facilities, such as bike lanes or cycle tracks, or will have accommodations on adjacent routes. Wayfinding signage will also be developed to highlight key destinations, such as parks and community centers, and the best routes for pedestrians and bicyclists. These signs will improve destination and route finding for residents and visitors alike, encouraging exploration and activity.

Both the trail and on-street pedestrian and bicycle network are context sensitive, addressing the rural character of the South End neighborhood, while also meeting the expressed community desire to have increased opportunities for walking and biking. Moreover, these networks will be fully integrated with the existing trail and bikeway network and the planned active transportation projects in the Oregon City TSP. These measures help ensure that existing and future residents of South End can access goods and services, without the need for an automobile, within and outside of the South End area.

Trails

Figure 6 illustrates the potential active transportation network for the South End neighborhood. The emphasis of this network is on connecting residents to existing and future trails, as defined in the most recent Oregon City Transportation System Plan, as well as key destinations within and near to South End. Trail access to important viewsheds in the South End area will also be taken advantage of. For example, the BPA Power utility corridor, located at the southern edge of the plan area offers unobstructed views of rural farms and the Canemah Bluff. The types of trails that are provided will vary by context—anything from pervious paver walking paths to concrete shared use paths for pedestrians and bicyclists. On many streets, there is also the potential to designate a path through the wide landscaped median. User comfort on these trails will be maximized due to the physical distance and separation from motor vehicle traffic.

On-Street Facilities

For pedestrians, sidewalks are the predominant facility type, and these will be installed on both sides of the roadways with a Collector or Arterial classification (as shown in Figure 6). Local streets will be more flexible in their approach and could include pervious pavers or other surface types as a sidepath or sidewalk. The sidepaths will maintain physical separation, via a split rail fence and/or landscaped buffer, from motor vehicle traffic, but will help to retain the rural character of South End.

On Collector and Arterial streets—streets where traffic speeds and volumes are higher, bicyclists will be provided with physically separated facilities, such as a bike lane or cycle track. However, the majority of streets in the South End neighborhood will be Local streets, with lower traffic speeds and volumes. Some of these streets will accommodate pedestrians and bicyclists through their designation as Family Friendly Routes, as defined in the Oregon City TSP and summarized earlier in this document.

South End Road Cycle Track

A one-way cycle track is planned along South End Road through the Concept Plan area. The cycle track will be an exclusive on-street bike facility that is physically separated from motor vehicle traffic with a parking lane and/or a buffer. Where on-street parking is allowed, the cycle track will be located to the curb-side of the parking (in contrast to bike lanes).

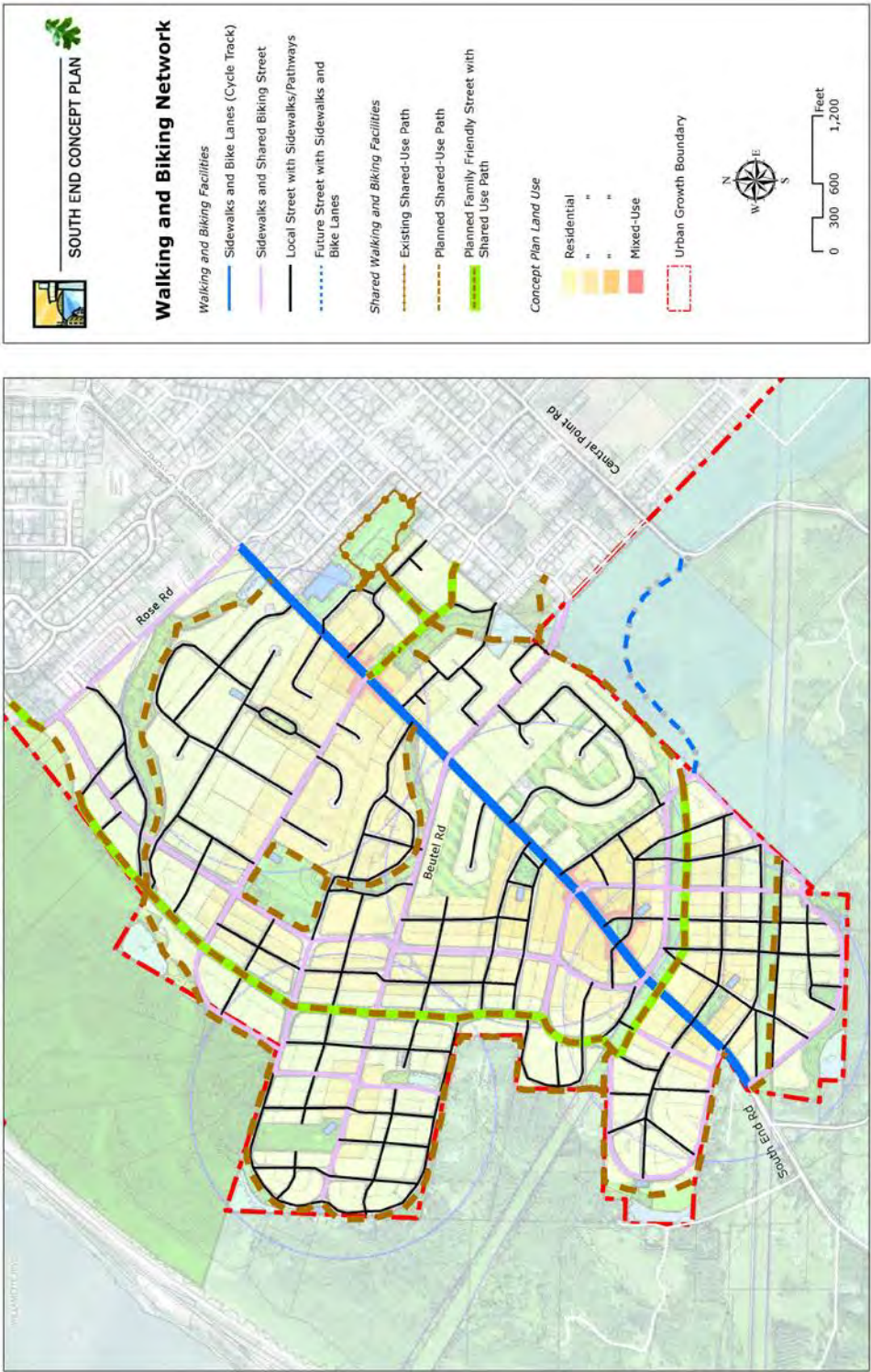
To improve visibility of the bicyclists, the cycle track should drop to a buffered bike lane and on-street parking should be prohibited 30 feet in advance of the cycle track termination when approaching intersections. The cycle track may either remain curb-tight or bend-in towards the roadway with curb-extensions to improve visibility of the bicyclists at the intersections.



Example of a cycle track bending in towards the roadway and parking restrictions when approaching an intersection



Figure 6: Walking and Biking Network





Updates to the 2013 Oregon City TSP

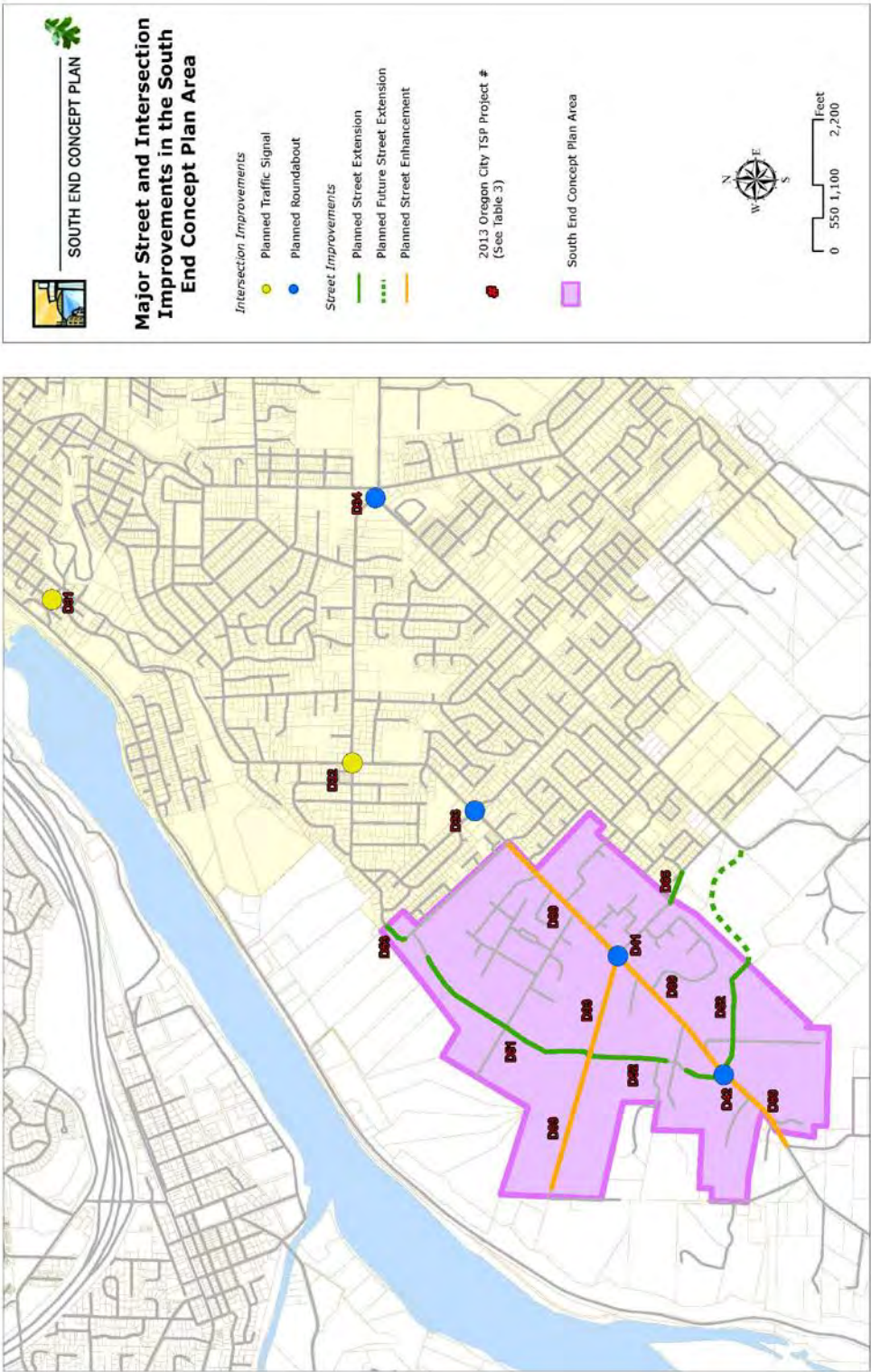
As shown in Table 4, most of the major street system improvements planned for the South End Concept Plan area were previously incorporated into the 2013 Oregon City TSP. Only the design types for the Madrona Drive extension and South End Road enhancement projects were slightly modified, increasing the project cost for intersections and the major street system in the South End Concept Plan area by about \$330,000.

Table 4: Major Street and Intersection Improvements in the South End Concept Plan Area

Project	Estimated Cost	Project Source
Install a traffic signal at the South End Road/ South 2 nd Street intersection	\$315,000	2013 Oregon City TSP Project D31
Install a traffic signal at the South End Road/ Warner Parrott Road intersection with dedicated left turn lanes for the South End Road approaches to Warner Parrott Road	\$345,000	2013 Oregon City TSP Project D32
Install a roundabout at the South End Road/ Lafayette Avenue-Partlow Road intersection	\$475,000	2013 Oregon City TSP Project D33
Install a roundabout at the South End Road/ Beutel Road-Parrish Road intersection	\$500,000	2013 Oregon City TSP Project D41
Install a roundabout at the South End Road/ Deer Lane extension intersection	\$505,000	2013 Oregon City TSP Project D42
Extend Deer Lane from Rose Road to Buetel Road as a Residential Collector	\$3,500,000	2013 Oregon City TSP Project D51
Extend Deer Lane east from Buetel Road to Central Point Road as a Residential Collector	\$7,335,000	2013 Oregon City TSP Project D52
Extend Madrona Drive to Deer Lane as a Family Friendly Collector	<i>\$565,000 (+\$90,000 from the TSP)</i>	Modified version of 2013 Oregon City TSP Project D53 (Change from Residential Collector to Family Friendly Collector)
Complete the gap between Parrish Road as a Residential Collector	\$1,870,000	2013 Oregon City TSP Project D65
Improve South End Road from Partlow Road to south of South End Court to a Residential Minor Arterial	<i>\$3,870,000 (+\$240,000 from the TSP)</i>	Modified version of 2013 Oregon City TSP Project D89 (Street type changes for two segments from Residential to Mixed-Use)
Improve South End Road from south of South End Court to north of Fandango Drive to a Mixed-Use Minor Arterial		
Improve South End Road from north of Fandango Drive to north of Navajo Way as a Residential Minor Arterial		
Improve South End Road from north of Navajo Way to north of the Deer Lane extension as a Mixed-Use Minor Arterial		
Improve South End Road from north of the Deer Lane extension south to the UGB as a Residential Minor Arterial	<i>\$3,870,000 (+\$240,000 from the TSP)</i>	Modified version of 2013 Oregon City TSP Project D89 (Street type changes for two segments from Residential to Mixed-Use)
Improve Beutel Road north of South End Road as a Residential Collector		
	\$955,000	2013 Oregon City TSP Project D93
Total	\$20,235,000	



Figure 7: South End Concept Plan area Improvements



Appendix D

Public Infrastructure Element

Water

The existing Oregon City water system is expanded to serve the entire South End Concept Plan area. Based on the 2002 UGB, stated and delineated within the *2012 City of Oregon City Water Distribution System Master Plan*, all existing and proposed water mains, lines and services are incorporated under the ownership of Oregon City. Ownership of the Clackamas River Water (CRW) system will eventually be incorporated into the City of Oregon City's water distribution system. CRW facilities may not be designed to handle urban levels of development and will need to be improved, expanded or replaced to continue to provide water service to corresponding customer areas. Further analysis of the existing CRW water system is recommended to determine need for replacement. The *Master Plan* forecasted sufficient water supply to accommodate build out in the South End Zone. However, the South End Concept Plan proposes development beyond what is shown in the Master Plan. Maximum Daily Demand (MDD), available pressure and available fire flow should be re-evaluated to account for the zoning densities shown on the current concept plan. As the annexation process occurs, the City will notify and work with CRW and its customers to assure transfer to the city water system transpires in a methodical way and rate payers are aware and informed of the process.

Distribution Improvements

The proposed water main system improvements are shown in Figure 1. Water main improvements consist of new water mains ranging from 8-inches to 12-inches, unless stated otherwise. Several connections are made to both the existing City of Oregon City water main and CRW main, located along South End Road. The most significant extension is the connection to the existing 12-inch main, located northwest of South End Road at the intersection of South Rose Road and South Deer Lane. A new 12-inch main runs southwest along the extents of the concept plan boundary. The 12-inch main connects back to South End Road within a street located southwest of the intersection of South Impala Lane and South End Road. Numerous 8-inch mains are constructed within the proposed street layout. The grid network created by this new system layout provides a looped distribution system, reducing the chances of pressure issues. All pipe size estimates are preliminary and should be revised with detailed flow modeling. The pipe sizes assume that the flow velocities are kept at or below 10 feet per second. As development occurs it is recommended site specific studies are performed to test and confirm available fire flows and minimum pressures can be achieved, as outlined in the *2012 Water Master Plan, table 4-1 City of Oregon City Planning and Design Criteria*.

Stormwater

The City Engineering Division is creating a new series of Low Impact Design (LID) standards. Therefore, a low impact stormwater approach is recommended for the planning area. Providing LID standards to the planning area limits the impact to existing and aging storm systems and reduces the infrastructure required to service the area. LID approaches mimic the natural hydrology of the catchment area. The approach manages stormwater within each basin, separating the basin into several smaller sub-basins. The stormwater within each basin can be managed utilizing the following categories: individual sites, streets and regional facilities. Figure 2 shows where each of these approaches could be used in the South End Concept Plan. Site specific LID designs need to take into account the topography

and soil conditions of the site. Specific site study analyze should be required to ensure appropriate LID design is implemented.

Individual sites include all residential areas (single family and multi-family), commercial and open spaces. Stormwater runoff is minimized by using less impervious surfaces wherever possible and integrating stormwater management facilities within the properties. Impervious areas are minimized by utilizing porous pavements (i.e. pervious concrete, and eco-roofs). Stormwater management facilities are incorporated into the landscape. For instance, a vegetated bio-swale can be used in a parking lot in a landscape isle, while a small rain garden can be incorporated into a residential yard.

Runoff from roads and streets is managed utilizing 'green streets', where possible. Green streets utilize landscape street-side planters or swales that capture and detain or infiltrate stormwater runoff. The soil and vegetation within the planter or swale filter pollution. They are designed to accommodate the traffic needs while providing a fully functional stormwater management system and landscaping. If the native soil does not allow for infiltration of the stormwater, a sub-surface detention system can decrease the size of a downstream stormwater facility. Green streets are also used to convey runoff rather than utilizing an underground conveyance system.

When soils or grading constrain the use of individual site management and green streets, a regional approach to stormwater management should be explored. Regional facilities should be located in low points within open spaces to manage large flows for both treatment and detention before releasing to a creek or river. Regional facilities are usually operated and maintained by the City. Potential locations of regional stormwater ponds have been shown in Figure 3, these areas have are noted conceptually in the low spots of the basin but can be relocated once site specific information is obtained. If a regional facility is proposed it is recommended that further studies be performed to confirm ultimate location, designs, size, soil conditions, and over all site conditions and constraints. In addition downstream analysis should be performed to analyze and mitigate the impacts downstream of the regional system. An alternate location for regional stormwater facilities would be within the Powerline easments, further studies and discussion with the Power Company are required.

Stormwater Conveyance

Two methods for stormwater conveyance both utilize gravity flow to either a creek or river or a regional stormwater facility. The first is surface conveyance consisting of street-side planter or swales and ditches. Surface conveyance contains ditch inlets and culverts. Some manholes may be required to link the systems together. Whenever possible, this should be the first approach to stormwater conveyance. A certain amount of treatment and retention occurs when stormwater is conveyed through a system that is vegetated.

The second is an underground system that includes many more catch basins and manholes than a surface conveyance system. Underground systems can be more expensive to construct since they are conventionally three feet or more below ground. On busier streets such as South End Road, an underground conveyance system is likely more practical.

Sanitary Sewer

The three drainage basins in the study area require pump stations and gravity sewer lines. Each pump station pumps discharge a short distance to gravity lines from each basin, and convey discharge to the intersection of South End Road and Beutel Road. A new pump station and force main will pump the effluence to the South End Road Interceptor, located at the intersection of South End Road and Glacier Court. An alternate discharge location was analyzed to pump the entire area to the Parrish pump station. This option would require the Parrish Pump Station to be upsized along with the associated pressure mains. This option was not preferred by the City.

Collection Improvements

Proposed sanitary sewer system improvements are shown in Figure 4. Due to the existing municipal system and topography of the future serviced area, the conveyance options for the discharge of basins E6, E7 and X1, as outlined in the Sewer Master Plan are quite limited. Basin E6 is illustrated to be pumped through a 4-inch forcemain, north to Beutel Road, where it will discharge to a proposed 12-inch gravity line, then will flow SE to the proposed pump station at the intersection of South End Road and South Parrish Road. Discharge from Basin E7 is illustrated to be pumped utilizing two pump stations located west of South Kelland Court and approximately 1300 feet south of the intersection of South End Road and South Kelland Court. Both pumps within basin E7 will utilize 4-inch forcemains, and discharge to a proposed 12-inch gravity line, located within South End Road, where the 2002 UGB intersects. The proposed 12-inch gravity line will flow northeast along South End Road to the proposed pump station at the intersection of South End Road and South Parrish Road. Future developments within Basin X1 could be routed to the proposed pump station at the intersection of South End Road and South Parrish Road, utilizing the proposed 12-inch gravity lines within Beutel Road and South End Road. The proposed pump station at the intersection of South End Road and South Parrish Road will pump the discharge from basins E6, E7 and X1 through a proposed 10-inch forcemain within South End Road, northeast to the existing 18-inch gravity line at the intersection of South End Road and South Glacier Court.

Routing basins E6, E7 and X1 to the existing Parrish Road Pump Station would require upsizing the existing 12-inch gravity line within South Parrish Road, and constructing a parallel force main along the existing 10-inch force main. The existing Parrish Road Pump Station has a capacity of 1.11 MGD. The future peak five-year inflow to Parrish Road pump station = 0.93 MGD. This leaves a spare capacity of 0.16 MGD. This is the equivalent of serving an additional 375 people. Anything additional would require upsizing the pump station or routing discharge directly to the South End Road Interceptor as previously stated. The buildout peak flow for basin E6, E7 and X1 are approximately 290 gpm, 611 gpm and 1010 gpm, respectively. Basin E7 will be serviced by 2 pump stations, due to the topography of the basin. The pump station to the north of South End Road, as described above, will have a peak flow of 264 gpm, and the pump station to the south of South End Road will have a peak flow of 347 gpm. The proposed pump station at the intersection of South End Road and South Parrish Road will accommodate the peak flow of all 3 basins. The total buildout peak flow will be 1,911 gpm. The pump station at this intersection will require a capacity of approximately 3.0 MGD.

Sizing of the proposed pump stations was based on the buildout peak flow for the average density for the UGB expansion area. The average between the high and low estimate is 2,106 homes, equaling 6.4 units per net acre. An average of 2.3 people per all residential zoning, and 80 gpcd was assumed. These assumptions are consistent with the Sewer Master Plan. The calculated buildout peak flow also assumes I/I values at 1000 gpd/net acre. The I/I value for the Sewer Master Plan is 3000 gpcd, and is likely conservative based on lacking data for the study area. Further flow monitoring is recommended to verify previous I/I assumptions for basins E6, E7 and X1.

The above are preliminary recommendations and it is recommended that the Sewer Master Plan be updated to analyze the South End Concept Plan Area. Locations of proposed pump stations and sewer lines are preliminary and can be relocated based on further studies and site specific information.

Figure 1. Water System Improvements

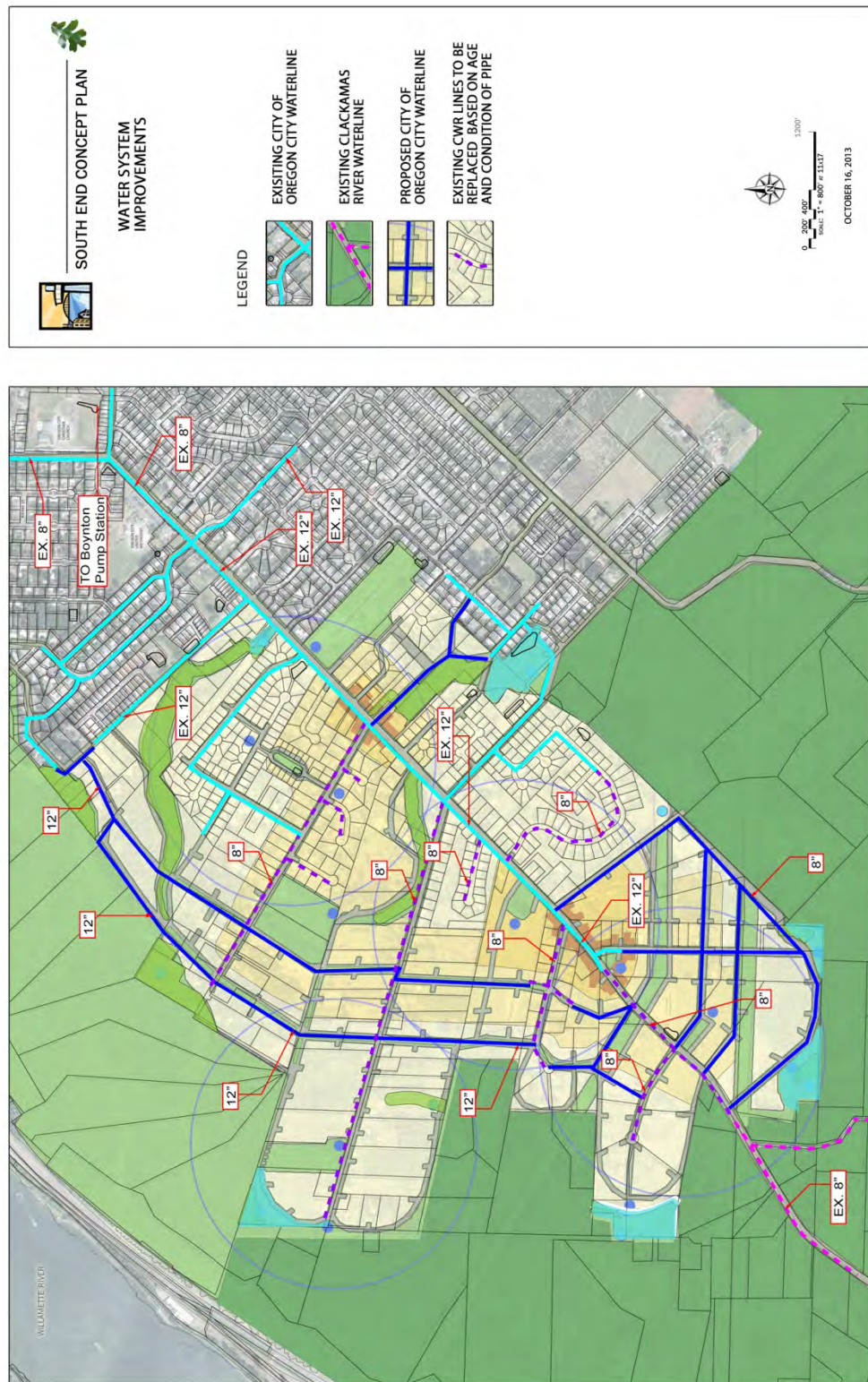


Figure 2. Stormwater System Improvements

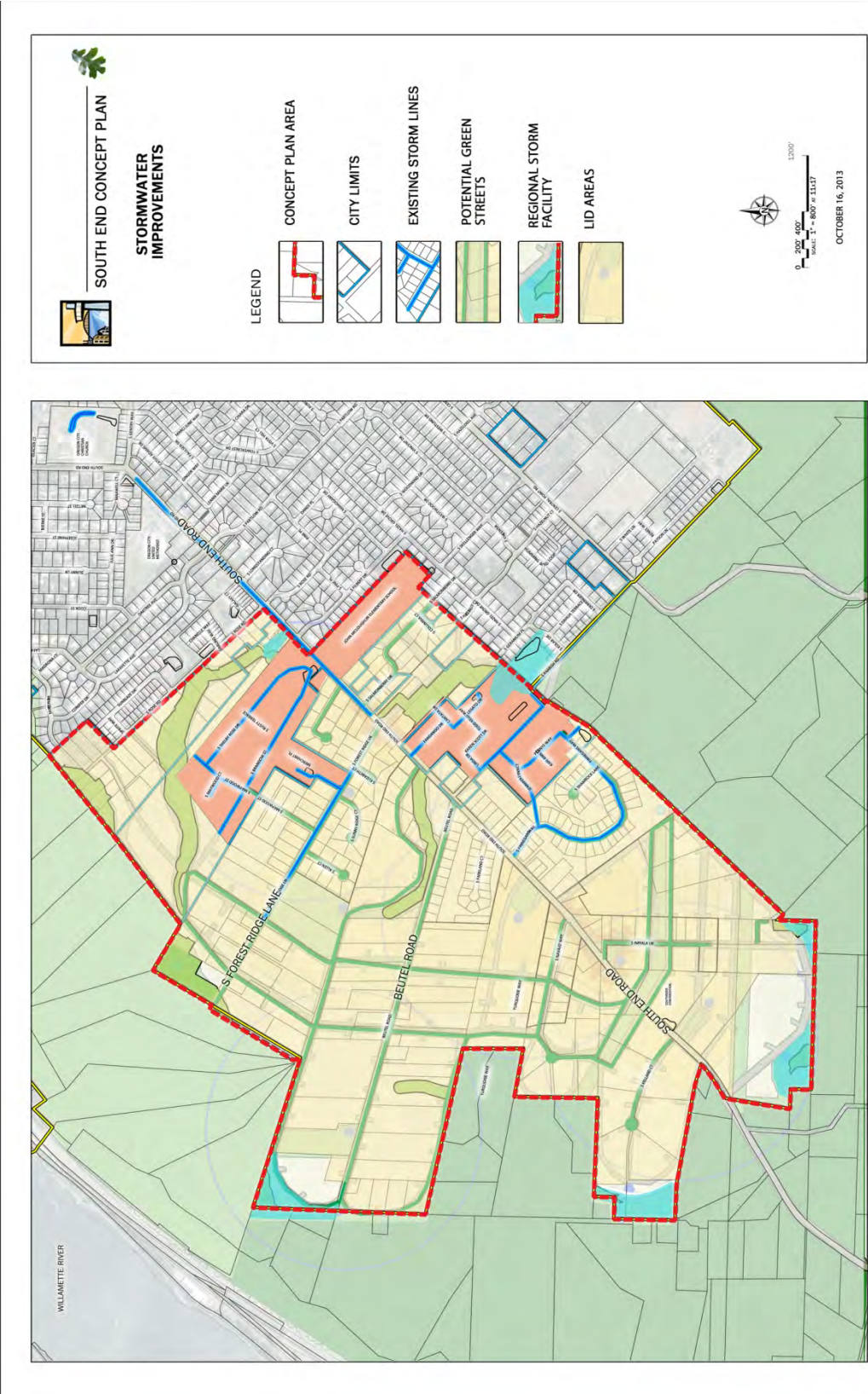


Figure 3. Regional Stormwater Facility Siting

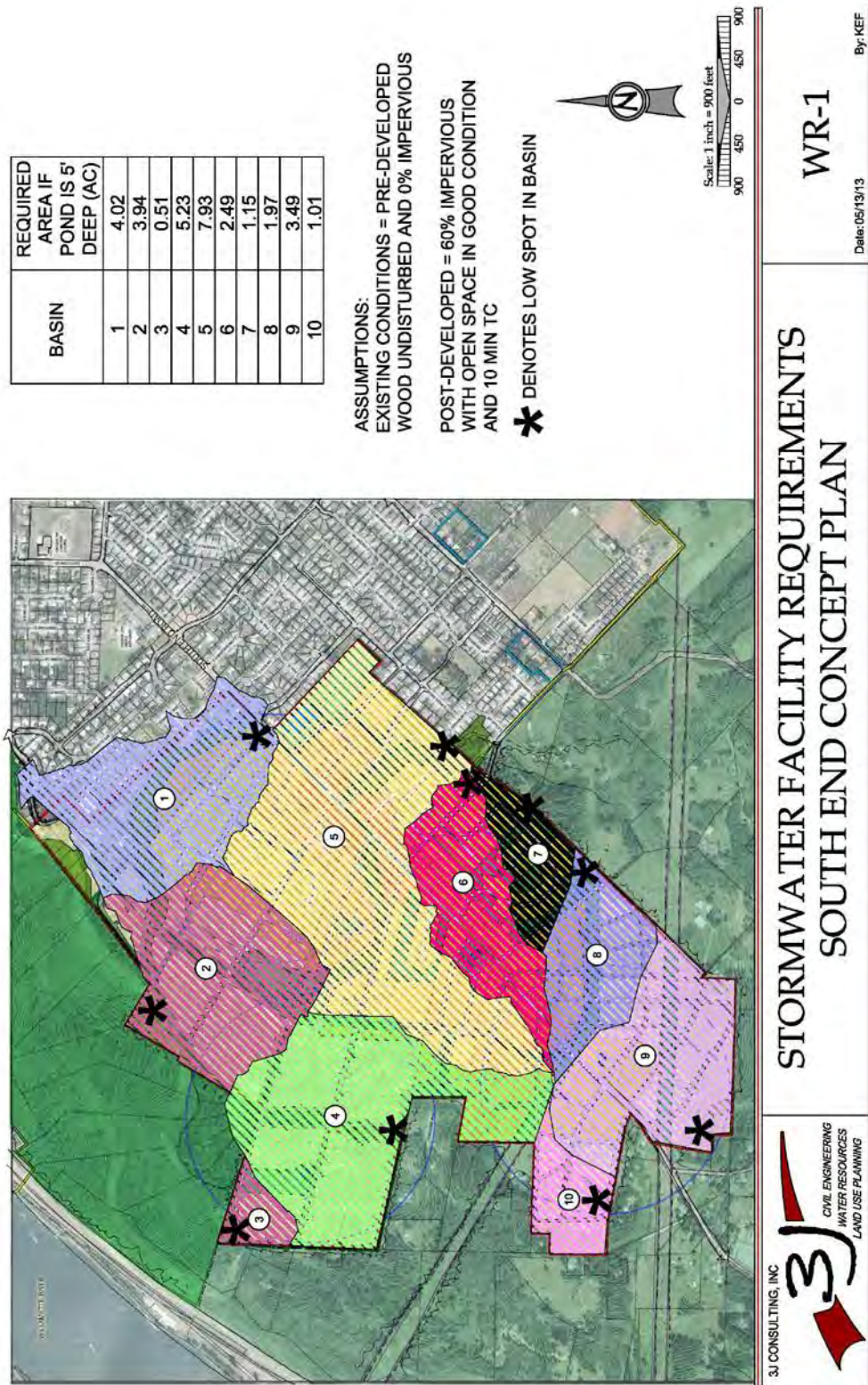
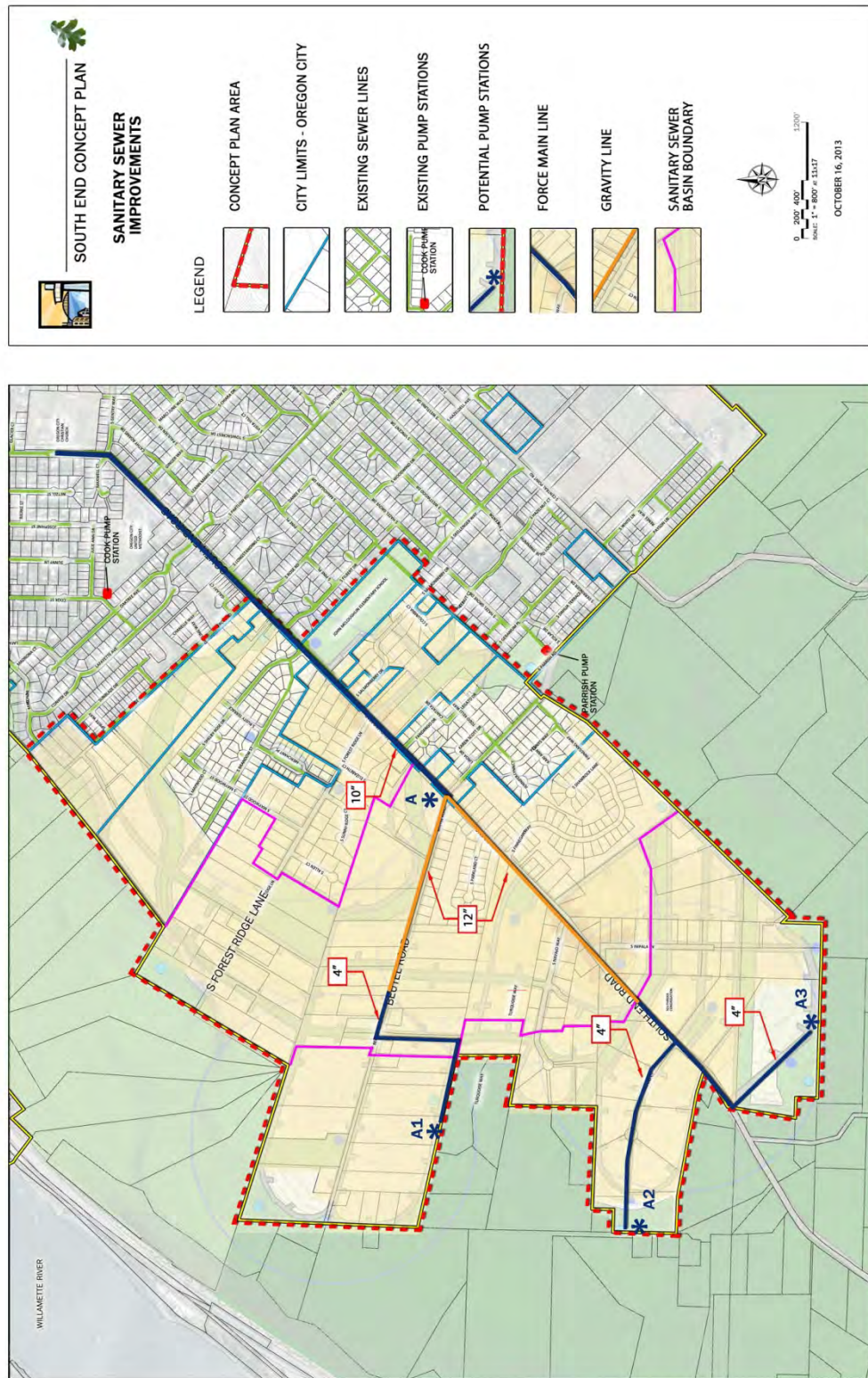


Figure 4. Sewer System Improvements



Memorandum

Date: August 20, 2013
To: Oregon City South End Concept Plan Project Management Team
From: Cathy Corliss
Re: Tasks 6.2: Development of Zoning Code Amendments – PMT REVIEW DRAFT

Introduction

As described in Task 6.2 of the Scope of Work, this memorandum provides a preliminary assessment of the existing code and recommended changes to implement the August 13, 2013 Draft Concept Plan, including sample code language for specific amendments as needed. The Key Elements below are from the Draft Concept Plan (pages 21 and 23). They are reiterated here to provide context for each topic of the code analysis. The titles of the municipal code evaluated below include: Title 10 (Chapter 10.32: Traffic Sight Obstructions), Title 12 (Streets, Sidewalks and Public Places) Title 13 (Public Services), Title 16 (Subdivisions) and Title 17 (Zoning)¹.

Natural Features

Key Elements of the Draft Concept Plan

- Preservation of contiguous natural spaces and wildlife corridors.
- Preservation of most wetland areas with several road connections across streams/wetlands at narrow points.
- Improved access to natural areas and views.

Code Analysis

The Natural Resource Overlay District (NROD) designation (Chapter 17.49) provides a framework for protection of Metro Titles 3 and 13 lands, and Statewide Planning Goal 5 resources within Oregon City. The Draft Concept Plan notes that there are two potentially jurisdictional wetlands and seven other waters of the State/United States within the Plan area. Preservation of the wetlands and other water features can be accomplished through this the application of this overlay. The NROD provisions apply only to properties within the NROD as shown on the NROD Map. Therefore, Section 17.49.020 should be amended to reference the South End Concept Plan and the NROD Map should be amended to include inventoried resources.

The Draft Concept Plan notes that there are no natural areas in South End as defined under Oregon Statewide Land Use Planning Goal 5; therefore, application of the NROD would not

¹ The version of the Municipal Code available on the City's website in August 2013 was used in this analysis.

provide for “preservation of contiguous natural spaces and wildlife corridors” unless they are otherwise associated with a water feature, wetland or its vegetated corridor. Figure 12 identifies two non-wetland open spaces areas (OS1 and OS2). If these extensions of Canemah Bluff are not otherwise unbuildable due to topography or public ownership, some measure of regulatory protection will be needed in order to ensure their preservation. Section 16.08.025.C requires that preliminary subdivision plat identify “All wildlife habitat or other natural features listed on any of the city's official inventories.” At minimum these open space resources could be identified on an official inventory or the Concept Plan adopted by reference as an official inventory. However, identification does not ensure preservation; therefore, additional measures may be needed to implement this key element.

If access to natural areas and views will be provided by trails that are within or adjacent to protected natural resources, the City should consider amending the Oregon City Parks, Open Space and Trails Master Plans to include those trails in order to take advantage of the exception to mitigation provided in 17.49.170.

Parks and Trails

Key Elements of the Draft Concept Plan

- Network of new parks, open spaces and gathering places.
- Larger park with sufficient for ball fields and other recreational opportunities.
- Trail connections to parks, neighborhood amenities and regional trails system.
- Use of utility corridors for new trails.
- Preservation of private open space for non-public uses.
- Civic uses in various parks and public spaces.

Code Analysis

The South End Concept Plan provides approximately 30 acres of parks (not including the power line greenways). In some cases, the Oregon City Park and Recreation Master Plan may have already identified the location and prioritized the acquisition. In other cases, it may be preferable to seek a dedication of the park at the time of development. However, this may be challenging given that developers will likely be paying a Parks SDC.

Chapter 13.20 establishes system development charges (SDC) to be assessed on development for a range of public facilities including parks. SDCs are intended to pay for the cost of constructing or providing capacity sufficient to accommodate new development. It appears as though the dedication of a “qualified public improvement” would qualify for an SDC credit and that that credit could be carried forward for up to five years. In order for the dedication of park land to be an SDC creditable action the park would have to be identified in a capital improvement plan or facility master plan adopted pursuant to ORS 223.309. Therefore, the City may wish to include all of the SECP parks in the Oregon City Park and Recreation Master Plan in order to allow them to qualify for SDC credits.

Currently, Section 16.08.025 (Preliminary subdivision plat—Required plans) doesn't require that the applicant show the location of future parks, open spaces and trails on their plat. An amendment to this section to add a requirement that applicants identify key Concept Plan features such as future parks, open spaces and trails might be helpful for implementation of the South End Concept Plan as well as other adopted Concept Plans. In addition, a reference to the Oregon City Parks, Open Space and Trails Master Plans would also be beneficial. The City could also establish a South End Overlay District or "Plan District" in Title 17 which could include maps identifying park and trail locations.

Finally, as noted above, if trails will be within or adjacent to protected natural resources, the City should consider amending the Oregon City Parks, Open Space and Trails Master Plans in order to take advantage of the exception to mitigation provided in 17.49.170 (Standards for trails).

Housing

Key Elements of the Draft Concept Plan

- Housing choice - a mix of single family, multi-family and mixed use designations.
- Higher density residential located in two neighborhood centers along South End Road.

Code Analysis

The predominant zones in the Draft Concept Plan are low density residential (R-10, R-8, and R-6). More limited areas will be zoned R-5, R-3.5 and R-2 zoning designations. Duplex and row houses are permitted in the R-3.5 zone and multi-family is permitted in the R-2 zone. By incorporating all of these zones, South End will provide for a range of housing types.

The Concept Plan notes that "many of the lots in the new neighborhoods will have rear service alleyways for accessing garages behind houses and shops." Currently, Section 12.04.255 (Street design—Alleys) requires that public alleys be provided only in the R-5, R-3.5, R-2, MUC-1, MUC-2 and NC zones. If the intent is to have alleys required in the low density residential zones in South End, then a code amendment may be needed. One potential solution is to create a South End Overlay District or "Plan District" which would include those standards unique to South End.

The Draft Concept Plan identifies potential locations for civic uses (e.g., libraries, park pavilions, post offices, schools, day-care centers, senior centers, fire stations, places of worship, community centers, etc.) within the residential zones. However, non-residential uses (except for parks) are limited in the residential zones and most civic uses would require a conditional use permit. This requirement may represent an unnecessary procedural barrier to a desired outcome. If the City were to create a South End Overlay District or "Plan District", maps identifying these locations could be included in the zoning ordinance and exceptions to the conditional use process could be provided for civic uses which are sited in accordance with the plan.

Retail

Key Elements of the Draft Concept Plan

- Limited neighborhood commercial uses along South End Road at Forest Ridge Lane and Navajo Way.

Code Analysis

The Draft Concept Plan notes that “areas of the plan which have been designated as neighborhood centers will be assigned the City’s Neighborhood Commercial zoning category”. The NC zoning district allows a relatively wide range of uses including office, commercial services and retail provided the maximum footprint does not exceed 10,000 sf (or 40,000 sf in the case of grocery stores). If the intent of Concept Plan is to further limit the uses in along South End Road at Forest Ridge Lane and Navajo Way, then a code amendment may be needed. As noted above, one potential solution is to create a South End Overlay District or “Plan District” which would include those standards unique to South End.

In addition, if the desire is to create active retail environment along South End Road within the NC zone, then the limits on outdoor sales in Section 17.24.020, the limits on sidewalk sales in Section 12.04.130, and the maximum setback of 5 feet in Section 17.24.040 should be evaluated for their potential to discourage the desired development form.

Transportation

Key Elements of the Draft Concept Plan

- Complete road network promotes connectivity and increases travel options.
- Opportunities for new sidewalks, pathways and bike lanes.
- South End Road as three-lane arterial.
- Two family-friendly roads parallel to South End Road; the eastern-most designated a collector.
- A slow, narrow road along the bluffs to provide public access and views.*
- Roundabouts to safely accommodate through-traffic at major intersections.
- Optimize number of new street connections to South End Road to preserve capacity.

Code Analysis

The Draft Concept Plan (Figure 13) identifies a complete multi-modal street system, including a grid of future local streets. Additional coordination will be needed in order to implement this plan as individual subdivisions are submitted. The local street grid also appears to require block lengths which are shorter than the 500 foot maximum permitted by Section 16.12.025.

Section 16.08.025.B (Traffic/Transportation Plan) requires that the applicant's traffic/transportation information shall include a “detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the

existing system, circulation patterns and connectivity to existing rights-of-way or adjacent tracts, parking and loading areas and any other transportation facilities in relation to the features illustrated on the site plan....” Including a reference in this section to street system plans identified in adopted concept plans could help ensure that the concept plans are implemented. Similarly, Section 16.12.095 could be amended to specify that the city's planned level of service on all public streets includes planned connections as identified in adopted concept plans. Additionally, if the City were to create a South End Overlay District or “Plan District”, maps showing local street connections could be included in the zoning ordinance.

There are a number of sections in Chapter 12.04 that provide specifications for sidewalks, street and accessway design which may potentially be in conflict with the Draft Concept Plan. For example, the Draft Concept Plan maps identify “Walking Throughway”. These are intended to allow local streets to use a crushed gravel sidepath or sidewalk. However, Section 12.04.020 requires that sidewalks on unimproved streets be constructed of concrete. In addition, Section 12.04.010 (Construction specifications—Improved streets) cites the Oregon City Transportation System Plan as the sources for sidewalk specifications; therefore, the definition of a “Walking Throughway” should be included in the TSP. Overall, some clarification appears to be needed to establish a hierarchy between the design standards in Title 12 and those outlined the Concept Plan. If the City were to create a South End Overlay District or “Plan District” as suggested above and street standards specific to South End were included in it, then new language should be added to Title 12 stating that where a conflict exists the standards in the plan district take precedence.

The Draft Concept Plan identifies a South End Road Cycle Track and specifies that to improve visibility of the bicyclists, the cycle track should drop to a buffered bike lane and on-street parking should be prohibited 30 feet in advance of the cycle track termination when approaching intersections. Chapter 10.32 establishes clear vision areas and Section 10.32.060 prohibits parked motor vehicle within the clear vision area. The suggested intersection sight distances are those prescribed in the 1976 Edition of Transportation and Traffic Engineering Handbook published by the Institute of Traffic Engineers. These standards may need to be updated or an amendment providing further flexibility from these standards will likely be needed to allow the proposed design.

The relationship of the trails and walking throughways identified in the Draft Concept Plan to the City’s current requirements for “accessways” or “pedestrian/bicycle accessway” should be clarified as well. Accessways include any off-street path or way that is intended for the primary use of pedestrians and bicyclists and that provides direct routes between residential areas, retail and office areas, institutional facilities, industrial parks, transit streets, neighborhood activity centers, and transit-orientated developments where such routes are not otherwise provided by the street system. Off-street bicycle paths in excess of four hundred feet in length are not considered accessways. If the standards applicable to accessways are not be appropriate within South End then code should clearly state that the trails and walking throughways are not “accessways”.

Infrastructure

Key Elements of the Draft Concept Plan

- New water and sewer infrastructure constructed with roads to meet community needs.
- Stormwater retention ponds and swales along natural features at edges of plan area.

Code Analysis

Title 13 of the Municipal Code includes the Title 13 City's standards for public services including water, sewer, stormwater, and telecommunications. The fees and SDCs associated with these services are also addressed.

As noted in the Draft Concept Plan, "maximum Daily Demand (MDD) and available fire flow should be re-evaluated to account for the zoning densities shown on the current concept plan." This will likely necessitate an amendment to the 2012 City of Oregon City Water Distribution System Master Plan.

The Draft Concept Plan identifies the need for sanitary sewer improvements and notes that the majority of the homes that are located within the planning area and outside city limits are on private septic systems. Section 13.08.010 requires connection to the public sewer for all houses located within the boundaries of any sewer district. However, Section 13.08.210 does allow the use of a septic tank effluent pump system ("STEP system") as an alternative to the standard sewer used in the city provided that the system is owned, operated, and maintained by the city.

As noted in the Draft Concept Plan the City Engineering Division is currently working to create and adopt a new series of Low Impact Design (LID) standards; therefore, it is recommended that a low impact stormwater approach be developed for the planning area. Presumably the new LID standards will result in amendments to the Public Works Stormwater and Grading Design Standards and may necessitate amendments to Title 13.12 as well.

Appendix F



LAURENCE QAMAR
ARCHITECTURE & TOWN PLANNING CORP.

Memorandum

Date: August 20, 2013

To: Oregon City South End Concept Plan Management Team

From: Laurence Qamar

Re: Task 6.4 – Standards for Building and Site Design

Introduction:

As described in Task 6.4, this memorandum is intended to give direction for the creation of standards for building and site design for South End Concept Plan. This includes

- Review of Code and Subdivision ordinance from a neighborhood design perspective.
- Identification, in this memo form, of additional elements or changes to existing standards. This will include residential, commercial, landscape and street elements.

Subdivisions:

Objective:

- Much of the local street network proposed in the Concept Plan will need to be implemented gradually through incremental land subdivisions.
- The historic parcelization of land on several streets west of South End Road offers unique opportunities to create and interconnect local street network through incremental subdivision of these parcels.

Analysis:

As each parcel is subdivided, the City and the applicant should review the Concept Plan street network, and endeavor to create the street connectivity shown there. Cul de sacs or other types of dead-end streets should be avoided at all costs. As such, new streets should be “stubbed” to adjacent parcels with the goal of being connected through by future neighboring developments.

Streets have been generally located on the Concept Plan in locations that are either in the midline of long parcels (such as off of Beuttel Road) or straddling property lines. The prior condition is preferable since it enables one land developer to place a street down the centerline of the parcel and match the design quality of both sides of that street.

It's also critical for the overall build-out of the street network that a “T” street be created at the back end of each of these long parcels so that a new east/west street network can be established.

A Pocket Neighborhood Ordinance should be considered for the City. In general, this would enable small clusters of about a dozen smaller cottages to orient onto a central common greenway with their vehicle access and parking provided through rear alleys or a common parking court. Without the need for a condominium, these lots are accessible from a street only through a pathway system. Thus the following code provision would be eliminated. **“16.08.045 Building site—**Frontage width requirement. Each lot in a subdivision shall abut upon a cul-de-sac or street other than an alley for a width of at least twenty feet.”

Instead of using a block length standard to determine maximum spacing of streets, lanes, alleys and pedestrian paths, it is helpful to establish maximum block perimeters. While maximum block perimeters for full streets can be between 1,600 to 2,000 feet, it's important to break down that relatively large block into smaller increments. A block perimeter could be set at 800 to 1,000 feet with the use of narrow alleys, lanes, or multiuse paths. (The intent of this is not to enable cul de sacs that would be extended with only pedestrian paths. That approach may be suitable as a retrofit to an existing cul de sac.

Residential:

Objective:

- An overriding neighborhood design standard principle that is employed in the South End Concept is called the Urban to Rural Transect.
- From a building placement and design standpoint, housing of all types is designed to enhance the quality of the streetscape experience (public realm).
- Private outdoor space on each lot is encouraged, primarily in the rear or side of the houses.
- Houses are placed relatively close to the street to provide “eyes on the street”, which encourages both neighborly interaction and general local surveillance of the streets.

Analysis:

Urban to Rural Transect is a general principle by which more “urban” conditions are located closer to the center of a village, town or neighborhood, while more rural conditions are located around the more natural edges of the neighborhood. Logically, higher density housing types, tighter setbacks, greater mix of uses, and more compact urban spaces are found near a main street neighborhood center. Lower density, larger lots, more consistent residential uses, and broader open spaces are found around neighborhood edges and natural open spaces. This concept can help to make decisions about everything from building materials, scale and composition to street design and landscape.

Applied in a code, Transect based standards are allocated to specific zones shown on a neighborhood map.

Another broadly general principle consistent to all housing is that buildings are generally placed closer to the street with parking located behind the front facades. On-site parking is generally tucked back behind building fronts, thus making house fronts lively and engaging to the street. This is accomplished in two ways:

- Rear alleyways - The purpose of requiring rear service alleys for housing is to provide alternatives to on-site parking in the front yards of houses, town houses, or apartments.
- Front-Loaded garage setbacks - There are alternatives to rear alleyways to achieve goal of a lively street front. Lots that are wider than 60' can avoid the need for a rear alley. At this width, a two-car wide garage can be accessed from the street frontage as long as it is setback minimum 20' from the house front. If a garage is about 20-22' wide, side setbacks are minimum 5' each side, and the lot is 60' wide, the resulting house would be maximum 28' wide. The ratio of house to garage width in this scenario would present the house as a dominant feature to the street.

By eliminating large garage doors and driveways from the house fronts, the front yard setbacks can be reduced. House front setbacks can be as little as 4' from the front property line. This allows greater rear yard depth to enhance private space.

The closer the house is to the sidewalk, the higher the entry floor level should be raised. Entry floors should be about 18"-24" above the sidewalk if the house is closer to the street.

To further encourage lively building frontages to the street, we encourage architectural elements to be added to house fronts. A Frontage Zone provides an area between the sidewalk and the Primary Building Facade. The Frontage Zone can accommodate elements such as porches, balconies, bay windows, patios, forecourts, dooryards or front stoops. These elements enliven the public realm of the fronting streets by turning the orientation of the house to the street, and relegating the rear alleys to the more service oriented role of parking. Thus, a Primary Building Façade line can be setback 12' from the right-of-way (ROW), with a Frontage Zone at only 4' from the ROW, thus allowing an 8' Frontage Zone for a porch and or a stoop.

While side setbacks can adhere to standard fire safety limits, rear setbacks play a unique role. Assuming a rear alley condition, the garage should be setback no more than 6-8' from the alley ROW. Additional parking outside of the garage should only be located beside the garage, not in front of the garage doors. For this reason, the garage should not be pushed any deeper into the lot than 6-8'. This setback in addition to a 20' alley ROW width will give 26'-28' of backup space for vehicle maneuvering into garages.

Garages that are detached from the back of the houses should be encouraged. Detached garages offer several benefits. They can accommodate an extra bedroom or Accessory Dwelling Unit (ADU) above. Very nice, private rear yards can be created between detached garages and the main house.

Commercial:

Objective:

- The Urban to Rural Transect principle applies to the retail main street.
- Retail buildings of all types are designed to enhance the quality of the streetscape experience (public realm).
- Retail shops are placed right up to the main street sidewalks to .
- On-street parking (with additional overflow parking in the rear) provides easy and convenient access and visibility to shop front (without the use of upfront parking lots).

Analysis:

The Neighborhood Retail centers are designed to function as a Main Street to the neighborhoods. The design of the street and placement of buildings close up to the street is essential to it function as a successful pedestrian oriented retail street.

The street needs to be narrow enough for pedestrians to cross-shop, which is to see shops across the street and comfortably walk across at frequent crosswalks. Maximizing parallel or diagonal on-street parking will offer customers easy access to shops, without reverting to upfront parking lots that are indicative of commercial strips. While on-street parking may not accommodate all the shoppers at a peak time, alleyways access rear parking lots behind buildings in the mid-block. Rear alley parking is well signed and lighted, and has pedestrian passages to the main street frontages.

Design standards should encourage buildings that have a more distinct storefront retail character. This can include parameter flat or pitched roofs. However, sometimes a more residential looking store with pitched roofs can mingle with the parapets. Live/work establishments can be encouraged as a way to mix retail and residential vertically or horizontally. Workshops and office can also be encouraged above or behind retail storefronts.

In order to encourage a variety of elements on the fronts of stores, a Frontage Zone should be used in regulating retail buildings. Storefront elements can include awnings, bay windows, upper balconies, and café seating. Either these elements can be allowed to encroach into the public realm of the sidewalk, or a setback zone on the retail lot can be paved as a sidewalk, and these elements can reside on that private setback.

Landscape:

Objective:

- The Urban to Rural Transect affects the design of landscape throughout the neighborhood.
- More urban and hardscape elements are located closer to the neighborhood center, while more rural and organic characteristics occur in the residential and outer edge zones.

Analysis:

Landscape edges to the private lots can offer a great deal of variety in the neighborhood while maintaining a lot of the rural, and agrarian qualities of the existing community.

Edges to private lots are primarily fences, hedges and walls. Mainly hedges and fences are found in the South End neighborhoods today. These Edge Types can be delineated into more urban and more rural categories. Standards can be established by which a list of more or less urban/rural Edge Types are encouraged to be placed around residential lots. Hedges that are low and highly manicured tend to be more urban, while larger overgrown hedges are more rural. Painted picket fences with a little ornament tend to be more urban, while horizontal board and split rail fences are more rural. There are some existing old wire fences along some of the rural lanes that can be included in this rural category. However, standard chain linked fences should be avoided.

Fences along public rights of way should generally be 36" maximum height. While we encourage this 36' height to be adhered to also on the sides and rears of lots too, we acknowledge that some residents may desire taller fences in those locations.

Street Elements:

Objective:

- The Urban to Rural Transect affects the design of streets throughout the neighborhood.
- More urban and hardscape elements are located closer to the neighborhood center, while more rural and organic characteristics occur in the residential and outer edge zones.
- Streets are first and foremost public places for pedestrians and the residential and retail properties that abut them. Streets only secondarily provide a function of transportation. If motor vehicle mobility is allowed to override the comfort and convenience of pedestrians, the function of the street is broken.

Analysis:

We encourage travel speeds are reduced in general compared to conventional standards for arterials, collectors and local streets. Reducing speeds increases safety for pedestrians, cyclists and drivers. Narrowing street widths is the best means to reduce travel speeds.

The Urban to Rural Transect is applied to streets in several ways. Curbs and gutters can be used in urban places, while curbless streets and open rain garden swales can occur along more rural streets. On the most rural streets such as along the edges of the bluffs, the parking lanes can be left as compacted gravel to reduce impervious surfaces, and offer a more rural country-road affect.

Rear alleyways and lanes tat cut through long blocks can also have that more rural character by paving only about 12' of the 20' ROW, leaving two 4' compacted gravel shoulders. In the more urban main street areas, the whole 20' ROW of the alleys should be paved, due to greater traffic, wear and tear.

We do not encourage the use of bulb-outs, rain gardens, special pavers and storm water curb cutouts in the parking lanes. Rain gardens should occur only in the planting strips. Bulb-outs for shortened pedestrian crossing should only be placed occasionally on the main street. These elements tend to clutter the visual simplicity of traditional streetscapes found in historic Oregon City. They can be designed functionally without being as aesthetically bold as typically designed.

Appendix G

Oregon City South End TABULATION OF QUANTITIES

Client: **City of Oregon City**
Estimator: **C. Fergeson, 3J Consulting, Inc.**

Date: **10/17/2013**

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
System Improvements (SI)					
Water System Improvements					
SI-1	12" DI	12,500	LF	\$115.00	\$1,437,500
SI-2	8" DI (Replace existing CRW water lines with new 8" City-owned water lines)	15,045	LF	\$90.00	\$1,354,050
SI-3	8" DI	10,500	LF	\$90.00	\$945,000
Water System Improvements Subtotal					\$3,736,550
Design Costs (20% of Construction Cost)		20 % of	Construction Total	\$747,400	
Construction + Design Cost				\$4,483,950	
Contingency (15%)		15 % of	Construction + Design Cost	\$672,600	
TOTAL CONSTRUCTION ESTIMATE					\$5,156,600

General Notes:

- Quantities are based on electronic GIS design files dated 08/28/2013 by 3J Consulting (Available Upon Request)
- Contractor to furnish all materials, labor, and equipment to complete the above construction schedule items
- All unit costs assume in-place construction including all ancillary items required (ie. Backfill, fittings, shoring, etc)
- LF cost include hydrants, valves, valve boxes, pipe, fittings, and connections to existing system
- Unit Costs in 2013 currency



Oregon City South End TABULATION OF QUANTITIES

Client: **City of Oregon City**
Estimator: **C. Fergeson, 3J Consulting, Inc.**

Date: **10/17/2013**

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
System Improvements (SI)					

Sanitary Sewer System Improvements

SI-5	12" PVC-SDR35 (Includes pipe and fittings)	4,600	LF	\$100.00	\$460,000
SI-7	Manhole (48")	12	EA	\$4,000.00	\$46,000
SI-8	Basin E6 Sewer lift station (Per Oregon D.E.Q Standards)	1	EA	\$300,000.00	\$300,000
SI-9	Basin E7 (north) Sewer lift station (Per Oregon D.E.Q Standards)	1	EA	\$300,000.00	\$300,000
SI-10	Basin E7 (south) Sewer lift station (Per Oregon D.E.Q Standards)	1	EA	\$300,000.00	\$300,000
SI-11	Basin E6, E7 & X1 (combined) Sewer lift station (Per Oregon D.E.Q Standards)	1	EA	\$800,000.00	\$800,000
SI-12	Sewer force main (4" min. diameter)	5,400	LF	\$60.00	\$324,000
SI-13	Sewer force main (10" min. diameter)	5,120	LF	\$80.00	\$409,600

<i>Sanitary Sewer System Improvements</i>	\$2,939,600
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Design Costs (20% of Construction Cost)	20 % of	Construction Total	\$588,000
Construction + Design Cost			\$3,527,600
Contingency (15%)	15 % of	Construction + Design Cost	\$529,200

TOTAL CONSTRUCTION ESTIMATE

\$4,056,800

General Notes:

- a. Quantities are based on electronic GIS design files dated 08/28/2013 by 3J Consulting (Available Upon Request)
- b. Contractor to furnish all materials, labor, and equipment to complete the above construction schedule items
- c. All unit costs assume in-place construction including all ancillary items required (ie. Backfill, fittings, shoring, etc)
- d. Force main LF cost include pipe, fittings, and connections to existing system
- e. Unit Costs in 2013 currency
- g. Land Purchase and Right-of-Way acquisition not a part of calculations



Oregon City South End TABULATION OF QUANTITIES

Client: **City of Oregon City**
Estimator: **C. Fergeson, 3J Consulting, Inc.**

Date: **8/28/2013**

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
System Improvements (SI)					

Stormwater System Improvements

SI-11	12" HDPE (w/ Rock Backfill)	20,900	LF	\$100.00	\$2,090,000
SI-12	Manhole (48")	50	EA	\$3,500.00	\$175,000
SI-13	Green Streets (Includes grading, liner(s), planting media, outlet structure, and piping)	34,640	LF	\$250.00	\$8,660,000
SI-13	Regional Pond Construction (Includes grading, flow control structures, plantings, and safety fencing)	21	AC	\$228,000.00	\$4,851,751

Stormwater System Improvements
\$15,776,751

Design Costs (20% of Construction Cost)	20 % of	Construction Total	\$3,155,400
Construction + Design Cost			\$18,932,151
Contingency (15%)	15 % of	Construction + Design Cost	\$2,839,900

TOTAL CONSTRUCTION ESTIMATE	\$21,772,100
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General Notes:

- a. Quantities are based on electronic GIS design files dated 08/28/2013 by 3J Consulting (Available Upon Request)
- b. Contractor to furnish all materials, labor, and equipment to complete the above construction schedule items.
- c. All unit costs assume in-place construction including all ancillary items required (ie. Backfill, fittings, shoring, etc)
- d. Unit Costs in 2013 currency



Appendix H

Facility Type	Qty	Unit	High Cost/ Unit	Comment	Low Cost/ Unit	Total for Lower Cost Options
Shared-Use Paths:	25,725	LF	\$450	higher costs in wetland areas	\$235	\$6,045,375
Family-Friendly Street (local streets) with center island Shared-use path:	5,022	LF			\$220	\$1,104,840
Family-Friendly Street (local streets) with roadside Shared-use path:	5,065	LF			\$215	\$1,088,975
Large Community Park with Community Center:	10	Acre	\$950,000	costs vary depending on design details	\$750,000	\$7,500,000
Village Center:	1	Acre	\$6,000,000	costs vary depending on design details	\$1,450,000	\$1,450,000
Neighborhood Park:	1.7	Acre			\$450,000	\$765,000
PGE/BPA Corridor Greenway (trail portions of costs included in shared-use path quantities above):	12	Acre	\$195,000	less cost for simple hydroseeded areas adjacent to trail	\$115,000	\$1,380,000
						\$19,334,190



Community Engagement Summary February 27, 2013

As an integral part of the South End Concept Plan process, the City of Oregon City has conducted extensive outreach to the South End and greater Oregon City community. The purpose of this outreach is to help establish a preliminary community vision and values to guide the Concept Plan process. The values also will be used to develop evaluation criteria for the draft and final Plan. With assistance from the Community Advisory Team (CAT), a number of outreach methods were used. The first phase of outreach included stakeholder interviews, an online survey and Community Conversations. Phase 2 invited community participation through a video hosted on the project website (www.southendconceptplan.org) to participate in a Community Open House and interactive online forum. The following is a summary report of community engagement efforts to date. A detailed compilation of comments also will be available for CAT members and public review.

Community Engagement Phase 1 Results

From October 2012 through February 27, 2013, Oregon City staff, the consultant team and CAT members heard from several hundred South End and Oregon City residents through eight interviews, 40 online survey responses and eighteen conversations with community and civic organizations. The following is a summary of responses to two basic questions asked in each engagement:

1. How would you describe South End? What do you like best about South End?
2. Is there anything you would change about South End to make it better?

The Phase 1 results also include responses to the same two questions from 23 comment cards collected at the Community Open House described in the Phase 2 section. Responses are listed in descending order of number of times mentioned, with the number of responses shown in parenthesis.

How would you describe South End? What do you like best about South End?

- Rural character (45)
- Attractive, livable, good neighborhoods and sense of community (25)
- Open/green spaces, trees, wildlife (24)
- Quiet, peaceful (17)
- Large lots, low density (16)
- Road to Highway 99E and Canby (16)
- Proximity to city (10)
- No commercial activity (10)
- Safe (9)
- Free of traffic and congestion (8)
- Views and scenery (7)
- McLoughlin Elementary, good schools (7)
- Not a part of Oregon City (4)

Is there anything you would change about South End to make it better?

- Add small (no big box) commercial/retail services, such as a grocery store or coffee shop (28)
- Make South End more safe and walkable, especially near McLoughlin Elementary (26)
- Improve infrastructure including roads and sewer; new infrastructure underground (25)



- Provide community gathering places such as parks, plazas and sports fields (19)
- Provide public transportation (17)
- Preserve open space and natural, historic and cultural resources (15)
- Add bike paths (14)
- Provide trails and other connections to the city, McLoughlin Elementary and other amenities (14)
- Maintain large lots; no new housing (11)
- Provide a wider variety of housing options: multi-family, senior and low income housing (11)
- Add street trees (7)
- No commercial development (6)
- Provide jobs (5)
- Highlight McLoughlin Elementary as the center of the community (3)
- New development fits existing character; buffer new development (3)

Community Engagement Phase 2

The City of Oregon City, with assistance from the CAT, conducted a Community Open House on December 13, 2012. Approximately 100 community members participated in this event. The purpose was to verify that preliminary values identified through interviews, the online survey and Community Conversations mirror those of the broader community. The open house also was used to identify opportunities for future enhancements that will preserve South End's key attributes and make it an even better community for current and future residents.

The open house provided several opportunities for comment. Participants were asked to identify which preliminary values they consider most important. Participants also commented on maps showing existing parks and natural systems and elements of the built environment. In addition, participants submitted 23 comment forms with responses to similar questions.

An interactive online forum or "virtual open house" was launched in conjunction with the December 13th Community Open House and allowed participants to answer the same questions asked at that event. In all, 210 people participated in the forum. Participants were asked to prioritize the list of preliminary values and add values they felt were missing from the list. They also were encouraged to place icons representing parks and natural features and elements of the built environment on a map of South End. When placing the icons, they had the opportunity to provide comments describing what future improvements they desire or identifying important community assets that should be recognized, enhanced or preserved.

Values

Open House Station

Participants identified the following preliminary values as most important. Values are listed in order of most responses, with the number of responses shown in parenthesis.

Preliminary Values:

- Rural character, quality of life (78)
- More large lots/limited high density housing (50)
- No commercial development (47) [Note: some thought this may pertain more to perceptions about "big box" development.]
- Nature (26)
- Safe streets (24)



South End Concept Plan



- Transportation choice: transit, bike, walk, auto (24)
- Education and schools (19)
- Access to parks and recreation opportunities (14)
- Access to shopping (14)
- Family-friendly (14)
- Senior living facility (14)
- Connections: streets, trails (13)
- Bike/walking lane throughout main streets (12)
- Sense of community (11)
- New gathering places/community center (7)
- No requirement for street trees (7)
- Access Beutel to 99 (5)
- Access to trails (4)
- Keep private well/septic (4)
- No city police (2)

Comment Forms

Nine open house participants ranked the following list of values on their comment forms. Responses are listed in order from 1 to 10 or highest rank to lowest.

Values	# of Responses	Highest Rank	Lowest Rank	Average Rank
Safe streets	8	1	8	2.50
Rural character, quality of life	9	1	9	4.00
Family-friendly	7	2	10	4.14
Education and schools	7	1	9	4.43
Transportation choice (transit, bike, walk, auto)	6	2	8	5.00
Nature	7	1	10	5.14
Access to parks and recreation opportunities	6	3	7	5.33
Access to shopping	5	2	10	6.00
Access to trails	7	2	10	6.14
Connections (streets, trails)	7	2	9	6.14

Interactive Online Forum

Thirty six participants in the virtual open house ranked the following list of preliminary values. Responses are listed in order from 1 to 10 or highest rank to lowest.

Concept Plan Element	# of Responses	Average Rank
Rural Character/Quality of Life	115	2.45
Schools	83	2.71
Family Friendly	123	2.85
Access to Nature	100	2.93
Trails, Parks and Recreation	116	3.05
Access to Shopping	57	3.07
Safe Streets	106	3.19
Transportation Options	70	3.29



South End Concept Plan



Connections (Streets/Trails)	85	3.73
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Parks and Natural System

Open House Station

The following comments were recorded on the map and flip chart:

- There is an historic building that was built in the late 1890s or early 1900s and three heritage trees at 19868 South End Road
- Concern about private common areas being converted to any public use – please keep them private
- Connection through trails
- Interpretive trail markers
- Provide additional natural open space with additional development; minimize ball fields
- Provide a mixed open space to serve the South End Area
- Concern about crime when using utility corridor for trail or other public use
- Include some working landscape (farms, forests, community gardens) to promote wildlife diversity and to serve local foods needs
- Consider seismic conditions
- Need to address sewer backups with any additional growth
- Pervious surface with flash storm events
- Need to make sure new parks and green space are maintained and staffed which is not the case in green space just outside the study area
- Would like to be able to access Metro natural area from the north, i.e. Forest Ridge Road
- To preserve the green space for community gardens and farming, do not connect Parrish Road

Comment Forms

What else should we consider about parks and natural systems?

- Keep private green areas private (3)
- Consider how many kids will come out and vandalize the parks and trails
- Keep the farmland zoned for farming only; no commercial development or strip malls
- How would more trails and parks be financed and kept up?
- Trail for the BPA Power line right-of-way would be great
- Connect walking and hiking paths
- Good lighting, parking space, rest rooms and safe for users of the areas
- Leave as is; seniors and retired people cannot afford the price of sewer, the price of sidewalks or anything else for improvement or money especially if it has to be put onto property taxes



South End Concept Plan



Interactive Online Forum

Participants in the virtual open house identified the following parks and natural systems improvements they would like to see made in the future, and assets they want enhanced or preserved. Go to the following web address to see the location of suggested parks and natural systems improvements and assets: <http://bit.ly/13Yzg23>.

Concept Plan Element	# of Responses	Type
Preservation	102	Open Space (40) Trees (38) Views (5) Historic Structure (2)
Natural Systems	82	Wildlife Habitat (41) Trees (13) Streams (6) Wetlands (3)
Parks/Recreation	65	Neighborhood Park (27) Regional Park (8) Greenway (6) Ball Field (6) Pocket Park (2)
Trails	33	

Comments

- It would be nice to have some boating access in the area
- The South End Creek could be so much more with limited access and preservation
- A greenway which includes a multipurpose path from the Parrish area to John McLoughlin School is a must have
- Utilize the existing private ball field
- Work with the school district to make for more park space on the existing site
- I'm not exactly sure where the Metro-owned park land lies in relation to this map, but I would love to see access to the land from the top of the hill
- Preservation of the natural land and farmland on the bluff

Built Environment

Open House Station

The following comments were recorded on the map and flip chart:

- Lack of sidewalks near John McLoughlin Elementary is a hazard for kids
- Pedestrian access to Metro open space is needed; walking/hiking occurs north of Forest Ridge Road

Comment Forms

What else should we consider about housing, infrastructure and services?

- No high density housing (i.e., row homes); keep large lots (6)
- Consider using cluster housing with open spaces as a way of preserving open space
- Until the housing market has unoccupied homes sold- no new homes; take the housing out towards the high school
- Increased housing and more people will stress transportation system; area has limited ways in and out



South End Concept Plan



- We do not want to be part of the City
- Don't change Beutel road and it's good there is no transit service
- Preserve historical buildings on old Kelland property at 19868 S. South End Road; keep trees when developing as much as possible
- Keep the rural feeling
- I would like all housing development outside city limits pulled into city do to needing sewers, do to septic failure due to corrosive soil; I would love to be able to develop my property
- I am older and wonder about senior housing such as the Canby's "Hope Village" in a natural area
- Yes to an extension of Parrish road to connect South End Road and Central Point Road

Interactive Online Forum

Participants in the virtual open house identified the following improvements they would like to see made to the built environment. Go to the following web address to see the location of suggested improvements to the built environment: <http://bit.ly/13Yzg23>.

Concept Plan Element	# of Responses	Type
Residential	99	Single Family (63) Townhomes (8) Mixed Use (7) Apartments (6) Cottage Housing (4) Senior Housing (2)
Sidewalks	81	
Shops	68	Coffee Shop (21) Small Grocery Store (16) Café (15) Large Grocery Store (8) Pub (6) Convenience Store (2) Dry Cleaner (1)
Bike Lanes	49	
Transit	49	
Gathering Places	45	Plaza (7) Library (5)
Safety	25	Traffic Calming (10) Crosswalk (5)
Streets	21	

Comments

- Add a bus line on South End Road (5)
- Add southbound left turn lane, and prohibit left turns coming out of school driveway to end morning gridlock
- Increase speed limit from city limits to 99E to 50mph
- Would love to walk to coffee
- Consider look at more community streets without curbs and sidewalks but also designed with little to no cut through traffic; community walkways which are more of a resort style walkway system
- How about mixing senior living with a day care facility or a community farm



South End Concept Plan



- How about a Community general store; a post office business, maybe a diner counter, small hardware
- Haircuts, gift shop, bistro
- Lots of the cottage housing options with the resort trails of connectivity vs standard street sections
- Sidewalk in front of McLoughlin School where deep ditch currently is
- A standard bike lane all along South End road would encourage cycling tourism in our area, and be safer for our residents who cycle
- Dangerous riding a bike out past Parrish
- We need to extend Beutel Road down to Highway 99 below; without this extension this concept plan area is basically land-locked and not capable of expanded housing or virtually any type of development
- There should be sidewalks for students/families to walk all the way to the elementary school
- For walking biking into school, parks, subdivision neighborhoods; many people already do, but it is dangerous
- New housing developments should not be allowed to take out old growth/100 year old trees; street noise, fast cars and displacement of wildlife are unacceptable

Next Steps

The information gathered through community engagement efforts was used to draft the South End Community Vision and Values. The Values will guide development of the South End Concept Plan and be used to evaluate the final plan.



Forum on the Future of South End **Part 1: Comment Form Results** May 7, 2013

Introduction

Approximately 100 community members participated in Part 1 of the *Forum on the Future of South End*. The Forum was led by City of Oregon City staff, with assistance from consultant staff and members of the Community Advisory Team (CAT) on April 13, 2013 from 1 to 4pm at John McLoughlin Elementary School. Approximately 100 people participated in the Forum. An online platform was launched April 15th to compliment the Forum. Participants were able to answer the same questions asked at the April 13th event. As of May 7th, 48 people completed the online survey.

The purpose of the Forum was for community members to review and comment on three future community design concepts for the future of South End. The alternative concepts were derived from 18 community-created design maps, but also considered the South End Vision and Values, evaluation criteria, existing built and natural conditions in the area and regulatory requirements. Community comments will be used to create a preferred community design concept that incorporates the most favored elements of the three alternatives.

Themes

Several themes emerged from the community comments and will guide the draft concept plan map.

- No one concept is preferred over another. All three concepts received moderate support.
- Scale back the intensity of development, both in terms of residential densities and the number of mixed-use/neighborhood commercial areas. Include two commercial areas; one to the north and one to the south.
- People support the system of parks, trails and natural areas and want to see the large park incorporated into the concept.
- There is support for the road parallel to South End Road, loop road along the bluff and round-a-bouts.
- There is concern about the ability of South End Road to handle increased traffic.
- Include a civic use, such as a post office or library.
- A café or coffee shop is the most desired use for a commercial area, followed by grocery store, live/work space, community services (e.g. child care) and services (e.g. dry cleaner).
- Medium and large lot single family homes are the most desired housing choice for the area. Live work space and senior housing also received numerous votes.
- The most desired parks elements include walking and biking trails, a nature center, playground equipment and dog park.



South End Concept Plan



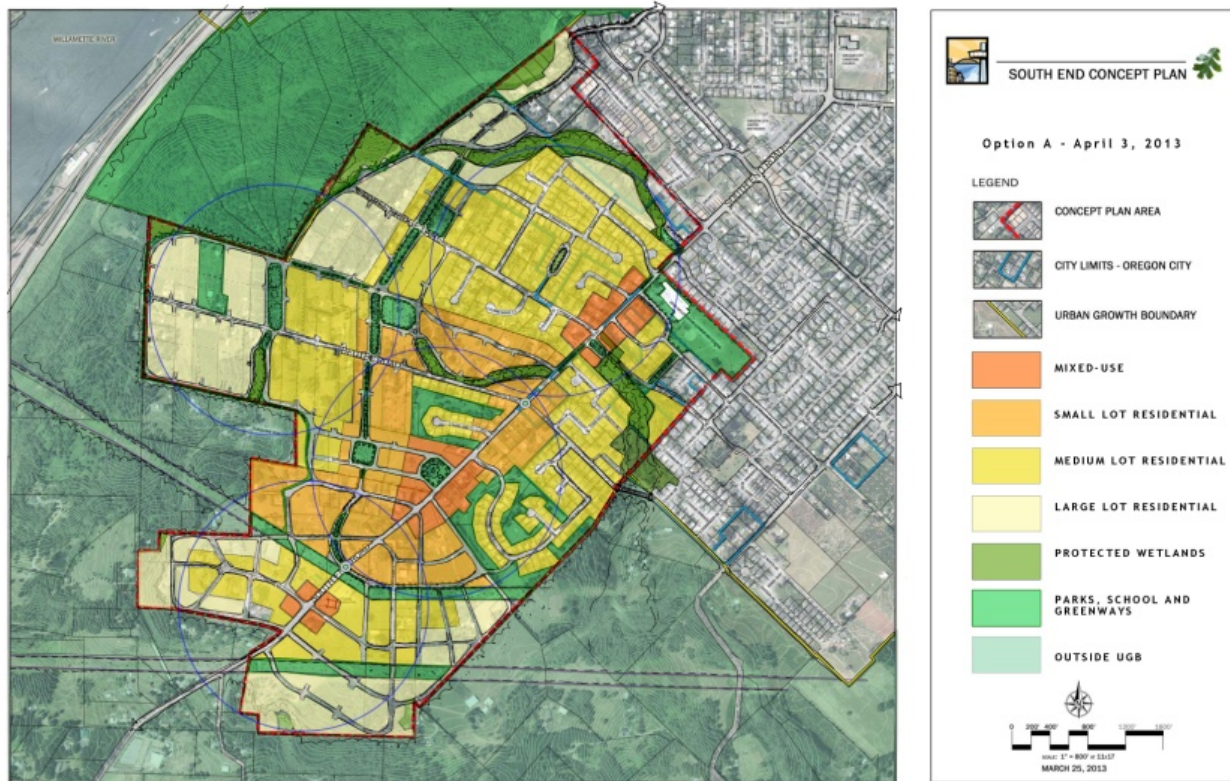
- People feel increased traffic on South End Road should be accommodated through new sidewalks and pathways, creating one or two parallel roads and adding a center lane to South End Road.

The following is a combined summary of comments received at the Forum and online.



Community Design Concepts

Concept A



1) What characteristics of Concept A do you like best? Least?

- Best
 - Distributed mixed-use clusters. (6)
 - Parallel road. (3)
 - Small and numerous parks. (2)
 - Maintaining rural feel within core areas of small lot residential that can't access services.
 - Organization of R6 to R10 development.
 - Roads at the edge of the boundary/along the bluff.
 - Round-a-bouts.
 - Southern portion of the area.
- Least
 - Too many commercial/retail/mixed-use areas. (4)
 - Parks are too small.
 - Small, strip-mall type mixed-use because it is spread out.
 - Not enough open space to small lots.



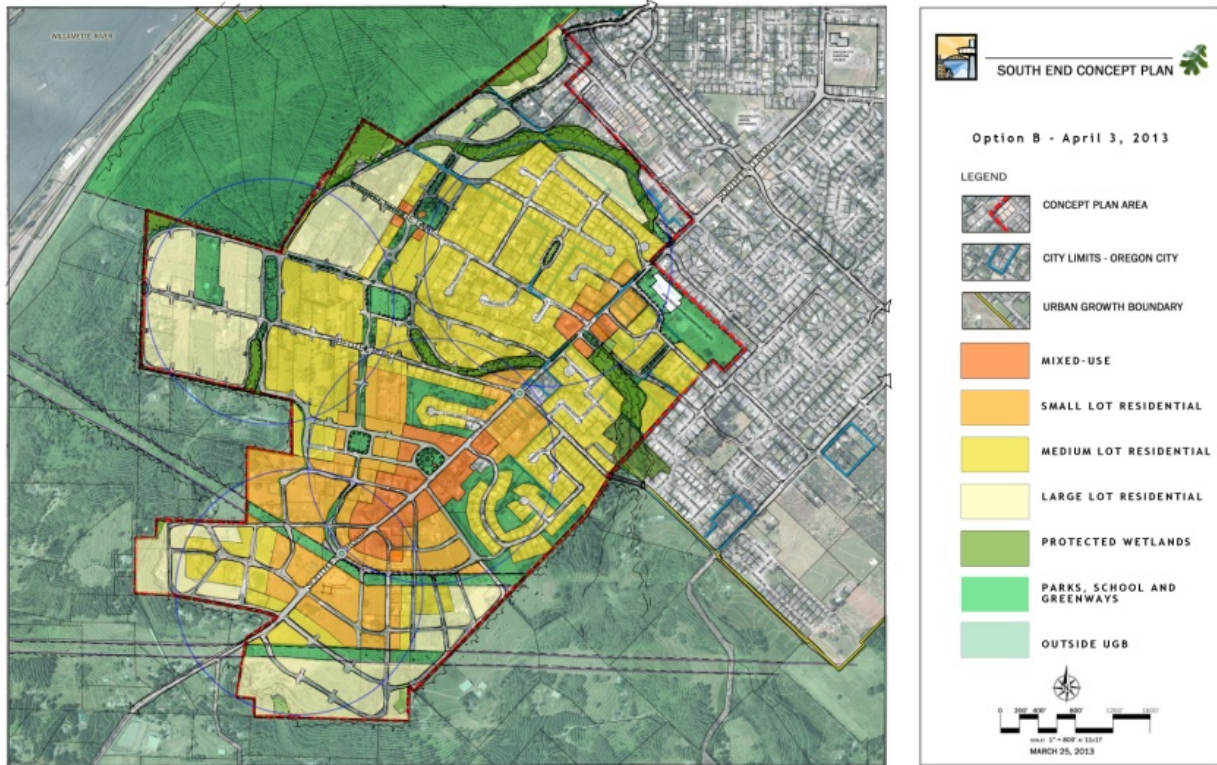
- Road along the bluff.
- Round-a-bouts.
- Traffic impacts.
- Keep environmental issues very important.
- Need an east-west access route over the wetland.
- We live in Finnegan's Way, we are for annexation, and we would like to be able to divide our property.
- No need at all for commercial anywhere in this area. Why ruin the area?
- All of these concepts show roads going right through the new house I am building on Forest Ridge Road, so you might want to update your plans to take that in to account.
- This is the least bad option. All of these options are filled with "planner-speak," and Metro is guiding us into something that most of the residents out here do not want. Metro, just leave us alone.
- Commercial use areas would lower our standard of living and increase the crime rate. It should stay residential only.
- I would prefer the highest density housing to be located at the commercial area right at the southern most power line crossing. I dislike the conflict area between Finnegan's Lane and South End; move that closer to the commercial area.
- No sidewalks away from South End.
- Parrish road connection crossing wetland – sewer – is a major obstacle.
- In the morning, South End north currently backs up the hill. The right turn on Tumwater was closed? The more dangerous left hand from 99 to Tumwater left open. Adding another 1000+ homes will increase the morning traffic jam.
- Lots should be big enough to have a good yard and place to play.

2) One a scale of 1 to 5, with 1 being “least support” and 5 being “most support,” how do you rate Concept A?

Rate 1	Rate 2	Rate 3	Rate 4	Rate 5	Average
16	2	9	13	8	2.90



Concept B



3) What characteristics of Concept B do you like best? Least?

- Best:
 - Single mixed-use concentration near the south end of area. (4)
 - Civic building or center.
 - Dense housing close to South End Road where transit would be accessible.
 - Parallel road.
 - Parks.
 - Preserve access to bluffs.
 - Retail.
 - Roads to ease traffic on South End Road.
 - Round-a-bouts.
 - Small, mixed use area along Forest Ridge Lane for interpretation center and park facility.
 - Small to large transitions.
- Least:
 - Do not need commercial uses/mixed-use areas are too clustered. (3)
 - Concentration of destinations.
 - Too many small lots to maintain country feel.
- Who will pay for parks? No new taxes.



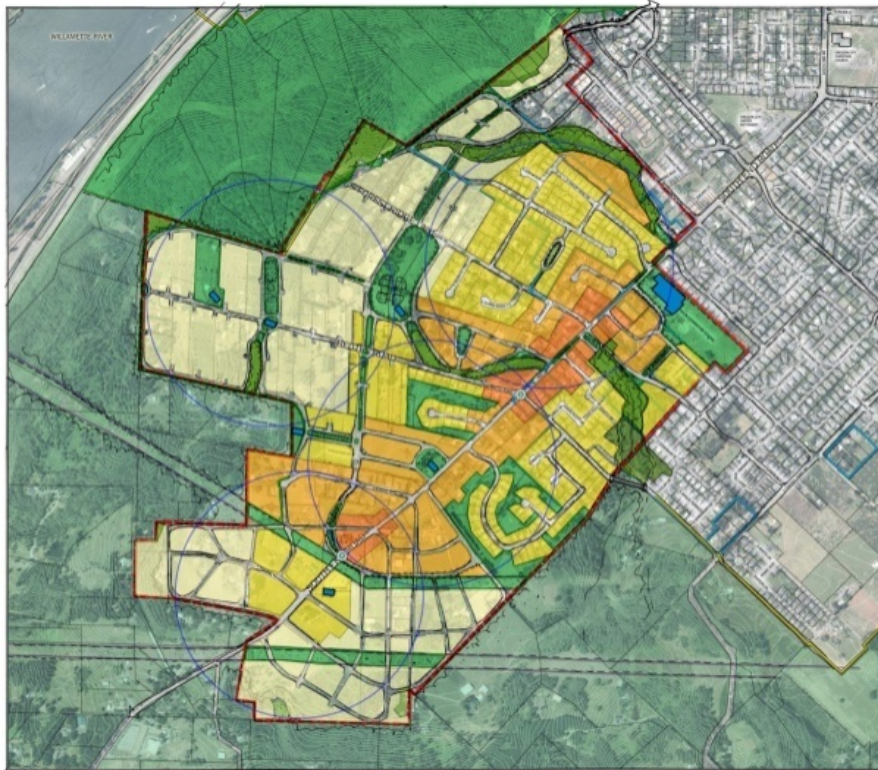
- I like having a bigger commercial area concentrated in one area rather than several smaller commercial strips. I think both businesses and customers will be attracted to a single cluster of commercial development because it forms a critical mass. Image the attraction of several of the following: bakery, coffee house, pub, boutique grocery, fruit/veggie stand, restaurant, ice cream store, dance studio, pizza parlor, art gallery, boutique clothing shop, antique dealer, florist, bike shop -fronting or nearby a lovely park for walking or taking kids to play. That's a place people will enjoy hanging out – and will make a destination. Much better than a few 7-Elevens and gas stations in pockets here and there with no neighborhood feel or drawing power other than quick-stop convenience. A commercial magnet will be good for economy and will reduce traffic congestion on outgoing arteries because people will stay in South End area rather than driving elsewhere to shop, dine, get a bite to eat or meet friends.
- Better distribution of high density housing but still right on South End Road. It would be better moved to the east.
- The commercial area isn't clear, but it should be much closer to the power lines on the south edge of the plan – this would take into account a future expansion of the urban growth boundary, but most of all encourage east/west roads near that area to improve cross town traffic and reduce the north bound load and the Warner Parrot/South End intersection.
- Keep Beutel slow.
- Housing at a variety of prices and rents.
- Sidewalks on South End.
- Community gardens.
- Pedestrian / bicycle links to middle and lower districts of the City.
- Need another access to 99E from South End.
- No commercial use or apartments.
- No townhouses.
- No small lots.
- Walkable communities.
- Compact urban form / transit oriented development.
- Like commercial area concentrated in one area and the south location on Concept B will draw coffee shops, bakeries, brew pubs and have park in the area – nice place to visit nearby w/o driving into Oregon City downtown. Keep traffic in the area.

4) One a scale of 1 to 5, with 1 being “least support” and 5 being “most support,” how do you rate Concept B?

Rate 1	Rate 2	Rate 3	Rate 4	Rate 5	Average
15	7	8	6	8	2.66



Concept C



5) What characteristics of Concept B do you like best? Least?

- Best
 - Parks/large park. (8)
 - A lot of large lot residential/rural character. (4)
 - Retail/mixed-use area. (3)
 - Civic use/post office. (2)
 - Environment is the focus. (2)
 - Round-a-bouts. (2)
 - Main street.
 - Most dense housing closest to South End Road (transit).
 - No concentration of mixed use.
 - Parallel road.
 - Shops.
- Least
 - Concentration of mixed use near school. (2)
 - High density housing on South End road.
 - No commercial needed.
 - Parallel road.
 - Too many civic buildings.



- Traffic impacts.
- Bark dust trail system. (2)
- With concentration of mixed use near school, more homes will have to be removed and converted.
- Is a sport complex a stadium like at Jackson?
- You are creating new choke points; there will still be only one north-south road.
- There are better concentrations of transitions elsewhere.
- What is meant by "a slow narrow road along the bluffs to provide public access and views"? Is this a car road or walking road? Where will people park to do this activity? I live along the bluff and this will destroy the wildlife habitat as well as my own personal habitat.
- No transportation in any of the Plans.
- I like this concept best however I'm not fond of splitting up the mixed use neighborhood commercial on either side of South End Road. I like the area that kind of looks like a couplet just south of Finnegans Way but on the west side of South End.
- This has too many "community buildings" too hard to maintain and keep "nice." Too much high density housing right on South End Road would be better moved to the east and south a bit.
- Consider landslides when planning, especially along bluffs and South End Road
- Connecting loop for recreation.
- Want medium residential at 11140 Forest Ridge, just past Allen Ct. No park area.
- Open up end of Forest Ridge to Metro Park, then park on Forest Ridge not needed.
- Bicycles and sidewalks on South End.
- No commercial.
- No apartments.
- Community gardens.
- No small lot houses.

6) One a scale of 1 to 5, with 1 being "least support" and 5 being "most support," how do you rate Concept C?

Rate 1	Rate 2	Rate 3	Rate 4	Rate 5	Average
12	3	10	8	9	2.98



Questions

7) What would you like to see in South End that is not included in any of the three concepts?

- Art.
- Consider pedestrian/bike access into this area from other parts of Oregon City – currently isolated, high traffic roads.
- Really like emphasizing access for everyone to the views and beauty of the area.
- A small playground or park for children.
- No expansion of Oregon City Limit.
- Transportation, education and care for transition.
- Great work.
- More curved streets, no cul-de-sacs.
- Keep lights under observatory standards, so we can still see the stars at observatory.
- Library and community center including gym.
- Boulevard of 4-lanes in concept area with center planting to define neighborhood.
- Everything needed is already shown where/or is included already.
- We need more trees, open spaces, parks and trails in existing neighborhoods. No commercial zoning next to existing residential family homes and existing home owners association designated areas.
- No-significant new development, just low impact large lot residential or senior housing with limited transportation impacts.
- Buses, no commercial.
- Rural anything transit; Metro adds development and subtracts transit.
- Smaller lots with common areas so less yard work for those who want rural character without having to maintain outdoor spaces, i.e. senior living possibly.
- More medium and large sized single family house lots. Too many high density lots.
- More rural lands, less small lots for residential.
- I would like to see sidewalks along South End Rd and an indoor community center for youth activities (no pool) such as volleyball and basketball courts, lacrosse, indoor soccer, etc. Right now we have to utilize our schools and they're not always available not to mention that two closed last year.
- Oregon City does not have the road system to support more growth.
- I still would like to see a concept that includes a road connection through the Metro bluff property to 99E along with an appropriate connection front from South End to the edge of the bluff. While this may be expensive, and contrary to Metro's natural resource group the kind of dense land uses being proposed either needs to be significantly changed or we need better connectivity.
- Two or more higher volume traffic ways toward hwy 213. I know the bluff is a problem but some relief toward Hwy 99E would be good.
- You selected swimming pool, I would want to suggest spray parks. They're a much cheaper alternative.



8) What elements should be included in limited South End mixed-use/neighborhood commercial areas?

Commercial elements	Number or respondents
Café / Coffee Shop	33
Grocery store	17
Live / work	16
Community Service (e.g., child care)	15
Service (e.g., dry cleaner)	14
Bar / Restaurant	10
Multi-family housing	10
Office space	10
Convenience store	9

Other:

- Does not support retail of consequence. Freight/heavy trucks cannot gain reasonable access.
- Library would be very good.
- Keep it neighbor-friendly – English village concept.
- Walking paths, biking.
- Senior options.
- No bar or restaurant.
- Absolutely none (Maybe live/work space).
- Absolutely not a bar, but small family style restaurants would be fine. It needs to be family friendly...we have a downtown littered with bars.
- This area is residential and people have bought homes in this area for that reason. Commercial zoning should not take place near homes that are in areas that are currently residential.
- This area is residential. I have bought a home in the South End area because I did not want to live in a commercial zone. Two of your three concept plans surround my home on three sides with commercial business zones. Commercial zoning should be planned in places where there are no current family and residential homes.
- A small boutique or family-friendly restaurant (e.g. Bugatti's). No bars, no convenience stores, nothing open 24 hours.
- We are only a 5 minute drive from the Hilltop area.
- Library.
- Fitness center.
- Grocery store would be the best fit if it were design more as a general store.
- This should also be as far south as possible on the south edge of the planning area between the power lines.



- Reserve most of the area for open space, natural areas and parks. Density the remaining areas and create a 15-minute community that emphasizes active transportation.

9) What housing choices would you most like to see in South End for the future?

Housing type	Number or respondents
Medium lot single family	29
Large lot single family	28
Live / work space	15
Senior housing	15
Accessory Dwelling Units	10
Attached / townhomes	9
Small lot single family	6
Condominiums	3
Apartments	1

Other:

- Large lot farm, horse riding trails, Christmas trees.
- No condominiums.
- More concentrated housing allows for more green space, think English village.
- Does not support growth.
- Mixture, as planned.
- Allow Accessory Dwelling Units could/should eliminate or substitute for high density housing.
- The buildings should blend with the current character. Small lots are not part of the character of South End.
- I support well planned unit development. The kind of development that mixes housing types in a more natural less traditional way. For instance a small senior housing facility which includes some SFR, some townhomes, a rec center, possibly some neighboring small farm use.
- Reserve most of the area for open space, natural areas and parks. Density the remaining areas and create a 15-minute community that emphasizes active transportation.



10) What types of park facilities area wanted/needed in South End?

Type	Number of respondents
Walking trails	41
Biking trails	33
Nature trails / center	31
Playground equipment	27
Dog park	21
Group picnic areas	16
Ball fields	13
Running track	12
Swimming pool	12
Botanical garden	11
Outdoor amphitheater	9
Skateboard park	8

Other:

- Community gardens.
- Restrooms, horse shoes, chess, maze.
- Fishing area, playgrounds, picnic area, pool, gym, skateboard park, dog park, hiking trails and natural area for wild animals.

11) How should traffic in South End be accommodated?

Proposed Action	Number of respondents
Develop new sidewalks, trails and bike facilities to facilitate non-motorized circulation	33
Create one or two new streets west of South End Road	16
Add a center lane to South End Road	13
Create new street connections across wetlands on the eastern edge of the study area	8
Create a network of local streets west of South End Road	7

Other:

- Must have new connection to Highway 99E.
- Have mass transit.
- Unpaved walking trails.
- Stop building.
- I like the round-a-bout ideas.
- Also provide trail/bike access into the area.
- All of the above as needed and money become available.



12) As we begin developing implementation strategies, how do you think improvements should be funded (developers, City general fund, system development charges, etc.)?

- Developers/system development charges (SDCs). (12)
- Don't know. (3)
- All. (2)
- City general fund. (2)
- Not the public. No taxes. (2)
- Urban Renewal Area. (2)
- Grants. (1)
- Local improvement district/economic improvement district. (1)
- Builders do not live here. Developers need to pay for infrastructure. It cannot be all about them making money and leaving the residents with the consequences.

Other comments

- None of these are workable as far as handling the number of trucks and cars. An alternate route to 99E is needed first.
- Nice work.
- No large commercial core like in Concept B. Prefer to have the southern portion of Concept A and northern portion of Concept C.
- If you are planning to widen South End Road, you need to allow larger setbacks now.
- What is meant by "a slow narrow road along the bluffs to provide public access and views"? Is this intended for people trails or for cars? Where will they park? I can tell you such a road will destroy the animal habitat as well as my own. I live along the bluff.
- How does this plan interface with the Oregon City Transportation Plan...what happens first...Build then implement the transportation issues...and lastly..Who pays for the suggested transportation upgrades?
- Thanks for letting us have input. Keep up the good work. What is the timeline for implementation?
- Commercial zoning should not be designated or take place directly next to existing residences/houses.
- We own two homes in the area. One on South End Court and one on Shelby Rose Drive, therefore; all decisions directly impact us. We enjoy the country feel and the quiet, low-crime neighborhoods. Have you thought of approaching any of the neighborhood associations to meet with them directly rather than only conducting the forums? I am afraid most people either cannot attend or are unaware of any of this planning, as I have spoken with a couple of neighbors. My fear is that this is this Concept Plan is going to be put into place a lot faster and without a majority input. I urge you to market the forums and this plan a lot more to make everyone aware, really put it in their faces. People tend to not get involved unless they are negatively impacted.



- All 3 plans have roads or parks running through my property. We begin building our new house next week on Forest Ridge that will necessitate a change to your concept plans. If you would like more info, please contact me.
- No roads should ever be put in the wetlands.
- Owner of home since Jan 1976 located on Finnegans Way who does not want to see commercial properties adjacent to our greenspace.
- Thank you for all the hard work that everyone is doing to keep us all in the loop and asking for our input.
- Thank you for the great work on this. Press Metro for a roadway connection from South End to 99E. I believe it's a critical need and may be a fatal flaw if this provision is missed.
- I think the plan should encourage housing for retirees - more single floor housing on small lots close to parks and commercial will encourage longer ownership and more stable living situations.
- Were we asked for input on expansion of the UGB? Why are inner pre-2002 areas that have roads and public transit in place not subject to the minimum density requirement?
- I think my ideas were pretty uninformed. No offense, but I wouldn't believe myself. I don't know anything about city planning.
- We live at 10790 S. Navajo Way. Are we in the South End concept plan?
- I like what you have done with my property on 11140 Forest Ridge, next to Allen Ct.
- Too much small lot residential to maintain country feel.
- Need another access point to 99E from South End Road.
- Community gardens
- Walkable community / transit-oriented development
- Natural open space.
- Connection from South End Road to 99E.
- How can we regulate for coffee shop, dentist, limited medical (design standards)?
- McDonald's or sex shops unwanted.
- Seems like a lot of commercial.
- Sidewalks on South End.
- Show us different walkways and sidewalks.
- Noise from South End.
- Congestion at north end of South End Road must be addressed with this plan.
- Too much orange.
- Physically separated bikeway with paved, chip, gravel for less maintenance.
- What about public access on areas marked as green?
- Transit alternatives? E.g., trolley.
- Like the idea of driveway entrance to the school off Salmonberry – relieve congestion at start and end of school day
- South End to 99E capacity must be expanded to take this new traffic.



Forum on the Future of South End **Part 2: Summary Results** July 10, 2013

Introduction

Approximately 100 community members participated in Part 2 of the *Forum on the Future of South End*. The Forum was led by City of Oregon City staff, with assistance from consultant staff and members of the Community Advisory Team (CAT) on June 1, 2013 from 10am to 2pm at John McLoughlin Elementary School. Participants were invited to comment on the draft Concept Plan map and community design elements via recorded dialogue, submitted comment forms and visual preference dot exercises. An online platform was launched June 3rd to compliment the Forum. Participants were able to answer the same questions asked at the event. Twenty-seven surveys were completed.

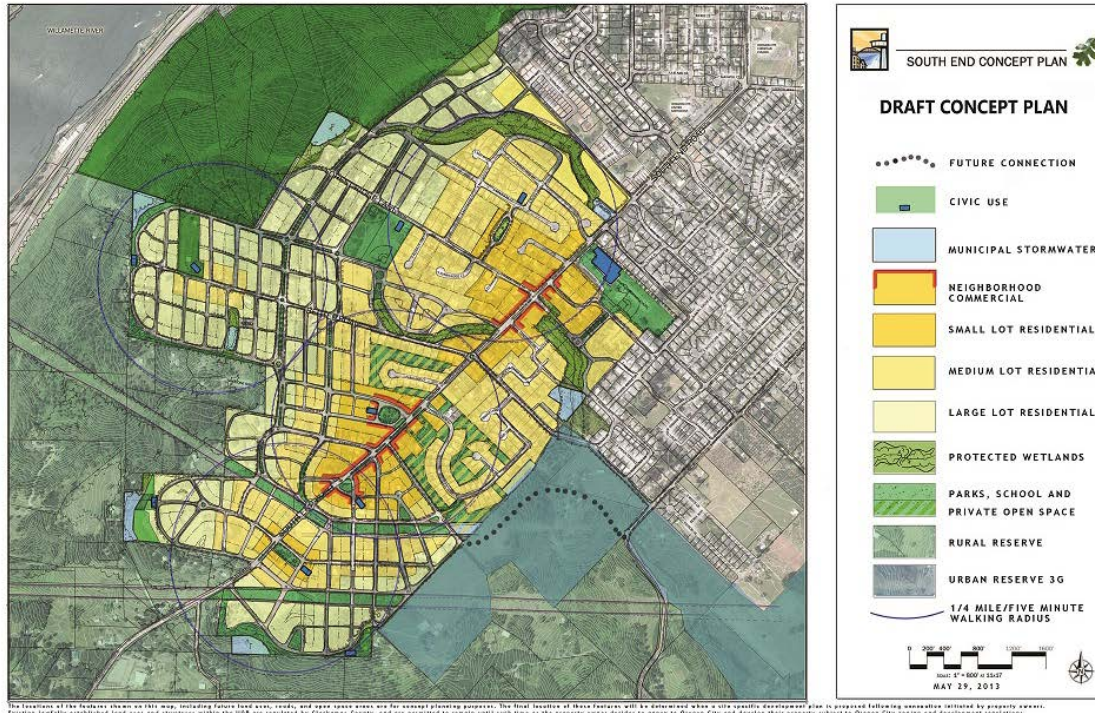
Themes

Several themes emerged from the community comments and will guide final changes to the draft concept plan map.

- New and improved roads should help relieve congestion at McLoughlin Elementary and reduce impacts for adjacent neighbors.
- Concern about the proposed road connecting at south end of Finnegan's Way.
- Less commercial property is needed and southern node should be moved south and/or west to reduce impact on existing residences. Consider utilizing new collector road for some commercial development.
- General concern about increased densities throughout the study area.
- Maintain large lot residential designations along Beutel Road west of South End Road.
- Many questions about property values and the cost and phasing of infrastructure, including roads, sidewalks, sewer and parks.
- Concern about overregulation of design on private property for features such as fences.
- Preference for rural feel of stone and split rail fences and unpaved pathways and off-street bike paths.



Draft Concept Plan Map



Transportation

- Traffic backing up at school, provide options.
- Not happy with idea of connecting street into south corner of Finnegan's Way. Concerned about safety.
- Concerned about traffic at South End and Warner Parrot.
 - Salmonberry already gets lots of traffic
 - Competition with existing businesses
- Partlow Road left turn: adjust stop lights – it's dangerous.
- When will the jurisdiction of South End Road change and improvements be made?
- Visibility improvements at intersections.
- 50 – 100 walkers per day at Forest Ridge Road, but can't get access to park at the end.
- Keep traffic low, slow – green street design.
- Closely look at the efficacy of on-street parking on a major arterial such as South End Road.
- Tree locations on arterials are a concern for maintenance and growing space.
- What happens if congestion creates an emergency on the incident route for 99E?
- How do we improve the gaps between sidewalks until development happens – between developed and undeveloped properties?
- Need financing tool to build collector road before development happens.
- Easements on Finnegan's Terrace HOA property are for property owner access and PGE access. Steep bank below PGE is outside the study area.
- Regarding the road south of and adjacent to school – keep just as access road, no parking and no waiting (fumes, noise to neighbors).



- Streets 10 feet from homes and chain link fence not enough of a buffer (rural character and feel, children, safety).
- Speed bump on Beutel Road near Linda.
- Is it Forest Ridge Lane or Road?
- Speeding on South End Road near schools.
- Consider traffic signal on South End Road to help people enter driveways on South End Road.
- Look at access to McLoughlin and traffic impacts.
- Explore new access south and west from Turquoise Lane to Hwy 99.
- We need a connection from South End Road to 99E.
- Concerned about an increase in traffic down road.
- Roundabout needed at Partlow and South End- why wasn't one done with the new houses there?
- Some could not open concept plan view on online survey.

Neighborhood Commercial

- Less retail on Finnegan's Way.
- Push commercial to newly developable land in south.
- Shift southern node south and/or west using open fields.
 - More traffic off South End Road
 - Better use of collector
- Shift commercial node to the south and more dense development.
- No commercial improvement, no more business needed on South End Road.
- Move southern commercial zone further south or further west into current open fields. Commercial zone should not be in Finnegan's property area. Commercial zone should not be near current residential homes. Moving the commercial off South End Road would make better use of the collector roads. It would also alleviate traffic on South End Road.
- Move commercial zone off Finnegan's property area and move to the open field on the west. Put parking on the western end. Keep the middle green park where it is so that it is aesthetically pleasing to the current residents that live on the east side of South End Road across from the commercial zone.
- Move commercial zone off Finnegan's property area and move to the open area to the southern open fields at the southern concept zone area.
- Use the new western collector road for commercial development.
- Is there enough room to have a three-lane arterial on South End? The residential commercial area near McLoughlin School would be terrible.

Housing

- Beutel Road changed to higher density from previous concepts – why?
- Don't see how large lots with big houses will ever develop or want to redevelop like Oregon City.
- No medium residential along Beutel Road.
- Not in favor of high density housing.



South End Concept Plan



- Large concern about density (housing and transportation) in neighborhoods and commercial areas.

Infrastructure

- Concern for water and sewer rate increases.
- How would this be phased in over time? By sewer expansion? By individual owner initiative?
- How are sewer assessments calculated? By total property value or by frontage only?
 - By City (less likely)
 - By Developer
- What level of fiscal analysis is applied to the concepts to determine whether the level of development is sustainable?
- Annexation and sewer hookups are my main concerns.
- If a sewer goes to or is extended near property, do residents need to hook up to it? If septic tank is not failing?
- What will the price of sewer per unit be?
- Proposal of a structure to be built to provide meeting space for civic, community, and private events much like Pioneer Center in the downtown district; somewhere in the neighborhood that can be identified as a meeting place.

Parks and Open Space

- Private open space in Finnegan's Way is mostly an insurance issue in letting other people onto property.
- Designated parkland – possibly to show as residential so that developers or city would pay residential market value for it. (No objection to the park per se, property value is the concern).
- Finnegan's Terrace to keep greenway.
- Keep the green park on South End Road, near Finnegan's Terrace, to create a buffer between commercial and residential.
- Make sure there are connections between green space areas.
- Move park located on Forest Ridge Lane since this is where future resident's current house is being built.

Other

- What are blue civic uses?
- How does designating my property as a park affect the value of my land? (i.e., residential vs. park).
- Boys / Girls Club in community center areas – somewhere for kids to go.
- No annexation – to keep county rights, keep costs down.
- This looks good. I appreciate the parks, mixed-use placement and open space.
- Concerned about my property value being made into a park and how it will impact the future value. If I sold it to a developer how would that compare against what it would be worth as a park?
- Concerned about plans to eliminate current resident's homes.



- Really like plan: resident is glad that there is a plan to mix both residential (small, medium, and large lots) with some commercial and green areas.
- Concern about size of streets.

Design Elements

Participants were asked to signify the types of design elements they think would best fit into the future of South End. Some opted to add additional comments.

Fences

- All look nice, but do not tell people what to do.
- No regulation.



22 votes



25 votes



13 votes



12 votes



7 votes



5 votes



8 votes



1 vote

Sidewalks and Pathways

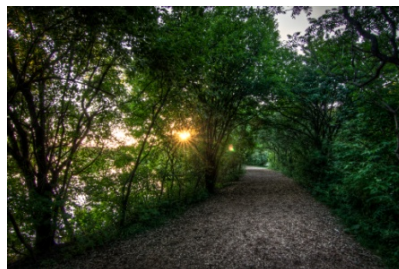
- Would love walking and biking trails extending to large main ones



37 votes



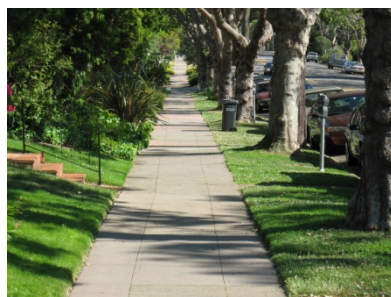
19 votes



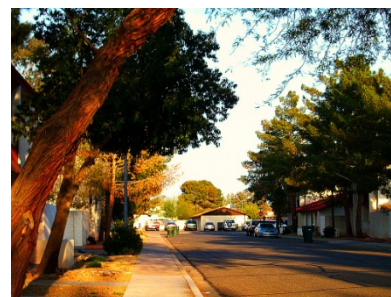
17 votes



11 votes



6 votes



9 votes



Bike Lanes

- Minimum impact to existing houses



26 votes



5 votes



2 votes



12 votes







4 votes






10 votes



Streets

 <p>COMMERCIAL ARTERIAL</p> <p>52' Curb-to-Curb 72' Right-of-Way</p>	<ul style="list-style-type: none"> This is my favorite.
 <p>RESIDENTIAL ARTERIAL</p> <p>50' Curb-to-Curb 74' Right-of-Way</p>	<ul style="list-style-type: none"> Voted for this because of marking, but would like to keep it 2 lanes and not 4 lanes. Well designed for vehicular access and safe bike/pedestrian areas.
 <p>COLLECTOR I</p> <p>48' Curb-to-Curb 72' Right-of-Way</p>	<ul style="list-style-type: none"> Concerned that this design is too big and will make the area less "liveable." All designs seem too wide. Looking at the Oregon City Transportation Plan I do not see how a round-a-bout can be placed at South End Road and Parrish Rd and Parrish Rd be made a Collector Road through to Central Rd as Parrish Rd does not meet the width requirements of a Collector Road.
 <p>COLLECTOR II</p> <p>36' Curb-to-Curb 60' Right-of-Way</p>	<ul style="list-style-type: none"> This one is preferred Likes this one but with parking only on one side, like Warner- Parrott



<p>LOCAL I Shared Lane Markings and No Parking Lanes</p>  <p>6' SIDEWALK 5'-6" SHOULDER 20' TRAVEL LANE 5'-6" SHOULDER 6' SIDEWALK</p> <p>20' Curb-to-Curb 44' Right-of-Way</p>	<ul style="list-style-type: none"> • The design without parking will only work when cars are outlawed. Would rather see parking spots than overflow. • Safety first- do not make it a speedway. • Streets with no parking are not a reasonable option for these residential neighborhoods. Too many families with teens will have too many cars, because of their need for work transportation, to assume or enforce the idea that all cars will be located on residential property and not provide some accommodation on the streets.
<p>LOCAL II Shared Lane Markings and Gravel Shoulder Parking Lanes</p>  <p>6' SIDEWALK 2'-6" SHOULDER 7' GRVEL SHOULDER PARKING LANE 20' TRAVEL LANE 7' GRVEL SHOULDER PARKING LANE 2'-6" SHOULDER 6' SIDEWALK</p> <p>34' Curb-to-Curb 50' Right-of-Way</p>	<ul style="list-style-type: none"> • Would like improvements of the street design to be simple, affordable, and therefore doable. Do not need massive set-a-sides and impacting considerations for bike and pedestrian infrastructure.
<p>LOCAL III Shared Lane Markings and Gravel Shoulder Parking Lane on One Side</p>  <p>6' SIDEWALK 5'-6" SHOULDER 7' GRVEL SHOULDER PARKING LANE 20' TRAVEL LANE 5'-6" SHOULDER 6' SIDEWALK</p> <p>27' Curb-to-Curb 51' Right-of-Way</p>	<ul style="list-style-type: none"> • Preferred with marking • Concern about parking on one side of the road would make it dangerous to cross to get to one's car.