

FINAL FUTURE TRANSPORTATION NEEDS

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INTRODUCTION

This memorandum inventories existing and future demographics, land use patterns, and transit demand to inform South Clackamas Transportation District's (SCTD's) Transit Development and Master Plan (TDMP). The memorandum then presents service improvement options to meet existing and future needs and performs a funding and cost analysis of these options.

EXISTING AND FUTURE DEMOGRAPHICS

EXISTING DEMOGRAPHICS

Memorandum #2: Existing Conditions presented detailed information about the district's existing demographic characteristics. The following summarizes the key demographic findings for the SCTD district area:

- » The current estimated population for the SCTD district area is 25,526 people.
- » Most residents of the district area drive alone for their commute (79%).

- » About 6% of general population households report not having access to a vehicle, compared with 35% of surveyed existing riders.
- » About 43% of households in Molalla earn less than the 200% poverty level.
- » High concentrations of households with persons with disabilities are located south of Molalla and south of Barlow.

Jobs and employment data were primarily developed from 2015 census information. The following lists the key findings from *Memorandum #2: Existing Conditions*:

- » Approximately 3,698 workers lived in Molalla. Of these, 439 (11.9%) worked within Molalla, while 3,259 (88.1%) were employed outside Molalla. For those traveling outside Molalla for employment, Portland (647, 17.5%), Oregon City (163, 4.4%), and Canby (156, 4.2%) were the primary work locations.
- » Approximately 2,025 people were employed in Molalla, with 439 (21.7%) living in Molalla and 1,586 (78.3%) commuting into Molalla. For those traveling to Molalla for employment, Woodburn, Oregon City, and Salem are the primary home locations.

FUTURE DEMOGRAPHICS

Future population and employment trends were examined to inform future transit needs. The sections below describe the forecasted future demographics of the SCTD district area, based on the best current estimates of population and employment.

Population Trends

The State of Oregon's Department of Administrative Services, Office of Economic Analysis, develops and publishes county-level population forecasts. These forecasts are based on historical trends and consider birth, death, and migration rates.

The City of Molalla has grown quickly in the past twenty years; between 2000 and 2017, its population increased 59% (from 5,647 to 8,987 people), corresponding to 3.5% average annual growth. In comparison, Clackamas County's population grew 18% (from 339,299 to 399,962) during that time period, corresponding to 1.1% average annual growth. The City of Molalla Transportation System Plan (TSP) projects annual population and household growth rates of 2.2% between 2017 and 2035 and 1.5% between 2035 and 2040. In comparison, Portland State University (PSU) forecasts an annual growth rate close to 1% for Clackamas County during the same time period.

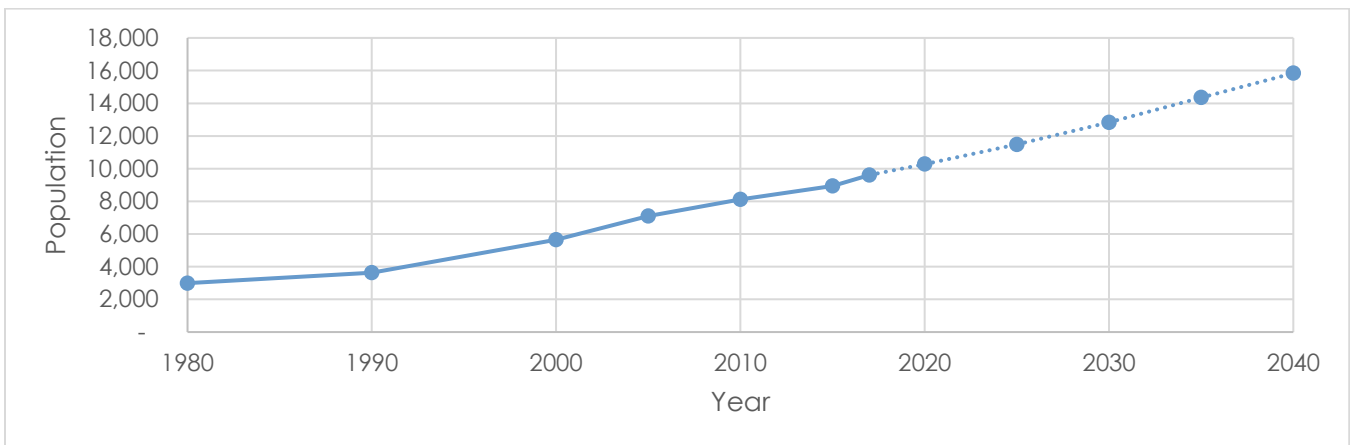
According to the Molalla TSP, the City of Molalla is projected to grow by an additional 5,902 persons by 2040, rising to a population of approximately 15,841. Clackamas County is projected to grow by 144,536 persons, according to PSU population forecasts.

Table 1, Figure 1, and Figure 2 show how growth has occurred between 1980 and 2017 for Molalla City and 1980 and 2015 for the County, along with the future growth forecasted to 2040.

Table 1. Actual and Forecasted Populations of Molalla City and Clackamas County, 1980–2040

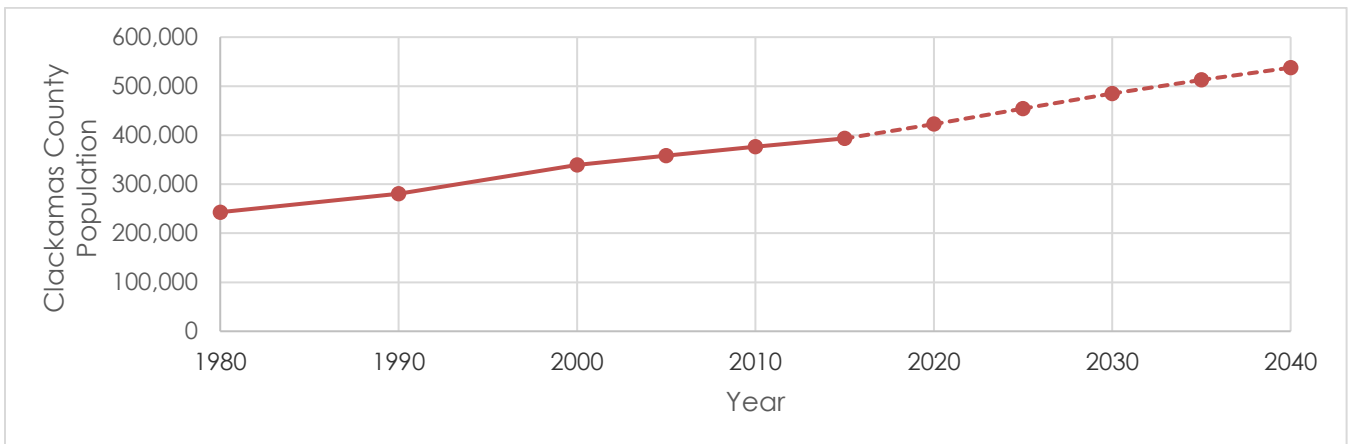
	Year	Molalla City				Clackamas County			
		Population	Change	Percent Change	Annual Growth Rate	Population	Change	Percent Change	Annual Growth Rate
U.S. Census Bureau Estimate	1980	2,992	987	49%	-	242,981	-	-	-
	1990	3,637	645	22%	2.2%	280,862	37,881	16%	2%
	2000	5,647	2,010	55%	5.5%	339,299	58,437	21%	2%
	2005	7,105	1,458	26%	5.2%	358,301	19,002	6%	1%
	2010	8,110	1,005	14%	2.8%	376,780	18,479	5%	1%
	2015	8,940	830	10%	2.0%	393,217	16,437	4%	1%
	2017	9,610	670	7%	3.7%	-	-	-	-
Forecast	2020	10,273	663	7%	2.2%	422,576	29,359	7%	1%
	2025	11,482	1,209	12%	2.2%	454,311	31,735	8%	2%
	2030	12,834	1,351	12%	2.2%	485,054	30,743	7%	1%
	2035	14,344	1,510	12%	2.2%	512,731	27,677	6%	1%
	2040	15,841	1,497	10%	1.5%	537,753	25,022	5%	1%

Figure 1. Molalla City Population, 1980–2040



Source: Molalla TSP Update (2018)

Figure 2. Clackamas County Population, 1980–2040



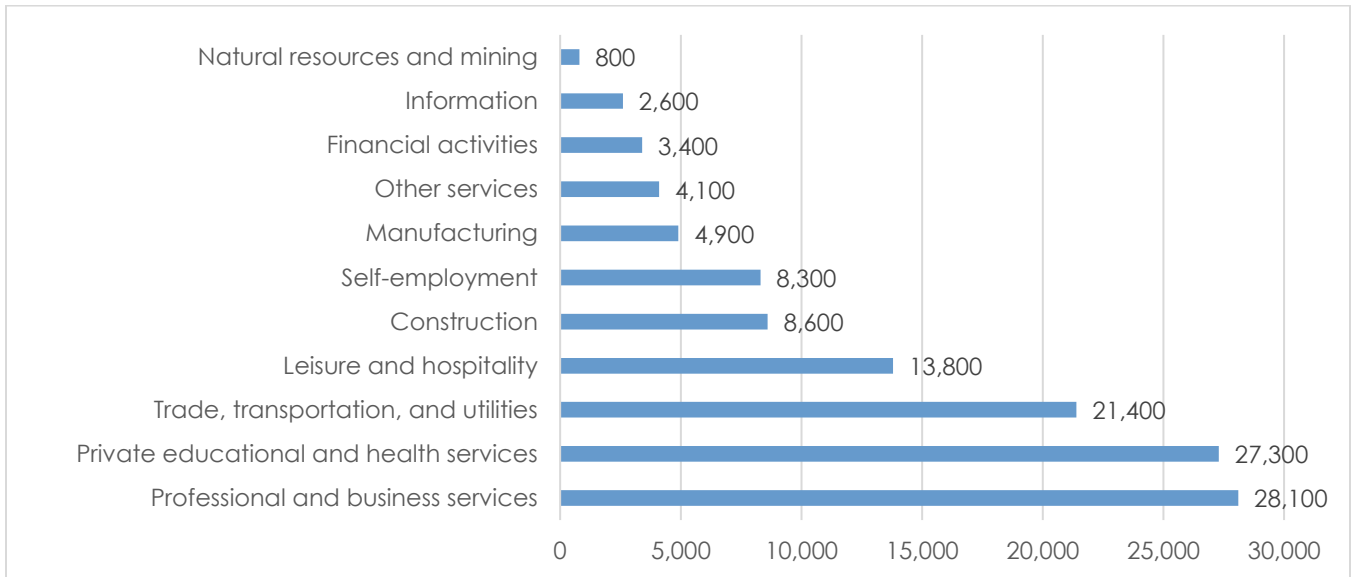
Source: Population Changes in Clackamas County, State of Oregon Employment Department. Accessed July 30, 2019. <https://www.qualityinfo.org/clackamas>.

Employment Trends

The Oregon Employment Department, Workforce and Economic Research Division, publishes employment forecasts by industry. These ten-year forecasts are defined by regions (as opposed to counties or cities) and organize employment forecasts by primary industry. The region that includes SCTD’s service area also includes all of Clackamas County, Multnomah County, and Washington County.

It is expected that the largest employment increases will occur in the transportation, warehousing, and utilities (23%), building construction (21%), professional and technical services (21%), and private educational and health services (19%) sectors. An understanding of where faster-growing trade sectors and businesses are located (or could locate) allows for design of transit routes that can efficiently serve workers and employers. Net changes by industry are shown in Figure 3. Figure 3 shows that professional and business services, private educational and health services, and trade, transportation, and utilities are projected to add over 20,000 jobs in the next 10 years. Detailed employment trend information is included in Appendix A.

Figure 3. Portland Tri-County Area Employment Changes by Industry 2017–2027



Source: *Employment Projections by Industry and Occupation 2017–2027 Portland Tri-County Area (Clackamas, Multnomah, and Washington Counties)*. <https://www.qualityinfo.org/clackamas> Accessed July 9, 2019.

EXISTING AND FUTURE LAND USE PATTERNS

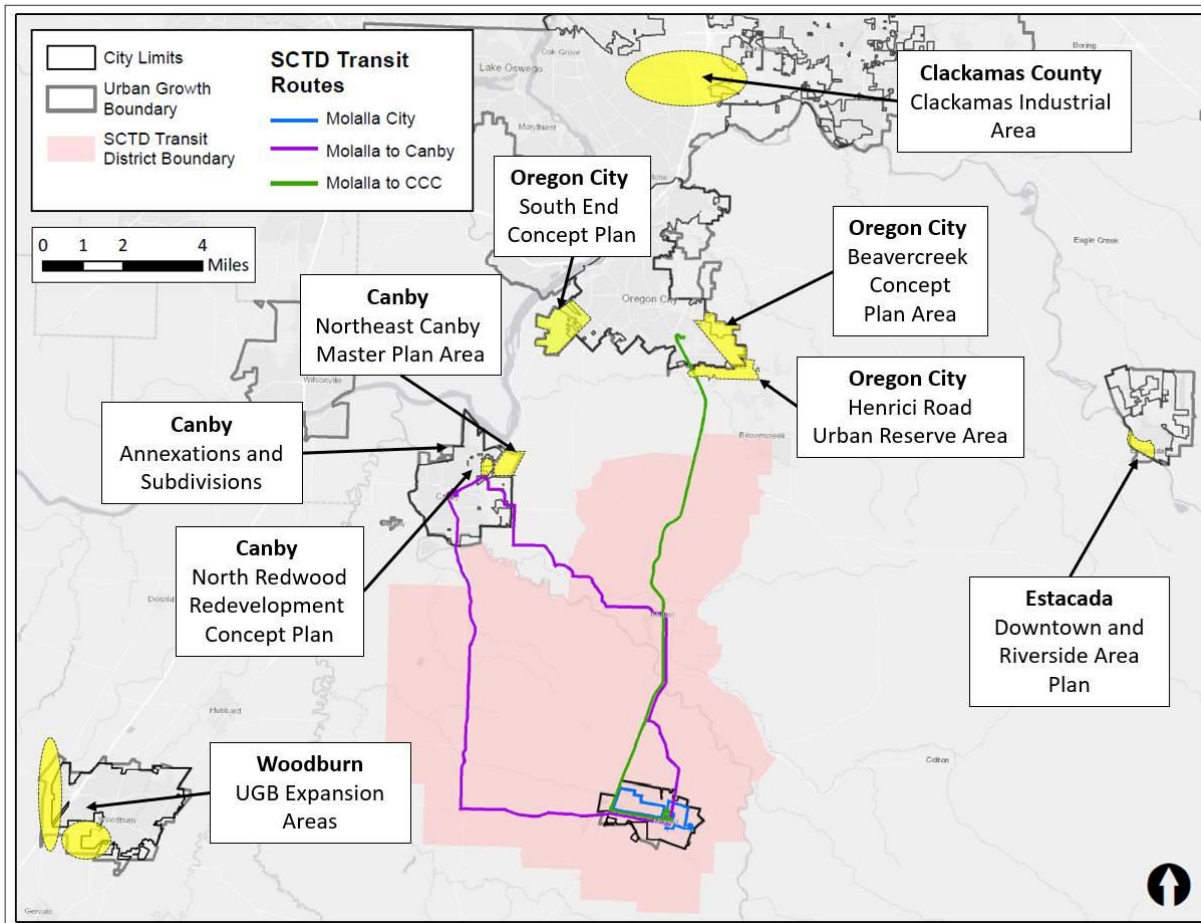
The following section describes existing and future land use plans and patterns that inform future transportation needs for the SCTD service area.

EXISTING LAND USE AND TRANSPORTATION PLANS

Information from adopted land use and transportation plans, along with observations of recent development activity and population forecasts from PSU, were used to assess land use change and its considerations for transit service. Detailed plan summaries are included in Appendix A. Figure 4 shows the summary of land use growth areas within and nearby SCTD's routes, which are described further in the sections below. The adopted plans of the following jurisdictions were reviewed:

- » Clackamas County, including planning for Beaver Creek and Mulino
- » City of Molalla
- » City of Oregon City
- » City of Canby
- » City of Woodburn
- » City of Estacada

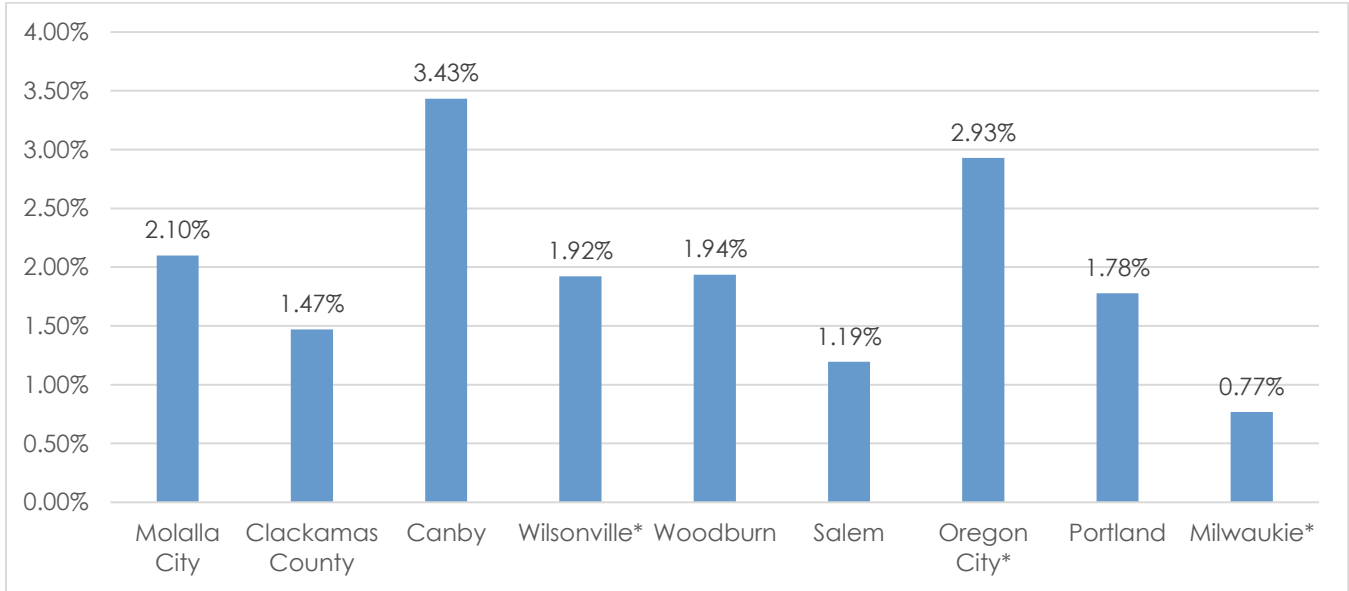
Figure 4. Land Use Growth Areas within and nearby SCTD Service Areas



SUMMARY OF POPULATION GROWTH RATES

Figure 5 compares the population and household growth projections for the cities SCTD operates within or transfers between. Cities marked with an asterisk indicate the growth rates which are for households as the respective TSP did not report future population estimates. Growth rates for calculated using a simplistic growth rate. As shown, Molalla is among the fastest-growing cities in the area, only outpaced by Canby and Oregon City, which SCTD services connect directly to. Future growth is anticipated to increase transit demand in the area.

Figure 5. Future Population Growth Within and Nearby the SCTD Service Area



EXISTING AND FUTURE LAND USE PATTERNS

This section summarizes conclusions about existing and future land use patterns for each jurisdiction within and in the vicinity of the SCTD service, based on the plan review and supplemental observations described above.

Clackamas County

Land Use Changes

Throughout the county, urban land uses are generally limited to areas within urban growth boundaries (UGBs), while farm, forest, and other rural uses make up the rest of the county. Some small hamlets and villages serve as hubs for their surrounding rural areas; these communities generally lie along major transportation corridors. Within the Metro UGB, a significant amount of unincorporated land has been developed with a variety of uses, such as the Clackamas Industrial Area depicted in Figure 6.

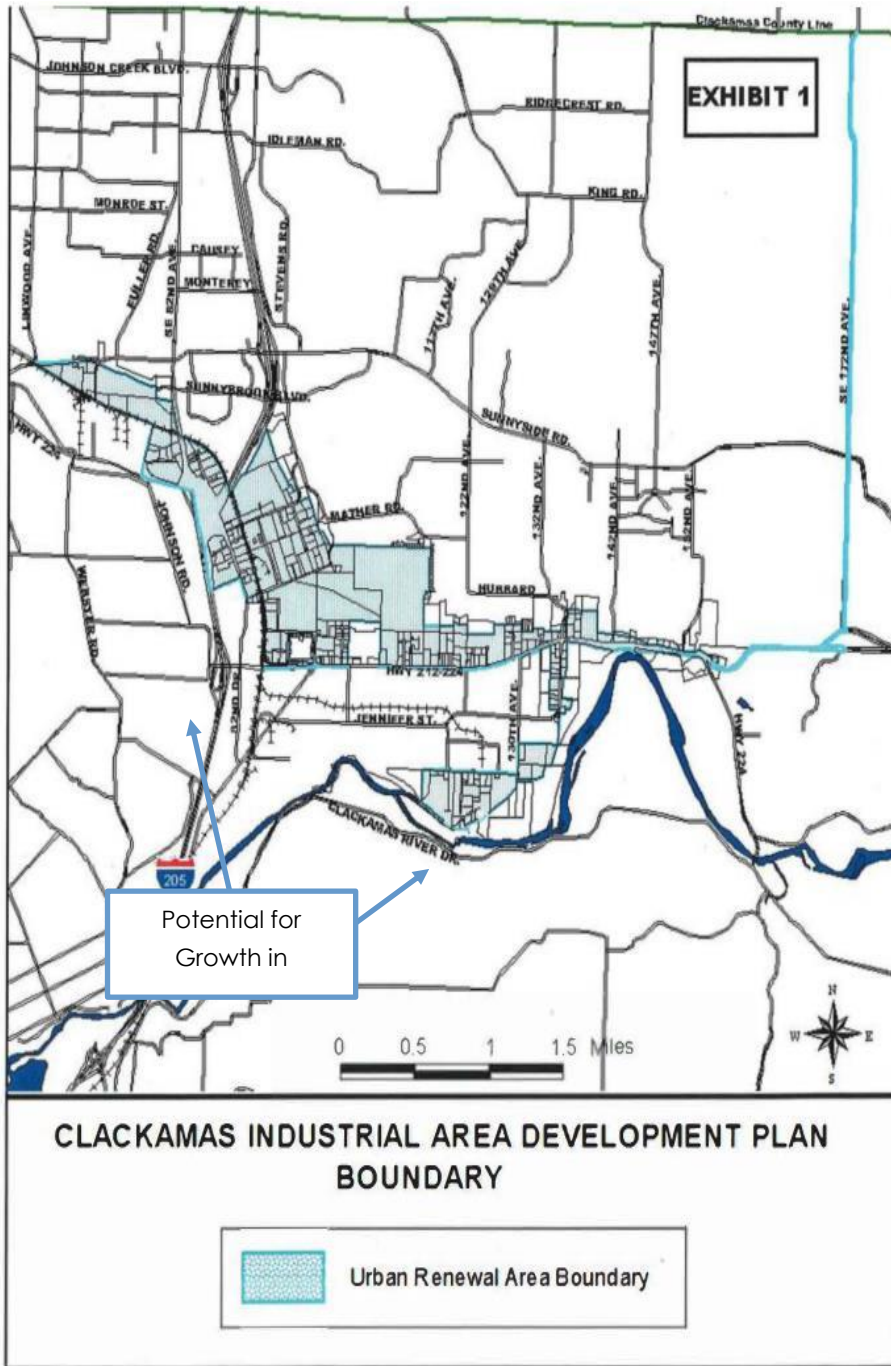
Rural hamlets such as Mulino and Beaver Creek are expected to remain relatively unchanged in the future, although individual uses such as the highway-oriented businesses in Mulino may expand. Areas designated "Rural Reserve" will remain undeveloped, while areas designated "Urban Reserve" may be added to the Metro UGB in the medium-term future and develop as described below. Within the Metro UGB, additional development is expected to occur in accordance with the comprehensive plan and zoning designations of Clackamas County and Happy Valley. Additional industrial development is likely throughout much of the Clackamas Industrial Area, while continued commercial development is expected near I-205.

Considerations for SCTD Service

Given the low land use growth in the unincorporated areas and rural hamlets in the SCTD service area, demand is expected to remain relatively low from these areas compared to urban areas with the exception of the Clackamas Industrial Area. However, the *Existing Conditions Memorandum* indicated unincorporated areas had higher proportions of transit-dependent households compared to the City of Molalla; transit-dependent populations in rural areas included higher percentages of older adults (65+ years old), populations in poverty, people with limited English proficiency, minority populations, and people with disabilities.

Figure 6. Clackamas Industrial Area Boundary

Source: Clackamas County – Clackamas Industrial Area Project Development Plan



City of Molalla

Land Use Changes

A moderate amount of residential infill and an expanded UGB can be expected in the medium to long term, based on the results of recent population forecasts and the City's buildable land inventory. **Error! Reference source not found.** shows future growth areas in Molalla. In addition, Exhibits 1 and 2 show the Molalla TSP Update's household and employment growth projections under two possible scenarios. Household growth is highest in the northern areas of the City (Transportation Analysis Zones (TAZs) 1, 2, 5, and 8 identified in green highlight) and employment growth is highest in the southwestern areas of the City (TAZs 3, 4, 12, 13, and 14 identified in green highlight).

Additionally, Exhibits 3 and 4 show the transit supportive areas identified in the Molalla TSP Update in 2017 and 2040, respectively. Transit supportive areas (TSAs) are identified at a minimum density of 3 households per acre or 4 employees per acre, indicating areas are supportive of basic hourly fixed-route service. As TAZ data is averaged over relatively large areas, there may be higher and lower intensity uses within each TAZ. This analysis is a general guide to identify areas for potentially expanding service in the future. As shown, several TAZ's that are currently transit supportive are not served directly. In 2040, several TAZ's that are currently served but not currently transit supportive grow in density and become transit supportive.

Considerations for SCTD Service

Some portions of current and future transit supportive household densities in the northern area of Molalla are not currently on a transit route. Additionally, existing transit supportive densities in the southwestern area and future transit supportive densities in the southeastern area of Molalla are not currently on a transit route. It should be noted that the higher intensity uses within these TAZ's are generally concentrated toward existing transit services; these areas should be monitored and further evaluated as higher intensity uses develop that are not located on or near existing transit routes. Routes could be modified or new routes could be added to serve these areas as growth occurs. The southwestern area of town has planned roadways with the future growth which could accommodate a bus route.

Figure 7. Molalla Growth Areas



Exhibit 1. Molalla TSP Update – 2040 Household Growth Projections

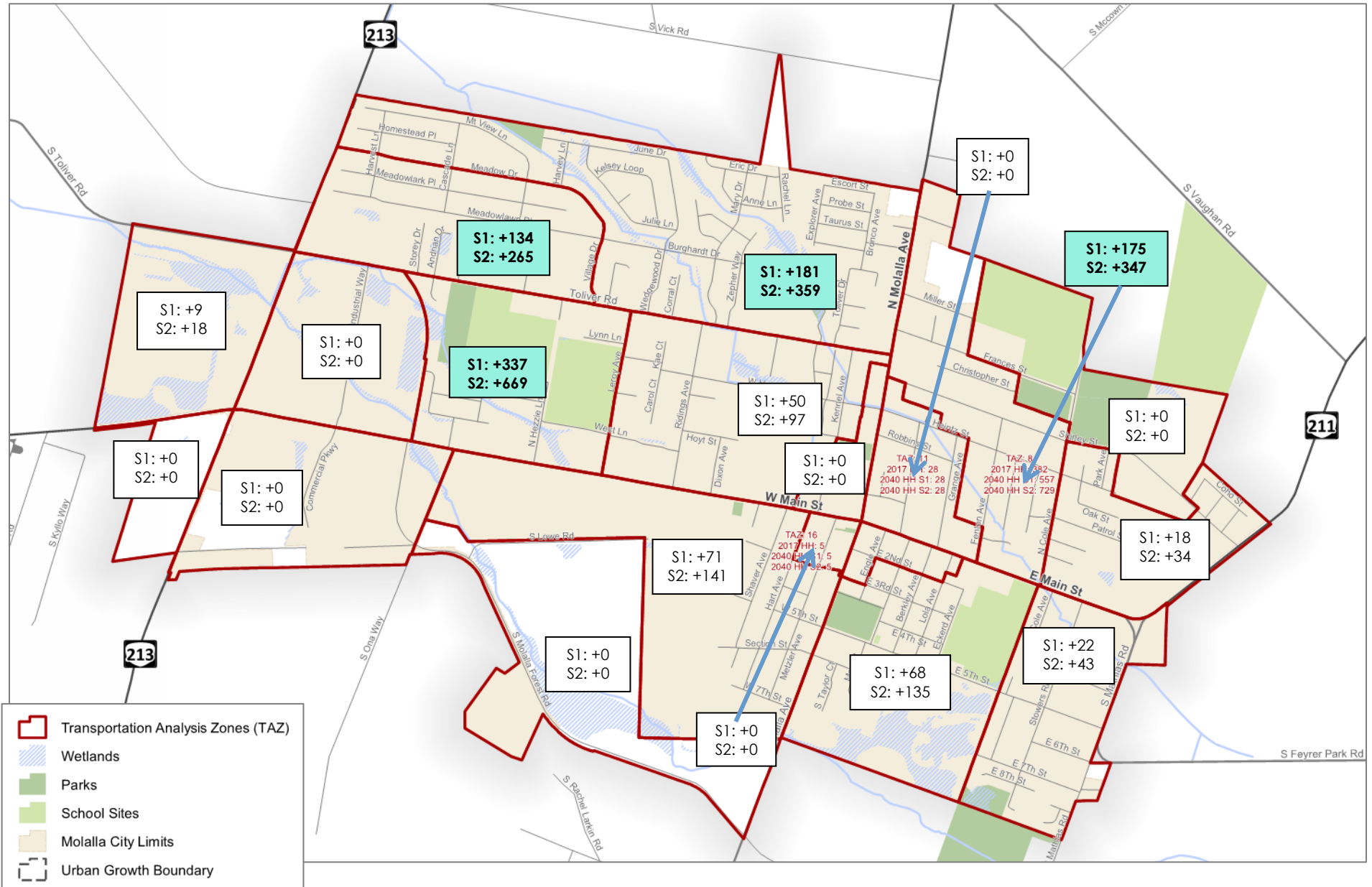


Exhibit 2. Molalla TSP Update – 2040 Employment Growth Projections

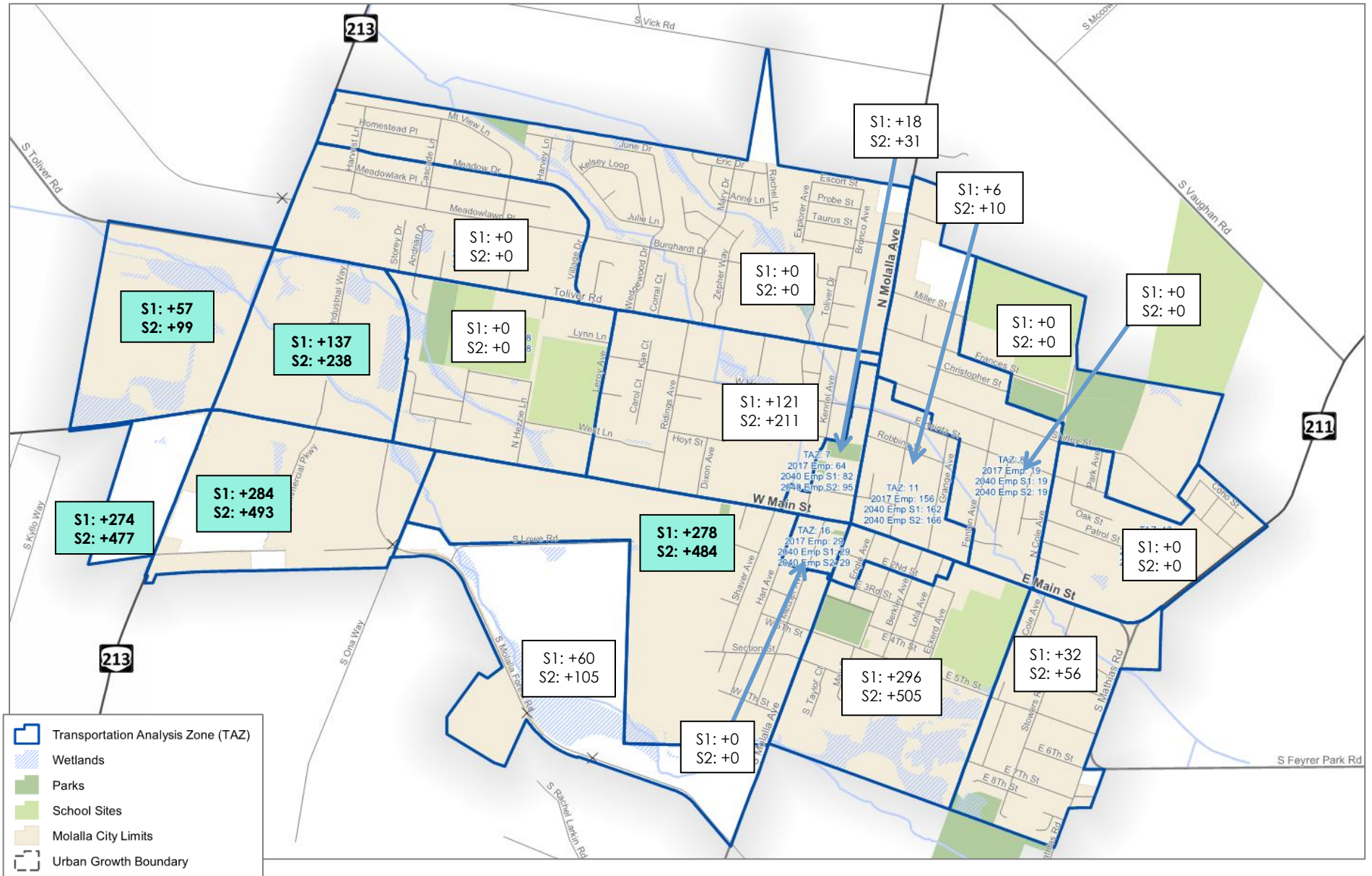
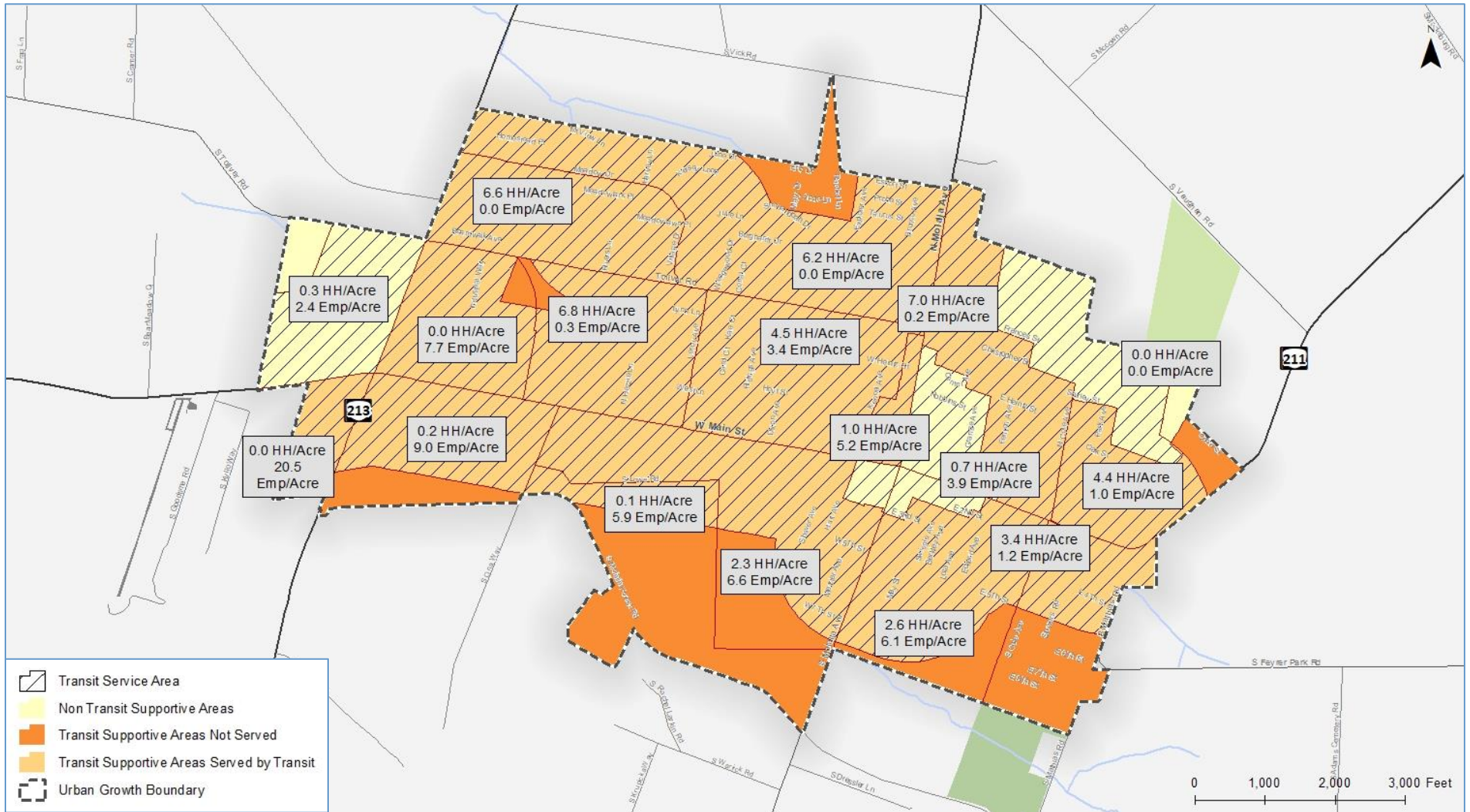


Exhibit 4. Year 2040 Transit Supportive Areas



Oregon City

Land Use Changes

The Beavercreek Area is planned for an employment campus (tech flex and campus industrial), a mixed employment village, a main street area with local shops and services, and new neighborhoods that will eventually replace the Oregon City Golf Club. The plan estimates over 1,000 new residential units throughout the area.

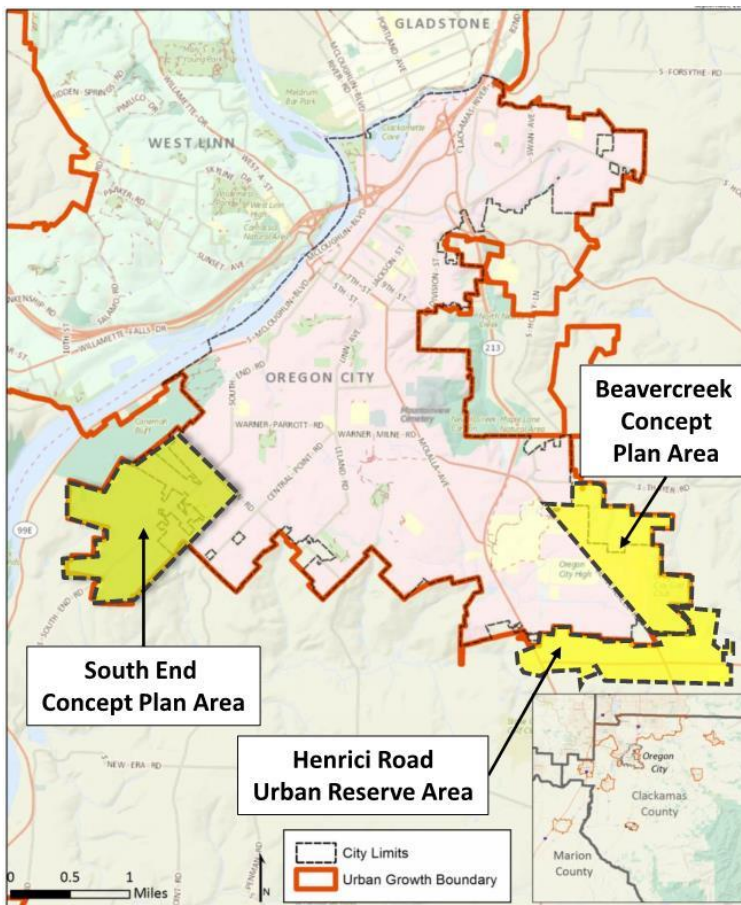
Existing parcelization in the Henrici Road Urban Reserve Area, along with the long distance to major highways, suggest that this area will be primarily residential in nature. This area contains several existing rural residential subdivisions that will likely see only modest development activity in the next 20 years. Significant infrastructure modifications to improve the roadway and provide a range of transportation options will be needed to develop this area to urban densities.

The South End Area, in the southwest portion of Oregon City, is planned for the development of 1,750 to 2,650 new dwelling units plus a small neighborhood commercial/mixed use center. Figure 8 shows the location of these growth areas.

Considerations for SCTD Service

The Beavercreek and Henrici Road areas are near the existing Molalla to CCC route and could increase demand on this service. In addition, modifications to the Molalla to CCC route could be explored to serve these areas. The South End Concept Plan Area is further from the Molalla to CCC route, but riders could connect to future transit service at the CCC campus.

Figure 8. Oregon City Growth Areas



Canby

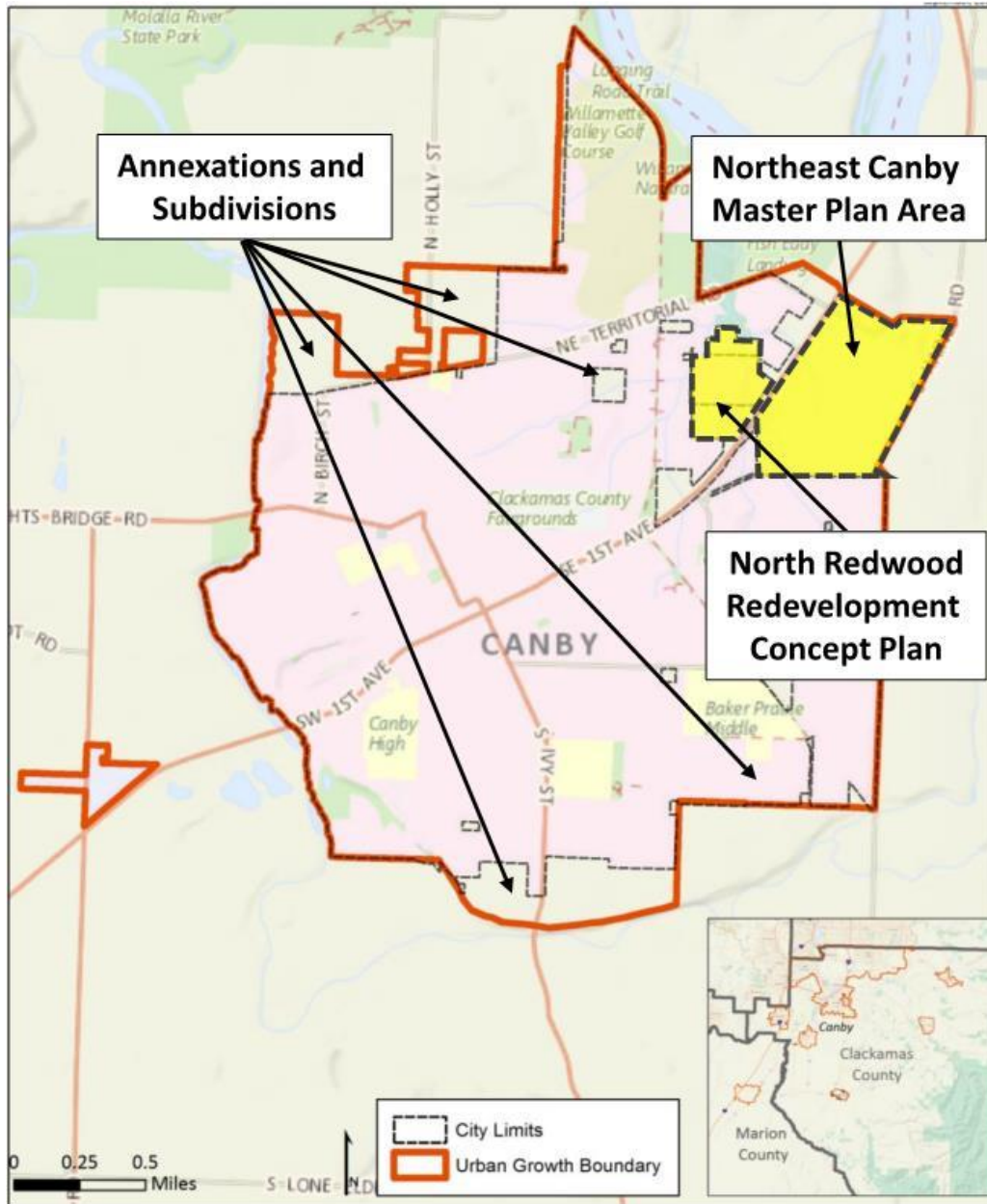
Land Use Changes

A significant amount of annexation and development activity has occurred in Canby over recent years, and this trend can be expected to continue. The Northeast Canby Plan Area and North Redwood Plan Area (see Figure 9) can be expected to develop with primarily residential uses.

Considerations for SCTD Service

The Molalla to Canby Route currently operates along the southwest edge of the Northeast Canby Master Plan Area. A stop is available at the Fred Meyer. Stop enhancements and/or route modifications could be considered to serve this area. Other growth areas within Canby would be served via Canby Area Transit (CAT) service, which the Molalla to Canby route connects to at the Canby Transit Center.

Figure 9. Canby Growth Areas



Woodburn

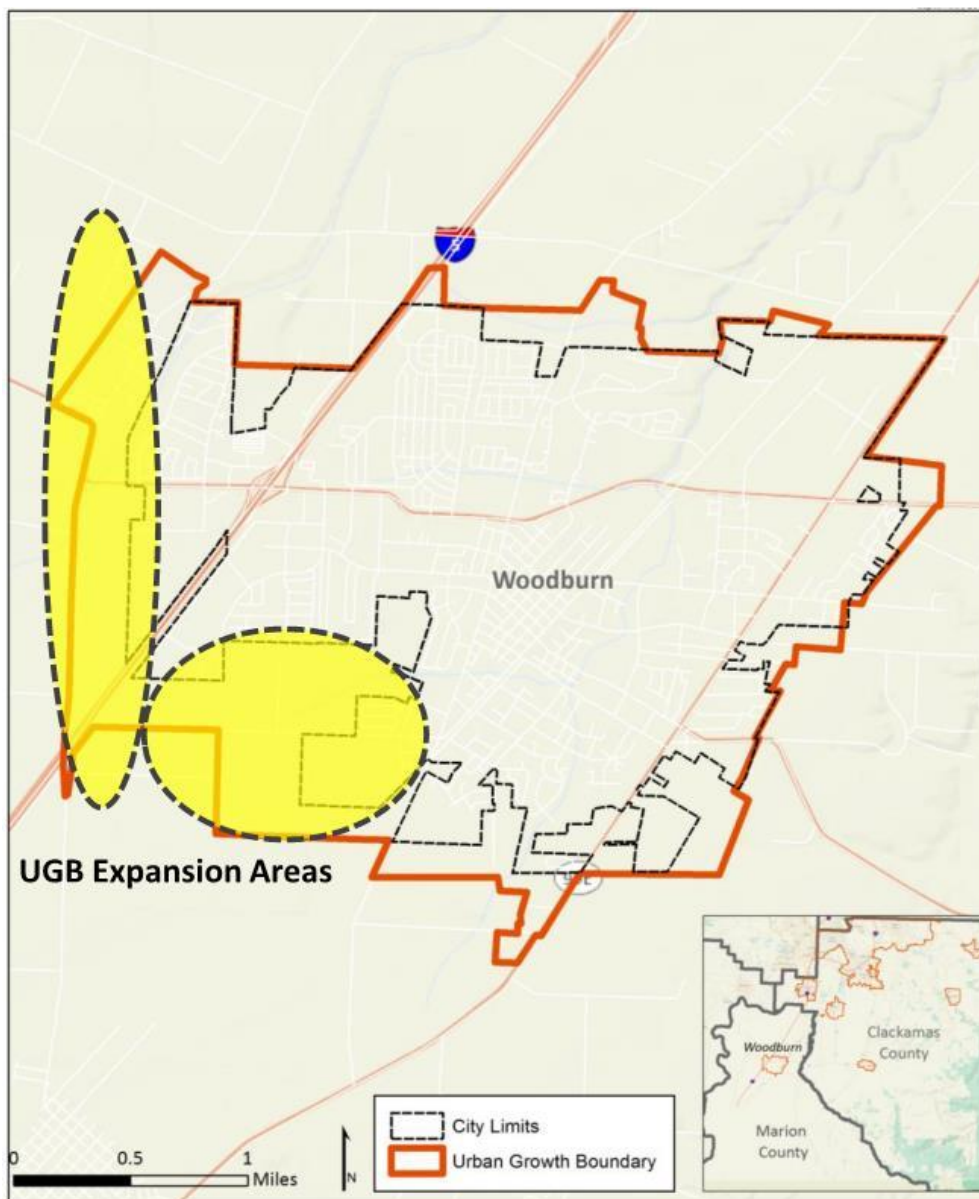
Land Use Changes

Following the recent UGB expansion (see Figure 10), incremental development is expected, with greater area provided for residential uses along with a sizeable industrial sanctuary. Woodburn's comprehensive plan calls for significant "nodal" development, with a focus on walkability and a mix of housing densities, with commercial nodes located in the area north of Parr Road NE and east of Evergreen Road, in the southwestern portion of the City.

Considerations for SCTD Service

Several survey respondents showed an interest in service to Woodburn. A potential service opportunity could be explored to provide direct a Molalla to Woodburn route. The route would likely serve more central and key destinations, but Woodburn Transit Service may serve these expansion areas and provide the connection as these areas grow.

Figure 10. Woodburn Growth Areas



Estacada

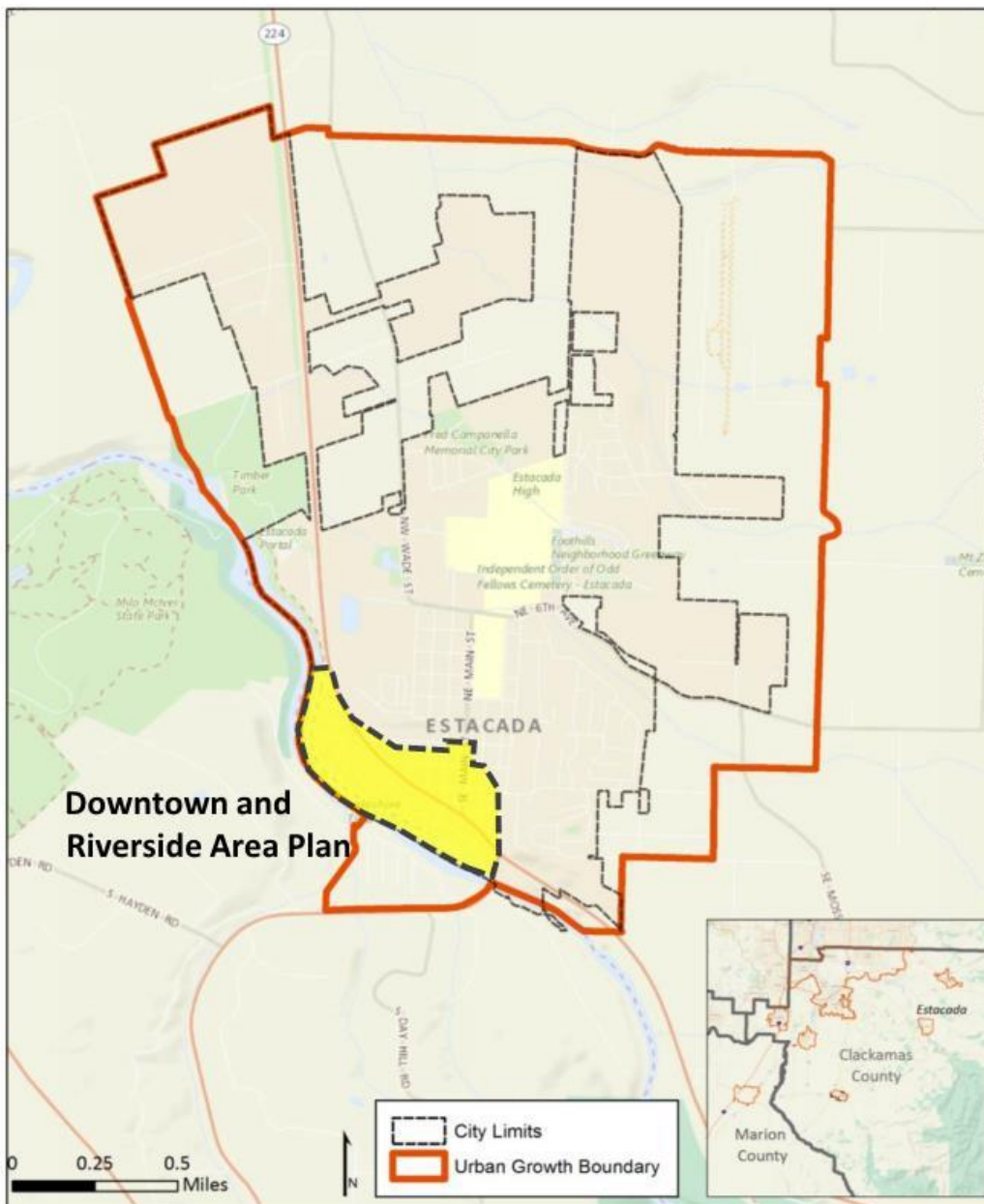
Land Use Changes

Downtown Estacada is anticipated to experience some mixed-use infill development consistent with the city's Downtown and Riverside Plan (see Figure 11). Additional low-density residential and light industrial development can be expected throughout the rest of the city, which currently has a large amount of undeveloped land within its UGB.

Considerations for SCTD Service

Several survey respondents showed an interest in service to Estacada. A potential service opportunity could be explored to provide direct a Molalla to Estacada route. Estacada's growth and plans are concentrated in the downtown area, where a potential service would likely connect.

Figure 11. Estacada Growth Areas



EXISTING AND FUTURE TRANSIT DEMAND

This section summarizes existing transit demand and describes projected future transit demand given future demographic projections.

EXISTING TRANSIT DEMAND

The following are SCTD's key transit demand characteristics, as discussed in detail in *Memorandum #2: Existing Conditions*:

- » In 2016 system ridership reached 102,159 total one-way passenger trips.
- » 2018 ridership totaled 92,077 one-way passenger trips, including 24,051 on the Molalla City route, 14,075 on Molalla to Canby, and 53,951 on Molalla to Clackamas Community College (CCC).
- » SCTD provides more one-way passenger trips per vehicle revenue mile and per vehicle revenue hour than its peer providers of Sandy Area Metro (SAM), Canby Area Transit (CAT), and Woodburn Transit.

FUTURE TRANSIT DEMAND

The purpose of this evaluation is to understand how well SCTD's current system meets the expected future demand. Note that the demand forecasted by this analysis is only a rough estimate based on the service area's projected demographic characteristics and the current amount of service. The methodology used is very broad-brush, based on typical demographic factors that would indicate a propensity to use transit. The method does not consider any specific land-use variables and is generic for all rural areas in a given state. The method is described in TCRP Report 161, a workbook providing step-by-step procedures for quantifying the need for rural passenger transportation services.

TCRP Report 161's methods for estimating demand address four specific markets:

- » General public rural passenger transportation,
- » Passenger transportation specifically related to social service or other programs,
- » Travel on fixed-route services in small cities (less than 50,000 population and less than 70 vehicle hours of service per day), and
- » Travel on commuter services from rural areas to urban centers.

The methods were developed using data from the Rural National Transit Database (2006, 2009, and 2010), the National Household Transportation Survey (2001 and 2009), the American Community Survey (various years), and the Longitudinal Employment–Household Dynamics (LEHD) dataset, as well as service characteristic and ridership data provided by over 200 individuals who participated in workshops held in a dozen states. Tests by the research team indicated the methods provide reasonable first estimates of transit need (i.e., the methods account for about 40–70% of the variance in the demand estimate), but other factors not included in the models can still result in substantial differences between the methods' estimates and actual ridership.

Our future conditions analysis focused on the projected socioeconomic conditions in Molalla, along with existing transit service characteristics. Inputs used to estimate transit need include:

- » City population
- » College and university enrollment (4-year only)

- » Annual revenue-hours of service
- » Workers commuting from rural areas to an urban center
- » Distance from rural areas to the urban center
- » Whether the urban center is a state capital

The inputs relevant to SCTD were used to generate an expected number of transit trips demanded. Note that TCRP Report 161 states the following with regard to its estimates:

The estimates of need made using the mobility gap method are typically far greater than the number of trips actually observed on rural passenger transportation systems and are likely greater than the demand that would be generated for any practical level of service. Much of the remaining trip-based mobility gap is likely filled by friends and relatives driving residents of non-car-owning households. Therefore, agencies choosing to use the mobility gap may wish to establish a target or goal for the proportion of the gap to be satisfied by publicly provided services. In the testing of these suggested methodologies with a number of rural transit agencies, it was found that, at best, only about 20% of the mobility gap trip-based need was met.

To understand how the projected future demographics of SCTD's district area will impact future service needs, the project team calculated the number of total future (2040) commuters for each main destination available to SCTD customers. This number was developed by (1) growing the current commuter population by Molalla's population growth rate (2.2%), (2) growing the current commuter population by the employment growth rate of a given destination, and (3) adding the sum of the new future commuters to the existing number of commuters. The total projected future commuters was then used as an input for the TCRP Report 161 analysis, detailed below.

City of Molalla

The inputs to TCRP Report 161's Small City fixed-route demand method include the projected city population for 2040 (15,841), the population of enrolled students at institutes of higher education located within the city (0), and the annual revenue-hours of service for the route, which was assumed to remain at 2018 levels (2,540 hours). The transit demand for this route is estimated to be 31,600 annual 1-way passenger trips, a 23% increase over the 2018 estimated demand of 24,300. Appendix B provides the analysis calculations.

Molalla to Canby

Drawing on data provided by the LEHD analysis, this calculation used the number of workers commuting from a rural area to an urban center, the distance from the rural area to the urban center, and whether or not that urban center is the state capitol, to estimate annual 1-way passenger trips. In addition to Canby, the Molalla-to-Canby route facilitates commutes to Wilsonville, Woodburn, and Salem via transfers to other transit systems. Table 2 shows the estimated commuter demand for the Molalla to Canby route under 2040 population growth conditions for the Molalla commuters, as well as the employment growth rate in the destination cities.

Table 2. Molalla-to-Canby TCRP Report 161 Estimated Commuter Demand: 2040

Origin	Destination	Transfer Route	Annual 1-Way Passenger Trip Commuter Demand	
			2019	2040
Molalla	Canby	None	1,800	3,800
	Wilsonville	SMART 3X	1,300	3,100
	Woodburn	CAT 99X	800	2,000
	Salem*	SMART 3X & Cherriots 1X	1,800	3,300
Total			5,700	12,200

*Demand Calculator included consideration of Salem as Oregon state capital. Woodburn was not evaluated in the *Memorandum #2: Existing Conditions*, but has been factored into the comparison to existing demand as described below.

With a total of 12,200 annual 1-way trips estimated for 2040 conditions, the demand for the Molalla to Canby route is projected to increase 54% over 22 years, or about 4% annually. This projected growth would result in 6,500 more commuter trips over the 2018 estimated commuter demand of 5,700 trips. Note that this route's actual ridership in 2018 was nearly triple the TCRP Report 161 estimate, with 14,075 actual trips compared to an estimated commuter demand of 5,700 trips. It is likely that the actual ridership in 2040 will significantly exceed the estimated demand from this analysis, as the method does not estimate demand for non-commute trips.

Molalla to CCC

Similar to the Molalla-to-Canby route, the Molalla-to-CCC route serves commuting trips to urban centers. In addition to Oregon City, the Molalla-to-CCC route facilitates commutes to Portland and Milwaukie, as described in *Memorandum #2: Existing Conditions*. Table 3 shows the TCRP Report 161 estimated commuter demand for the Molalla-to-CCC route.

Table 3. Molalla to CCC TCRP Report 161 Demand - 2040

Origin	Destination	Transfer Route	Annual 1-Way Passenger Trip Commuter Demand	
			2019	2040
Molalla	CCC / Oregon City	None	1,800	3,300
	Milwaukie	TriMet 32	800	1,300
	Portland	TriMet 99	6,100	14,800
Total			8,700	19,400

With a total of 19,400 annual 1-way commuter trips estimated for 2040 conditions, commuter demand for the Molalla-to-CCC route is projected to increase 48% over 22 years, or about 3% annually. This projected growth would result in about 10,700 more commuter trips, compared to the 2018 estimated demand of 8,700 trips. Note that this route's actual ridership in 2018 was six times the TCRP Report 161 estimate, with 53,951 actual trips compared to an estimated commuter demand of 8,700 annual 1-way passenger trips. It is likely that the actual ridership in 2040 will significantly exceed the estimated demand from this analysis, as the method does not estimate demand for non-commute trips. In particular, student trips to and from CCC are not accounted for.

FUTURE SERVICE POTENTIAL NEEDS

Based on the findings of Memorandum #2: Existing Conditions and the future demographic characteristics and transit demand described above, potential needs have been grouped by service improvement options to address those needs and include new transit corridors, refinements to existing routes, and service enhancements and efficiencies. New corridors would provide service to areas that currently lack service. Refinements would include changes in service times, headways, and bus stop locations. Service enhancements include infrastructure and technological improvements.

NEW CORRIDORS

Potential need for new transit routes were primarily identified through public involvement and outreach, and future land use plans. These inputs highlighted public interest in connectivity to new areas and roadways, along with future transit-supportive land uses. Specific areas of interest include:

- » To/from nearby communities and destinations not currently served directly by SCTD, potentially including Woodburn, Estacada and Colton, and Clackamas Town Center
 - ❖ Several survey respondents indicated interest in service to each of these areas, including 5 mentions of Woodburn, 5 of Colton, 2 of Estacada, and 2 of Clackamas Town Center.
 - ❖ Future land use growth in these areas is anticipated to increase transit demand.
 - ❖ Commute demand to Woodburn is anticipated to grow in the future.
- » To/from additional Oregon City locations
 - ❖ Several survey respondents indicated interest in service to Oregon City.
 - ❖ Future land use growth in these areas is anticipated to increase transit demand.
 - ❖ Commute demand to Oregon City is anticipated to grow in the future.
- » To/from employment centers, such as the Clackamas Industrial Area
 - ❖ Several survey respondents indicated interest in service to this area.
 - ❖ Future land use growth in this area is anticipated to increase transit demand.
- » Along Beavercreek Road and Henrici Road to serve future Beavercreek and Henrici development
 - ❖ Several survey respondents indicated interest in service to these areas.
 - ❖ Future land use growth in these areas is anticipated to increase transit demand.
- » Along roadway extensions in Molalla, such as those proposed in the Molalla TSP Update on W 5th Street (identified as a high priority in the TSP), Commercial Way (low priority), and Leroy Avenue (low priority)
 - ❖ Future land use growth in these areas is anticipated to increase transit demand.
 - ❖ The Molalla TSP identifies future transit service to these areas.
- » To/from the Northeast Canby Master Plan Area
 - ❖ Future land use growth in this area is anticipated to increase transit demand.
 - ❖ Commute demand to Canby is anticipated to grow in the future.
- » Shopping, medical, and/or event shuttles
 - ❖ Several survey respondents indicated interest in these types of services.

Some of these areas represent new coverage areas but could be accomplished by extending existing routes. Potential extensions are considered in the Refinements to Existing Routes section, below. However, these areas could also be served through new or substantially modified routes.

REFINEMENTS TO EXISTING ROUTES

Potential needs for new service areas may be addressed by refinements to existing routes; however, the most common comments received were for increased frequency, particularly around commute times, and extended hours/days of service. Potential refinements to existing routes to serve new areas could include:

- » Additional connections to/from:
 - ◆ Employment areas
 - ◆ Food banks, homeless shelters, and other social services
 - ◆ Medical facilities
 - ◆ Human service agencies
 - ◆ Retirement and assisted living centers
 - ❖ Several survey respondents indicated interest in service to these types of locations or indicated using SCTD services to reach these types of locations.
- » Potential rerouting of the Molalla-to-CCC route to serve the Beaver Creek and Henrici areas
 - ❖ Several survey respondents indicated interest in service to these areas.
 - ❖ Future land use growth in these areas is anticipated to increase transit demand. These areas are near existing SCTD services.
- » Potential rerouting of the Molalla-to-Canby route to serve the Northeast Canby Master Plan Area
 - ❖ Future land use growth in this area is anticipated to increase transit demand.
 - ❖ Commute demand to Canby is anticipated to grow in the future.
- » Adjustments to the Molalla City Loop as vacant lands develop, in particular along the new roadways noted on W 5th Street, Commercial Way, and Leroy Avenue
 - ❖ Future land use growth in these areas is anticipated to increase transit demand.
 - ❖ The Molalla TSP identifies future transit service to these areas.
- » Adjustments to the Molalla City Loop to serve northeastern and southeastern Molalla, such as service along Shirley Street, S Mathias Road, and E 5th Street as noted in the Molalla TSP Update
 - ❖ Future land use growth in these areas is anticipated to increase transit demand.
 - ❖ Public outreach from the Molalla TSP Update process indicated interest in these areas as well.
- » Modification of the Molalla-to-Canby route to meet customer needs
 - ❖ The survey indicated low use of the route outside of Canby, Molalla, Mulino, and Liberal; indicating modifications to the route may increase its efficiency and better serve customers.

SERVICE ENHANCEMENTS AND EFFICIENCIES

Potential needs for service enhancements include the following:

- » Add weekend service to the Molalla City and Molalla-to-Canby routes

- ❖ Survey responses indicated weekend service as a top 3 priority for Molalla-to-Canby and Molalla City riders.
- ❖ Future transit demand is anticipated to grow; adding weekend service may help to capture future demand.
- ❖ Future land use growth is anticipated to increase transit demand in Molalla and Canby.
- » Add Sunday service to the Molalla-to-CCC route
 - ❖ Survey responses indicated weekend service as a top 3 priority for Molalla-to-CCC riders.
 - ❖ Future transit demand is anticipated to grow; adding weekend service may help to capture future demand.
 - ❖ Future land use growth is anticipated to increase transit demand in Molalla and throughout Clackamas County.
- » Increase route frequencies
 - ❖ Survey responses indicated increased frequency as a top 3 priority for both existing riders and non-riders.
- » Increase the service span by providing bus service earlier in the morning and later in the evening
 - ❖ Survey responses indicated extended hours as a top 3 priority for existing riders.
- » Increase schedule reliability and efficiency through coordination efforts with adjacent providers
 - ❖ Shorter transfer times would improve customer experiences.
- » Provide real-time vehicle arrival information
 - ❖ Providing real-time vehicle arrival information was the top desired tool identified on the survey.
- » Make transit easier to ride via online tools and public information campaigns
 - ❖ Improving tools and information would improve customer experiences.
- » Improve access to/from and within transit stops and bus terminals
 - ❖ The Molalla TSP Update identified new sidewalks along OR 211, OR 213, Toliver Road, E Heintz Street, and several other roadways served by SCTD routes.
- » Better accommodations for shopping bags
 - ❖ Public outreach indicated the one-bag rule was a challenge for riders.
- » Improve bus stops with signage, benches, and/or shelters
 - ❖ The Molalla TSP Update specifically recommends new or enhanced bus stops at OR 213/Meadow Drive, OR 213/Toliver Road, OR 211/OR 213, OR 211/Leroy Avenue, OR 211/Kennel Avenue, and Meadow Drive/Meadowlawn Place/Toliver Road
- » Improve coordination between transit providers, especially in areas such as system integration, fares, timetables, transportation planning efforts, and trip planning applications/software.
 - ❖ Existing riders indicated in the survey that long transfers and different fare payments were a barrier to ridership.
- » Provide increased fare payment options, such as monthly passes or mobile ticketing
 - ❖ Existing riders indicated the current fare payment system was a barrier to ridership.
- » Service designed for workers and people with low incomes
 - ◆ Specialized employment shuttles
 - ◆ To/from commercial sites

- ◆ Parents with kids in after-school programs
 - ❖ Providing these types of services would improve access and transportation to jobs for people with low incomes.
- » Work with local agencies to identify potential developer-funded transit sites (e.g., bus stops and related amenities such as sidewalks) serving residential development, commercial properties, and/or educational facilities. The identified locations could also include opportunities to work with developers to create a transit operations and maintenance agreement for any new facilities.
 - ❖ Coordination with land use would improve access to transit for future growth areas.

COST ANALYSIS

A cost analysis was completed to develop hourly service costs to be used for estimating the costs of potential future services. To develop the estimated hourly costs, information provided by SCTD was used to allocate costs by type of service in *Memorandum #2: Existing Conditions*. Route mileage, service hours, and administrative costs contribute to total transit costs. Table 4 shows the cost breakdown for SCTD routes. As shown, the Molalla-to-Canby and Molalla-to-CCC routes have higher hourly costs than the Molalla City route.

Table 4. FY17 Fully Loaded Costs per Service Hour

Service	Cost/Service Hour ¹
Molalla to Canby	\$71.38
Molalla to CCC	\$74.25
Commuter Route	\$73.45
Molalla City	\$64.33

¹Total cost includes labor, mileage, and administrative costs but not capital costs and fleet replacement impacts.

Based on the average cost per hour for each type of service, one additional bus route (serving new areas or providing additional service on existing routes) would result in the following annual costs:¹

- » Commuter Route: \$268,000 Annual Operating Cost (does not include capital costs)
- » Molalla City: \$235,000 Annual Operating Cost (does not include capital costs)

These costs do not include the capital costs of new buses needed for additional service. A summary of SCTD's annual budget and a projection of future funding that may be available to increase services is included in Appendix C.

NEXT STEPS

This memorandum was reviewed by the Project Management Team (PMT) and Technical Advisory Committee (TAC) to collect input and identify any additional improvements that could be considered. Service alternatives will be developed in *Memorandum #6: Future Service Opportunities* and evaluated using the framework established in *Memorandum #5: Evaluation Framework*.

APPENDICES

- A. Existing and Future Land Use Patterns
- B. TCRP Report 161 Worksheets
- C. Funding Analysis

¹ Additional bus service assumed a 10-hour schedule block per service day for a full year.

**APPENDIX A EXISTING AND FUTURE
LAND USE PLANS AND
PATTERNS**

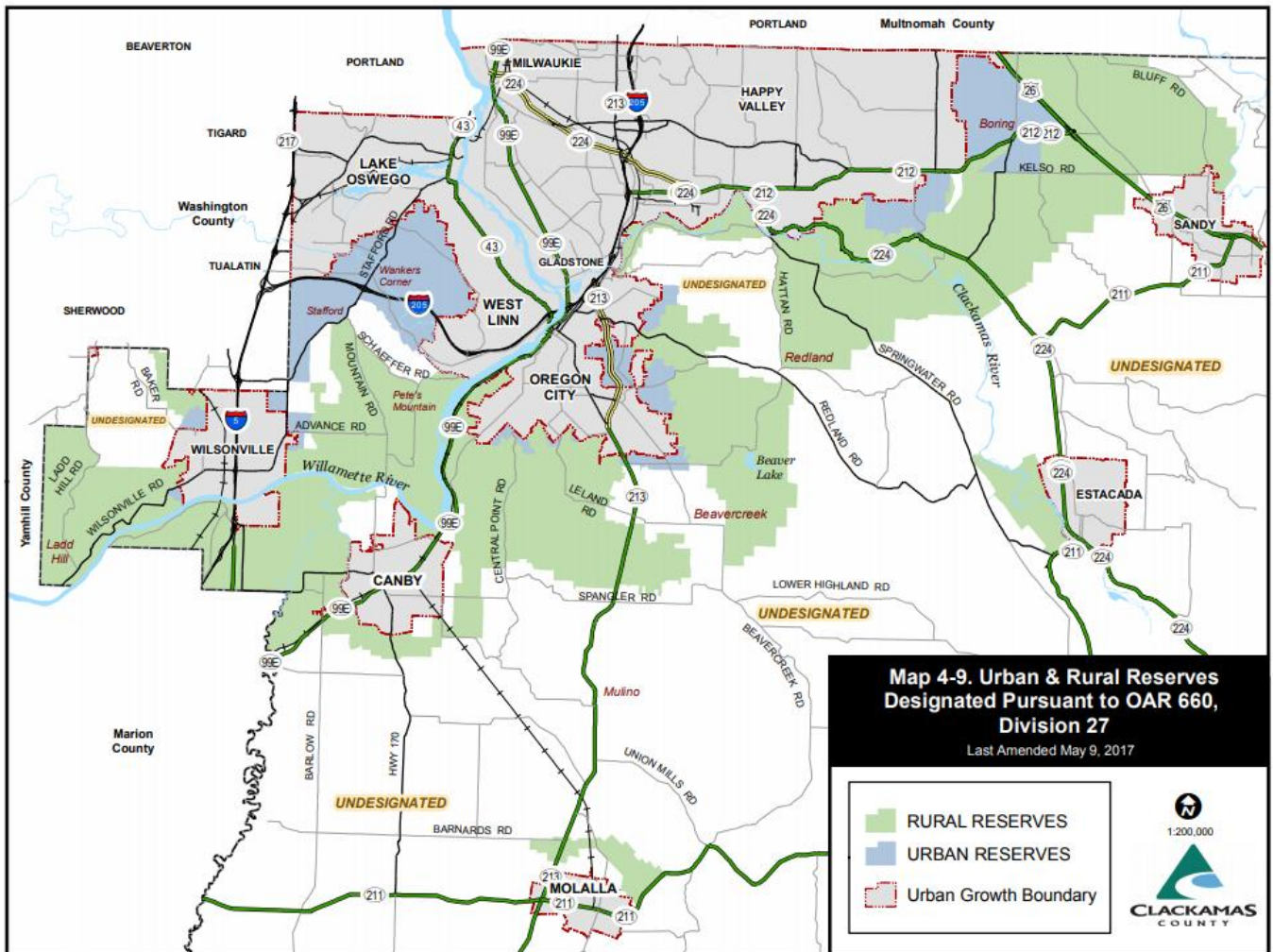
CLACKAMAS COUNTY

Urban and Rural Reserves

Clackamas County has several urban and rural reserves designated by Oregon Administrative Rule (OAR) 660, Division 27. Rural reserves are areas designated to be in farm/forest or other rural uses for the next 50 years, while urban reserves are areas identified for urban uses—i.e., potential inclusion within an Urban Growth Boundary (UGB)—within the next 50 years. These areas are shown in Figure A-1.

The only urban reserves in the vicinity of the SCTD district area are adjacent to the Oregon City UGB. These areas are identified as suitable for accommodating urban development over the next 50 years, subject to further planning and UGB expansion. Other areas on the outskirts of Canby, Molalla, and Estacada are “undesigned” areas that have not yet been identified for future urban or future rural uses in the long term.

Figure A-1. Metro Urban and Rural Reserves



Transportation System Plan

The Clackamas County Transportation System Plan (TSP) was adopted by the Board of Commissioners in December 2013, and an Active Transportation Plan was added to the TSP in 2015. Transit policies of the Clackamas County TSP are stated in Section 5.T and focus primarily on coordinating with the County's transit providers on new development and safety improvements, and emphasizing east-west connections and connections between industrial/commercial areas and neighborhoods.

The Active Transportation Plan identifies Principal Active Transportation Routes from Canby to Molalla (Route P1), downtown Oregon City to Estacada via Clackamas River Drive (Route P2), and Oregon City to Canby (Route P10). SCTD's planning efforts should be coordinated with these active transportation routes.

Clackamas Industrial Area

The Clackamas Industrial Area, shown in Figure A-2, is an urban renewal district that was created in 1984 to support development of the area as a vital employment center as well as attractive commercial and residential service center. The development plan for the district includes transportation projects intended to reduce congestion and improve safety. The Sunrise Expressway and associated bike path, opened in 2016, is the flagship project of this urban renewal district. Additional development is expected to occur per the comprehensive plan/zoning designations of Clackamas County and Happy Valley (Figure A-3).

Figure A-2. Clackamas Industrial Area Boundary

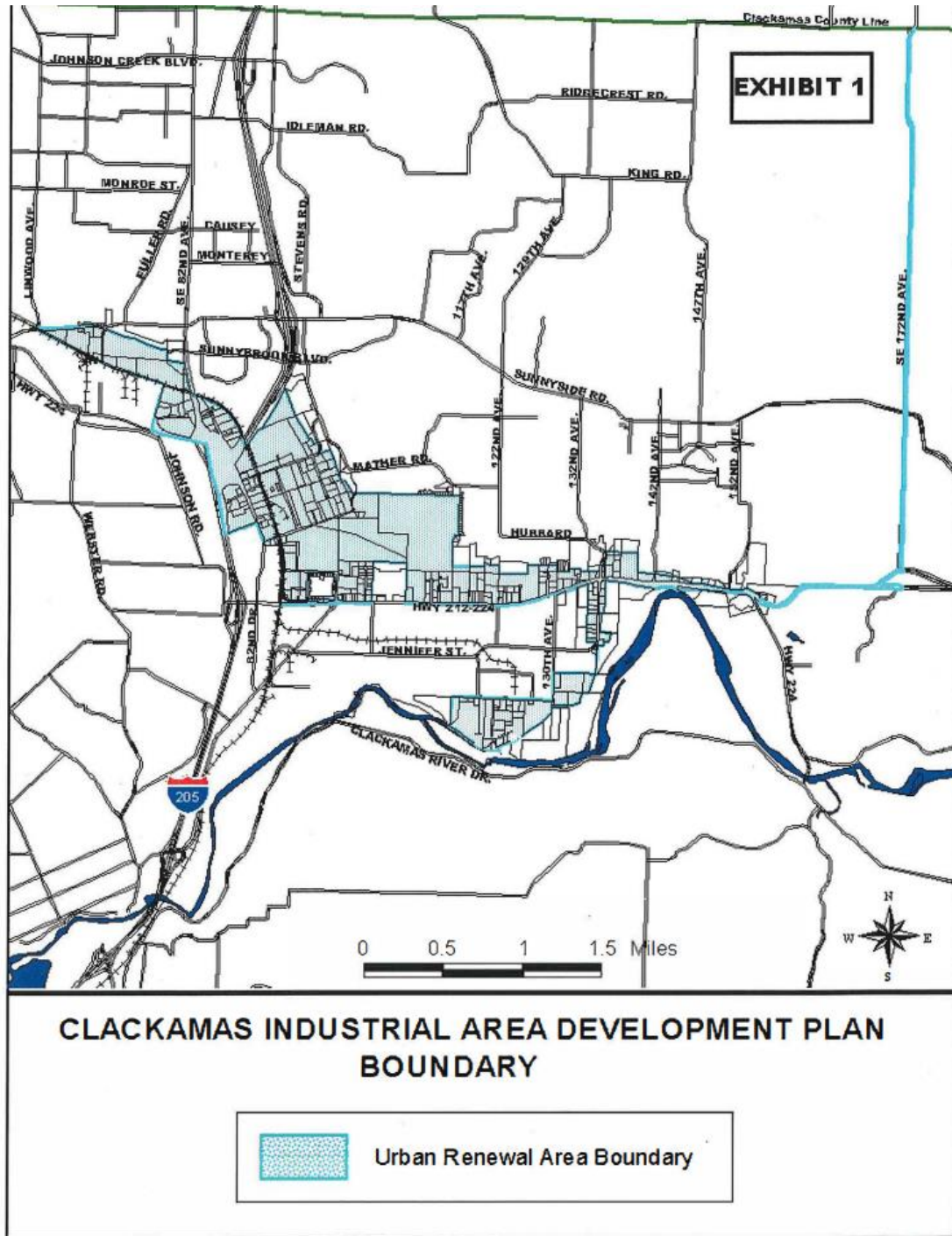
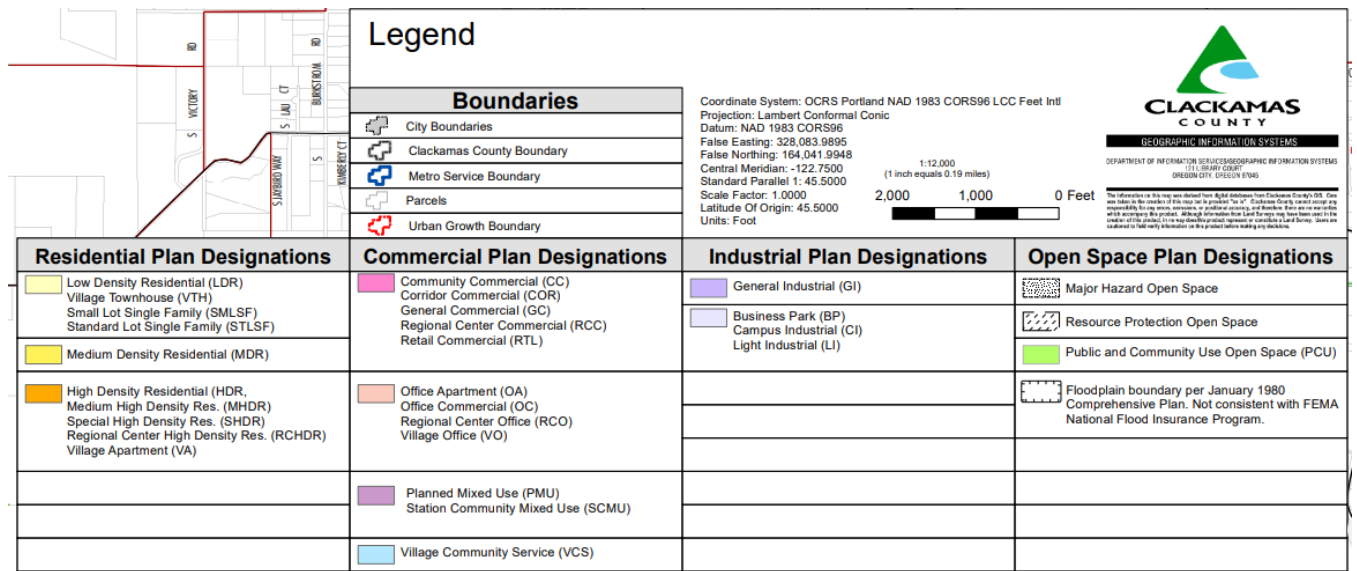
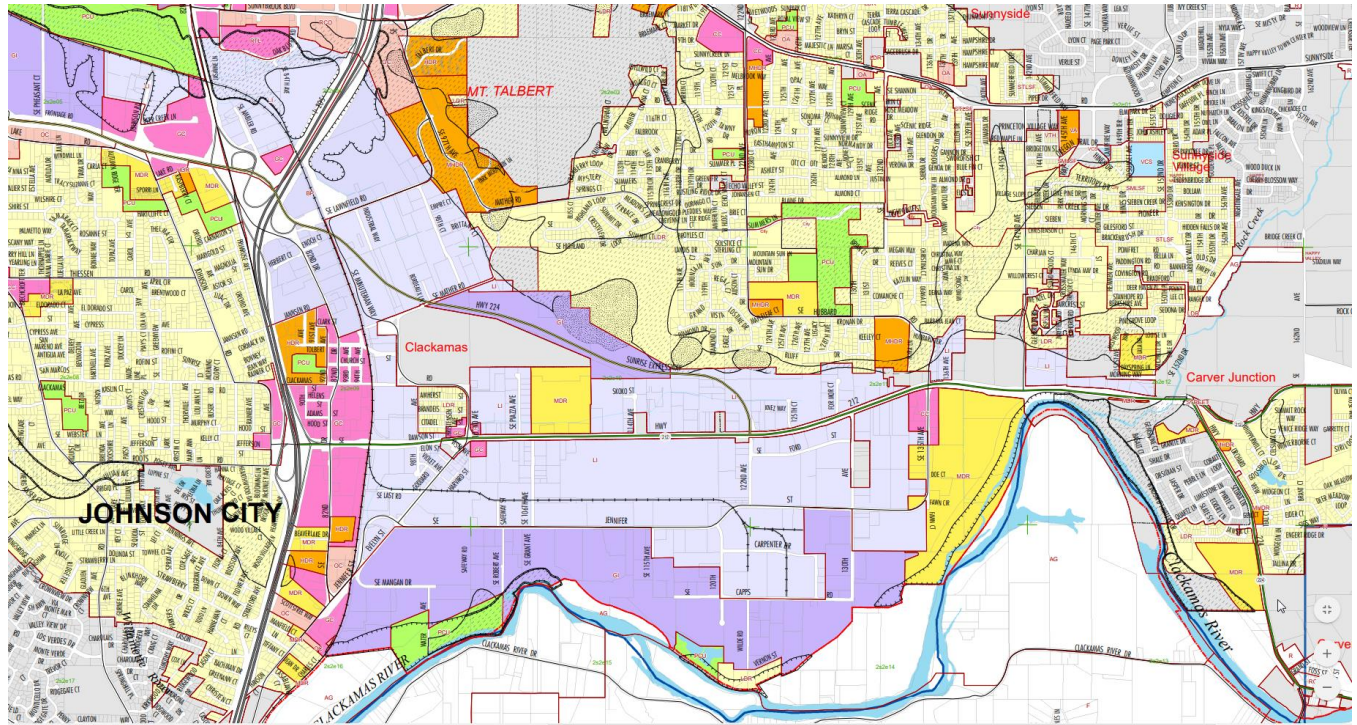


Figure A-3. Comprehensive Plan Designations near the Clackamas Industrial Area



MOLALLA

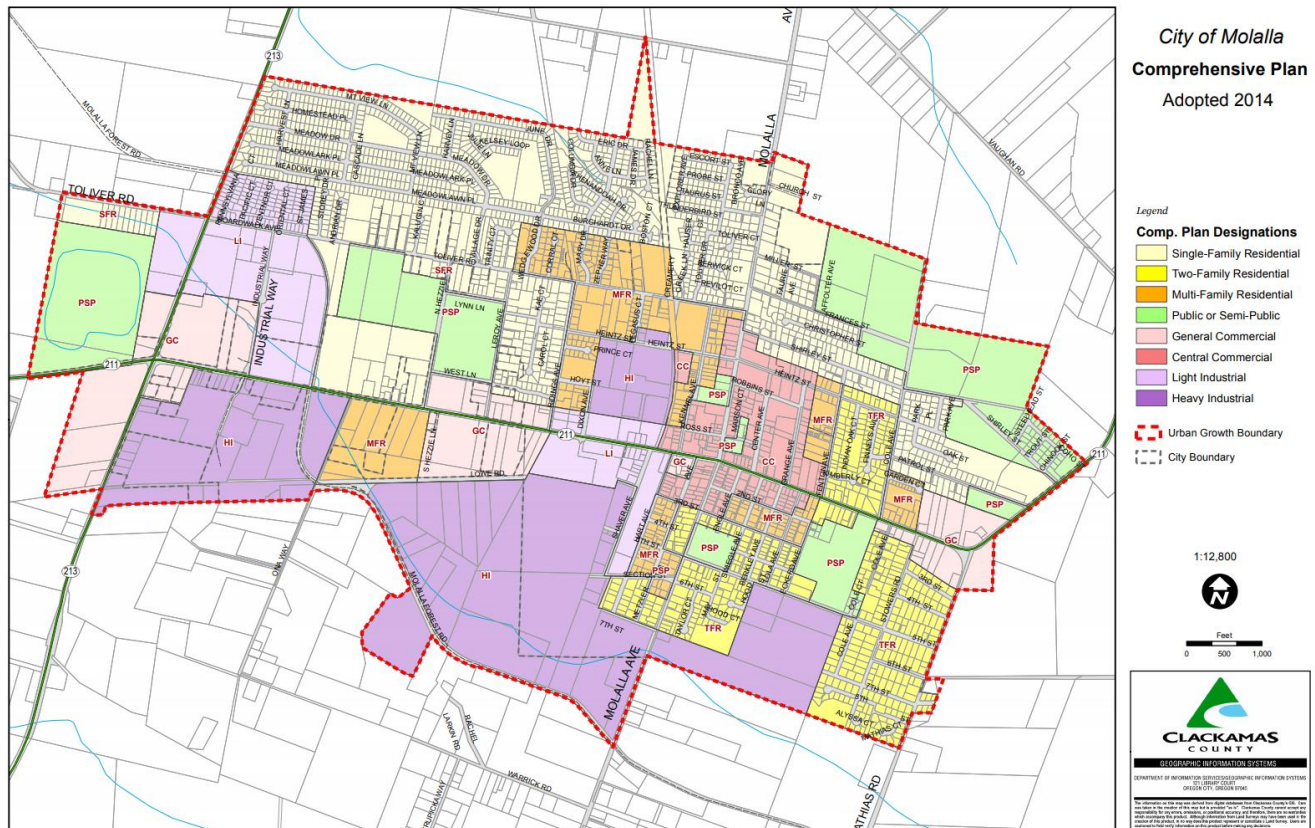
Land Use Plans

The City of Molalla is expected to experience significant growth in the future, according to Portland State University (PSU) projections. As noted in survey responses as part of PSU's effort, Molalla has a large and growing Hispanic population, and has significant infill opportunity due to low home values. However, the lack of local employment growth and aging infrastructure are possible barriers.

As part of the 2018 Molalla Transportation System Plan Update, Angelo Planning Group prepared a population and employment forecast memorandum to help estimate the future transportation needs of the City. As part of this analysis, the memorandum noted an anticipated growth of 2,108 households by the year 2040 and that the UGB has the capacity to accommodate roughly half of the new households expected within that timeframe.

As shown in the City of Molalla's Comprehensive Plan (Figure A-4), low-density residential areas of the city are generally located in the north and medium- to high-density areas are located in the southeastern part of the city. The south part of the city provides for large industrial uses.

Figure A-4. Molalla Comprehensive Plan Designations



These factors suggest that the City of Molalla will need to amend its UGB to accommodate anticipated growth. The location(s) of this expansion will be the subject of a robust public process and will need to be acknowledged by the Oregon Department of Land Conservation and Development. The following considerations will apply to this decision:

- » "Exception Areas" such as existing rural residential subdivisions are required to be a high priority for inclusion. Some of these areas are located to the south and west of the current UGB, though they are not contiguous to the UGB.
- » The ability of the City to provide water and sewer services to different areas may play a role in the location of an expanded UGB.
- » Agricultural lands with lower-quality soils are a higher priority for inclusion than those with higher-quality soils.

- » Natural features, such as Bear Creek south of the city, are likely to be avoided, given the abundance of flat land surrounding the city.
- » The City will likely need to adopt "efficiency measures" intended to encourage some higher-density development within the current UGB to balance new areas added to the UGB.

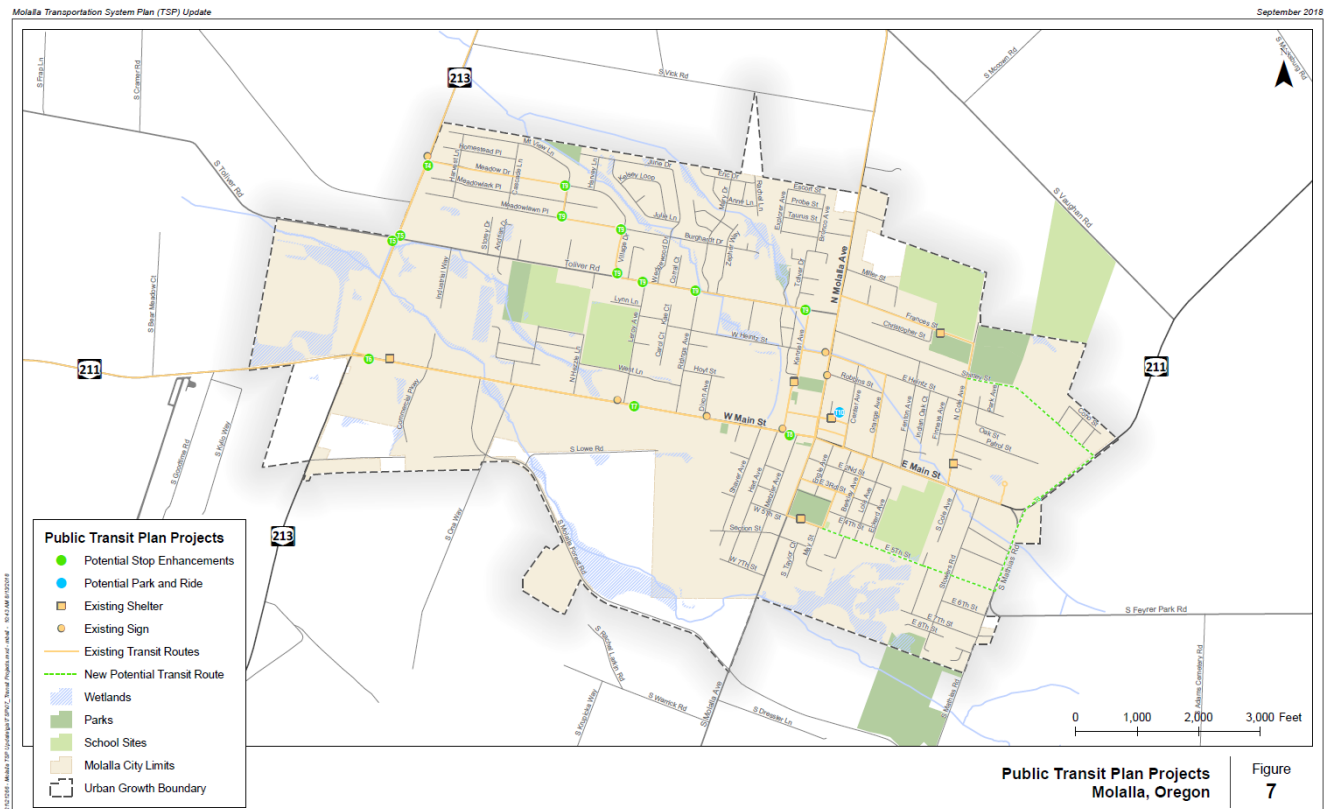
Transportation System Plan

An update of the Molalla TSP was adopted in 2018. The TSP's transit plan component contains a number of projects designed to "support improved transit service by providing easy and safe walking and bicycling connections between key roadways, neighborhoods, and local destinations; by providing amenities, such as shelters and benches, at transit stops; by encouraging an appropriate mix and density of uses that support public transit; and by providing and planning for park-and-ride locations." Figure A-5 shows Molalla's transit plan projects.

Other notable projects in the Molalla TSP include the following:

- » Widening OR 211 to provide a continuous 3-lane cross section (Projects M1 through M5)
- » Construct W 5th Street from Lowe Road terminus to Hart avenue (Project M10)
- » High priority intersection improvements at OR213/Meadow Road (Project M19), OR 213/Toliver Road (Project M20-1), OR 211/Molalla Avenue (Project M25), N Molalla Avenue/Heintz Street (Project M29), and S Molalla Avenue/E 5th Street (Project M30)
- » Some improved local street connectivity

Figure A-5. Transit Projects for the Molalla TSP



OREGON CITY

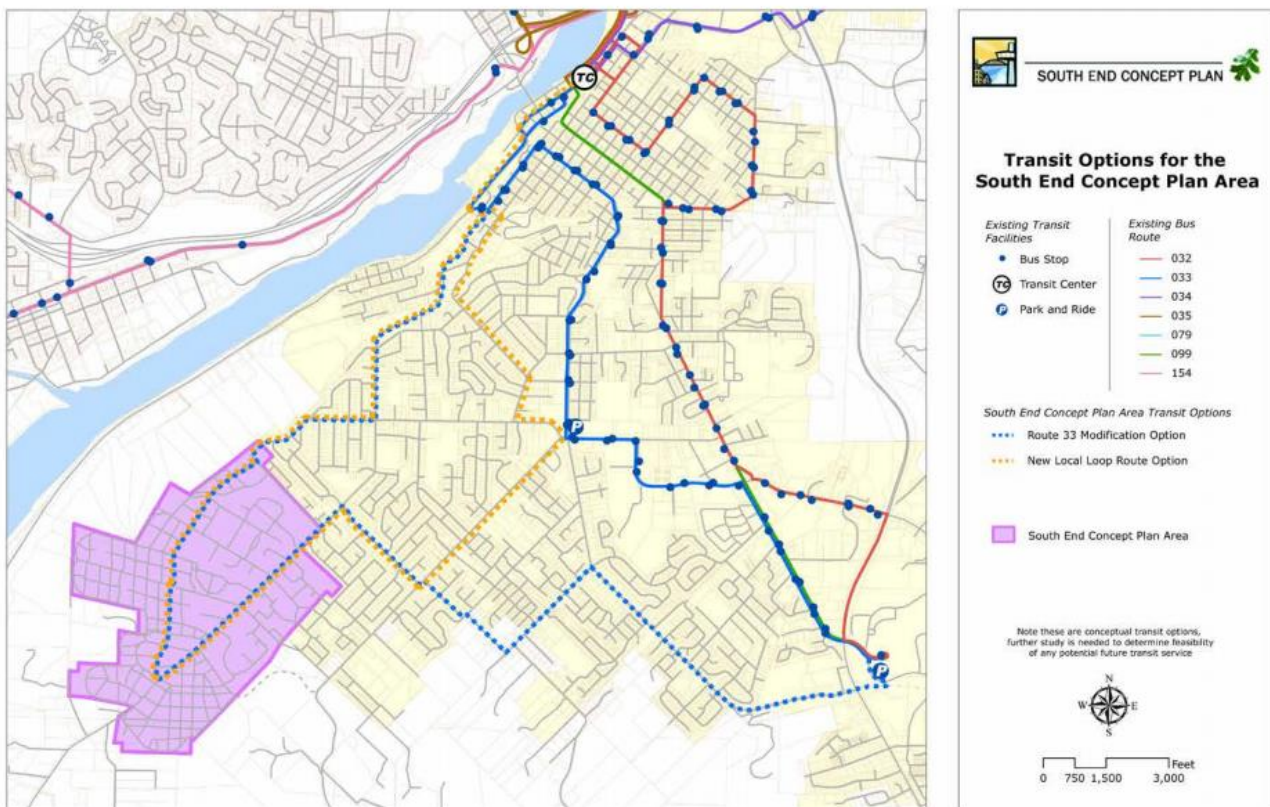
South End Concept Plan

The South End Concept Plan establishes a series of walkable and diverse new neighborhoods in the southwestern portion of the city along South End Road. The area is designated for primarily large-lot residential development, with some medium- and small-lot areas and a neighborhood commercial center. The South End area is expected to accommodate roughly 1,750 to 2,650 new dwelling units. An assessment of transit options for the South End Concept Plan Area was part of the planning effort, as shown below in Figure A-6.

Table A-1. Potential South End Dwelling Units from South End Concept Plan

Residential Category	Potential Zoning	Gross Area (Acres)	Net Area (Acres)	High Density Estimate (Units)	Low Density Estimate (Units)
Large Lot Residential	R-10, R-8, or R-6	244.7	195.8	1,193	716
Medium Lot Residential	R-5 or R-3.5	132.3	105.9	1,106	774
Small Lot Residential	R-2	23.0	18.4	336	256
Neighborhood Commercial / Mixed Use	MUR	11.2	9.0	No Assumed Density	No Assumed Density
Total		400	322	2,637	1,747

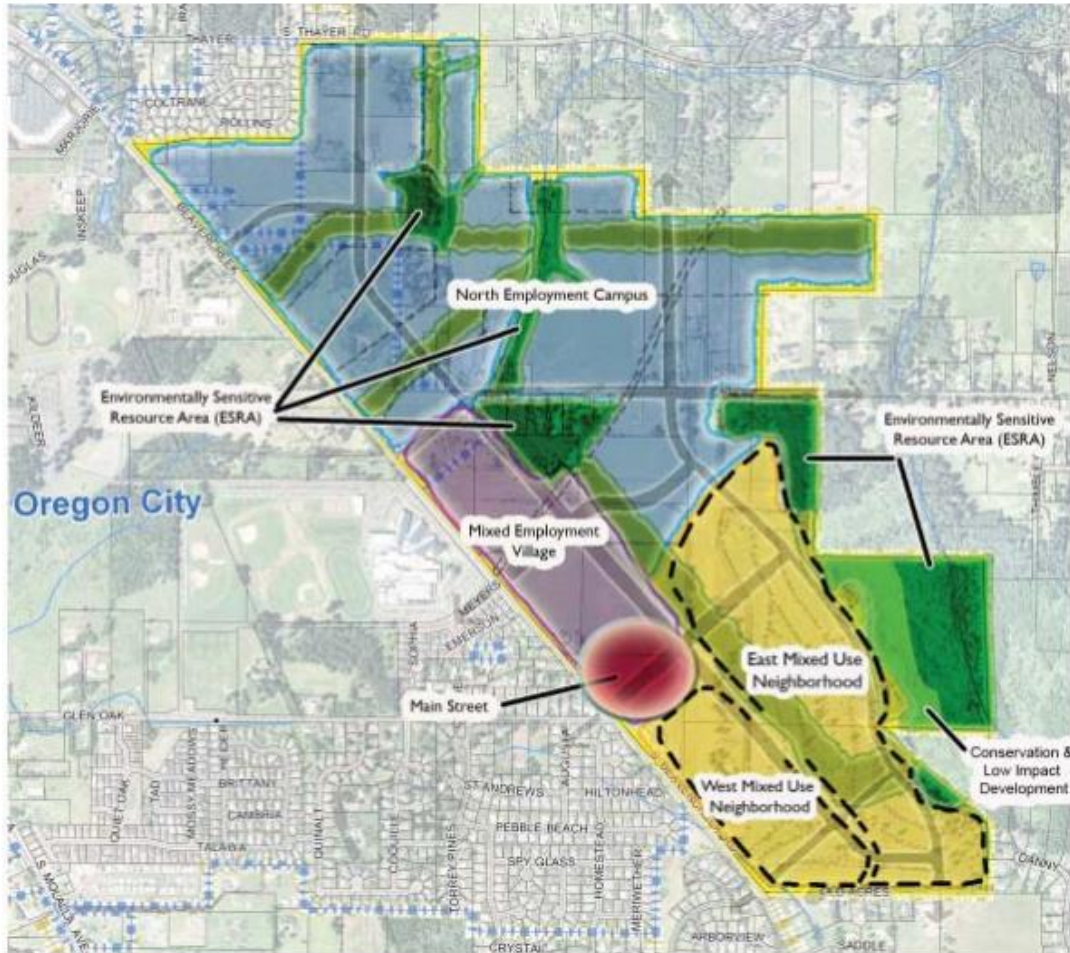
Figure A-6. Transit Options for Oregon City South End Concept Plan



Beavercreek Road Area

The Beavercreek Road Concept Plan² envisions a diverse mix of uses in the 453-acre site to the east of Beavercreek Road. These uses include an Employment Campus (tech flex and campus industrial), a Mixed Employment Village, a Main Street Area with local shops and services, and new neighborhoods eventually replacing the Oregon City Golf Club. The plan estimates over 1,000 new residential units overall.

Figure A-7. Beavercreek Area Concept Plan



Proposed Land Use Sub-districts

Henrici Road Urban Reserve Area

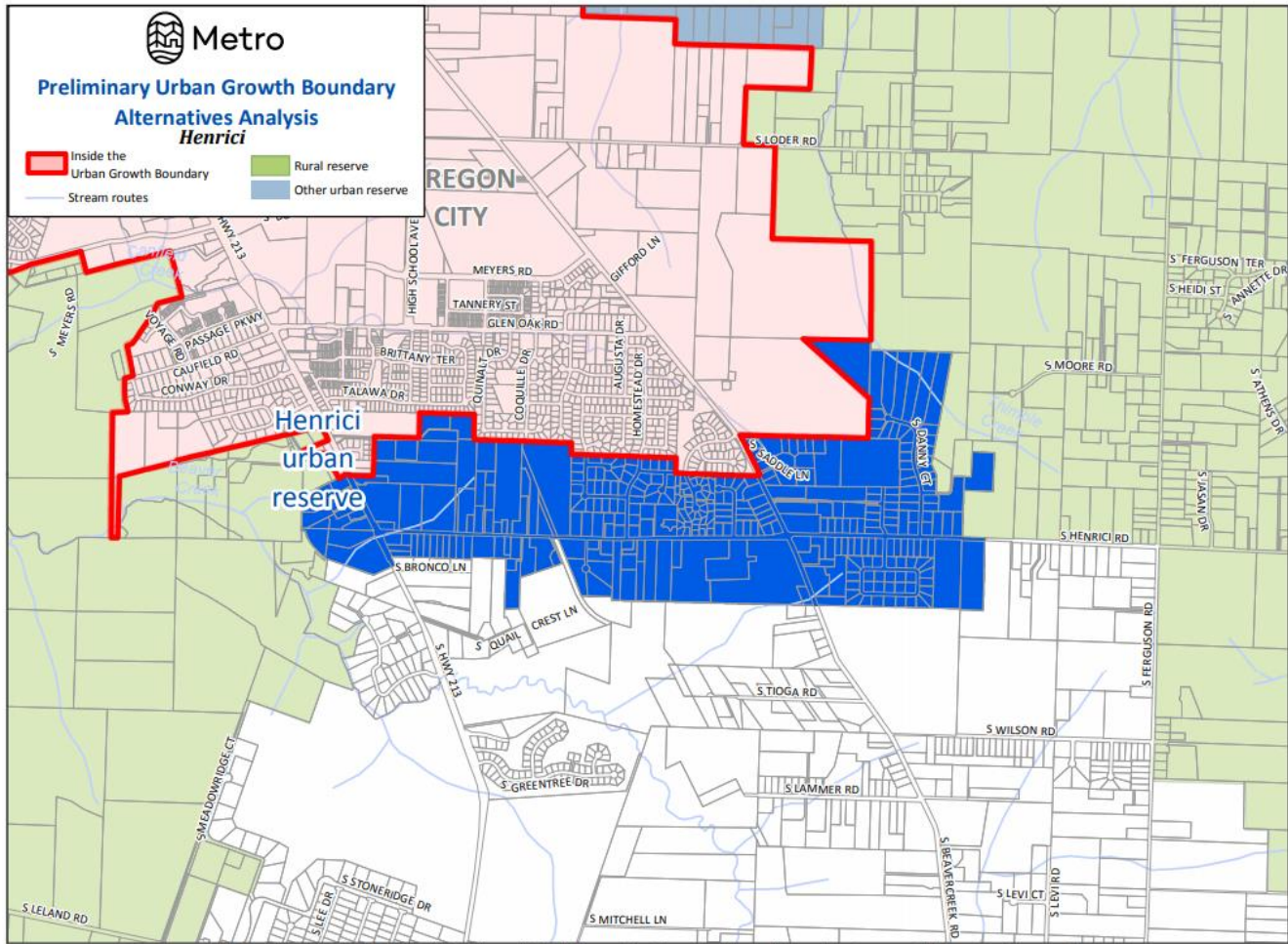
The Henrici Road Urban Reserve Area contains 421 acres south of Oregon City (Figure A-8). Currently, the area is mainly rural residential development, the majority of which is on parcels less than one acre in size. The existing parcelization and long distance to major highways suggest that this area will be primarily residential in nature. There are several existing rural residential subdivisions that would likely see only modest development activity. Significant infrastructure improvements will be needed to develop this area at urban densities.

² Available at

https://www.oregoncity.org/sites/default/files/fileattachments/public_works/page/3239/bcreport090908final.pdf

Provision of public transit to the area by TriMet is evaluated in the Urban and Rural Reserves Alternatives Report.³

Figure A-8. Henrici Road Urban Reserve



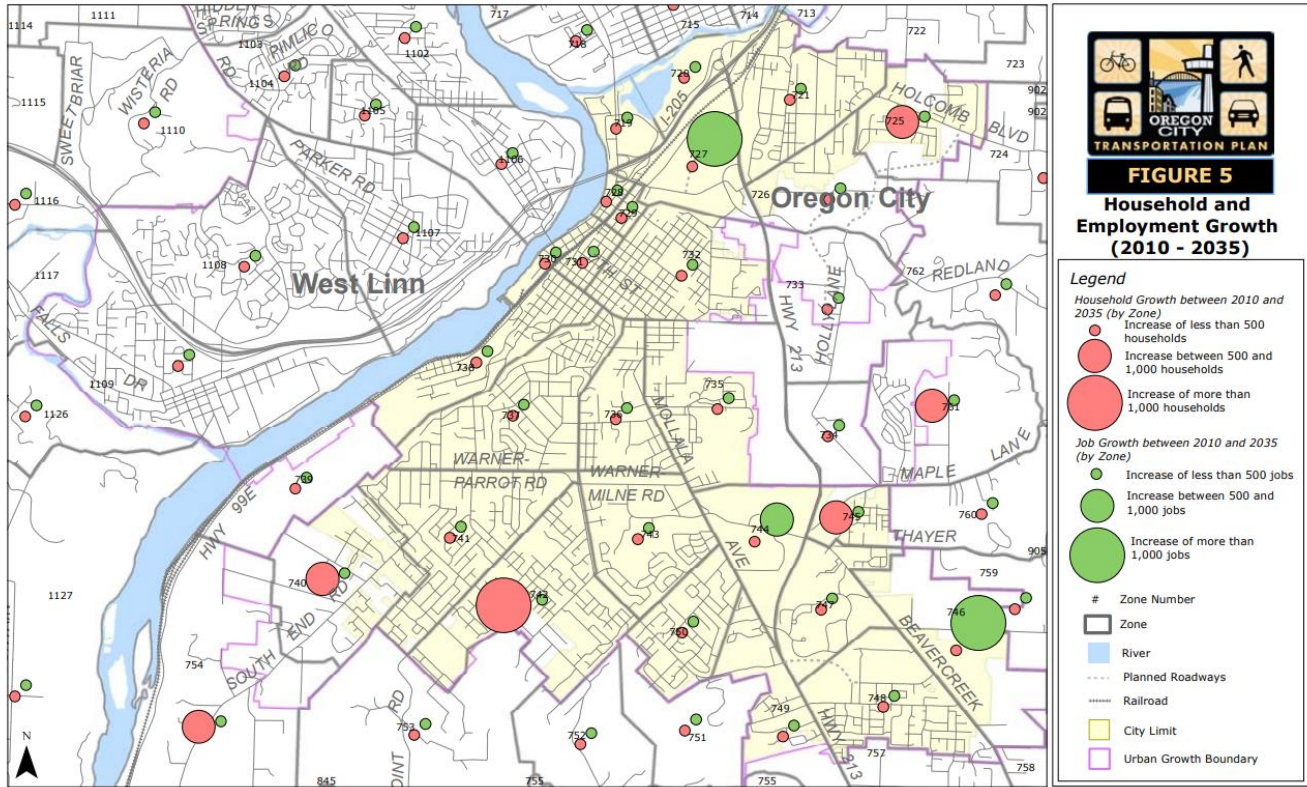
Transportation System Plan

The Oregon City TSP was updated in 2013 and subsequently amended to include new projects related to the South End Concept Plan; the Willamette Falls Legacy Project; various road, corridor, and trail plans; and an evaluation of alternative mobility targets.

The following figure from the TSP identifies the general locations and types of housing and job growth assumed for Oregon City (note that this map does not include the growth identified in the South End Concept Plan). Generally speaking, new household growth is forecasted along the outskirts of the City, and particularly in the southwest. Employment growth is anticipated in the northern part of the City and in the Beaver Creek area.

³ Available at https://www.oregonmetro.gov/sites/default/files/2018/07/03/UGR_Appendix7a_Henrici.pdf

Figure A-9. Oregon City TSP Growth Projections



BEAVERCREEK

Not to be confused with the Beaver Creek Road Area of Oregon City, Beaver Creek is an unincorporated hamlet located six miles southeast of Oregon City. The Clackamas County Comprehensive Plan identifies Beaver Creek as an “Unincorporated Community” and designates the Residential 1-acre (RA-1) zoning in the community. Comprehensive plan policies indicate that this area is anticipated to remain a small, historic hamlet and not experience significant growth in the future.

MULINO

Mulino is another hamlet in Clackamas County. It is designated as a Rural Service Center by the County, indicating that its location along Highway 213 is appropriate for providing goods and services to the surrounding area as well as highway-oriented commercial uses. Comprehensive plan policies suggest that this area is anticipated to remain a small, historic hamlet and not experience significant growth in the future, although individual highway-oriented uses may grow.

CANBY

Annexations and Subdivisions

The City of Canby is experiencing a significant amount of annexation and subdivision around its edges. The City's annexation regulations (Chapter 16.84 Division VI) include a map identifying annexation requirements of areas

within the City's UGB, shown in Figure A-2. A 2018 annexation proposal⁴ and accompanying staff report contain relevant information about the types and locations of growth anticipated (Table A-2).

Table A-2. City of Canby Approved and Potential Future Subdivisions from Annexation Application

TABLE 8-8: APPROVED & POTENTIAL FUTURE SUBDIVISIONS

Project Name	Recording Date	# of Lots
Faist Addition No.8	10/15/2018	26
Tanoak	10/16/2018	8
Beck Pond Phase 1	5/3/2019	37
Redwood Landing	7/5/2019	83
Cougar Run	10/1/2019	23
Seven Acres	10/1/2019	22
Faist Addition No. 9	10/15/2019	6
Beck Pond Phase 2	5/1/2020	32
McMartin Phase 1	8/21/2020	30
Dodds Phase 1*	10/1/2020	25
Cutsforth*	4/1/2021	20
Hemmerling*	5/5/2021	15
McMartin Phase 2 & 3	9/1/2021	33
Dodds Phase 2*	10/1/2021	25
Burkert/Montecucco Ph. 1*	10/5/2021	25
Potential Additional Lots Through 2021		410

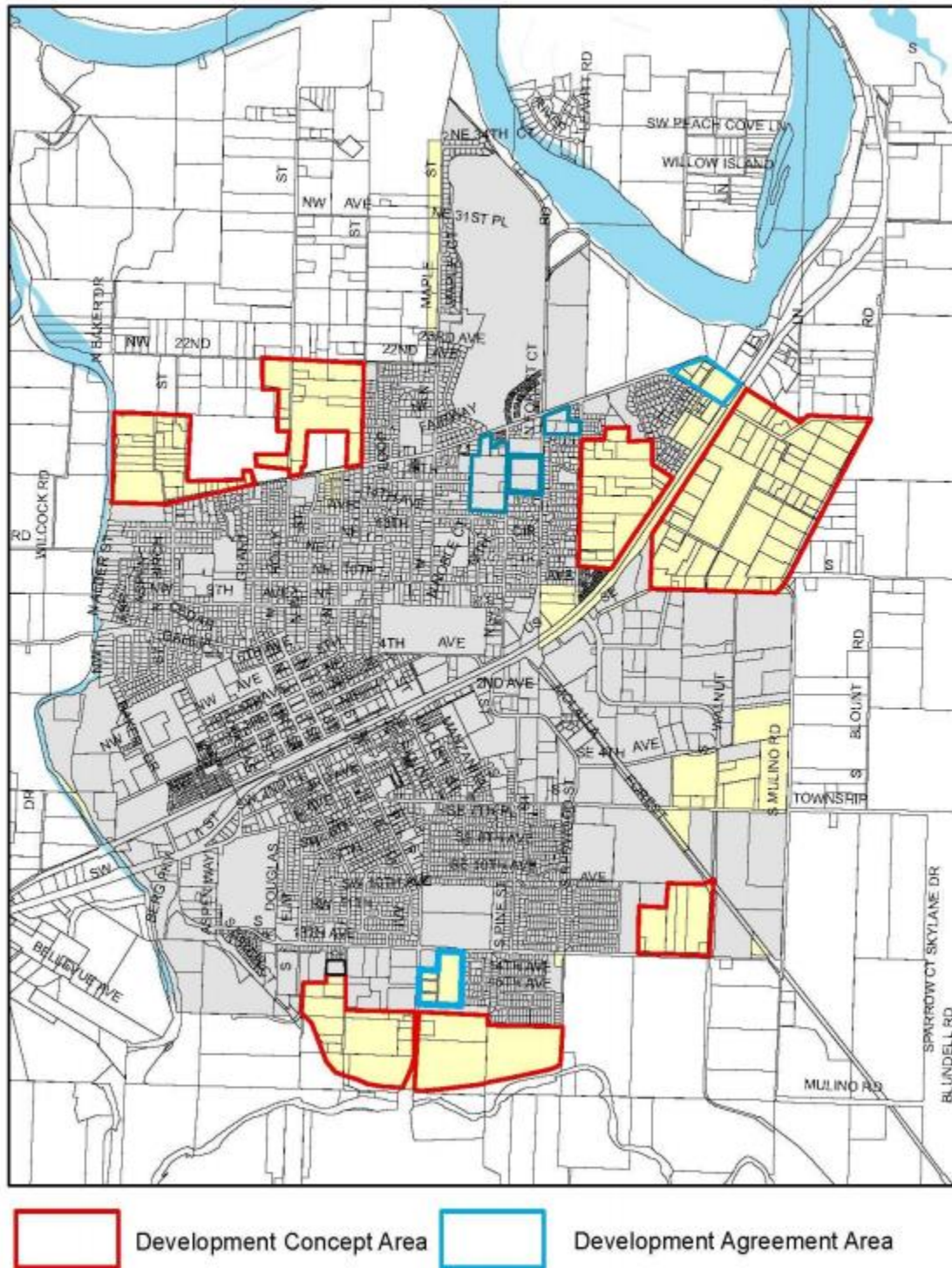
* Potential Future Subdivisions

As mentioned previously, the City of Canby is surrounded on several sides by Rural Reserves, limiting the potential to expand the City's UGB.

⁴ Available at https://www.canbyoregon.gov/CityGovernment/planning_commission/Documents/12-10-18PCPacket2.pdf

Figure A-10. Canby Annexation Development Map

City of Canby Annexation Development Map



Northeast Canby Concept Plan

The Northeast Canby Concept Plan area along 99E was adopted in 2005. Much of the area has yet to annex into the city and build out. The plan anticipates a mix of residential densities with a mixed-use hub along Otto Road and institutional uses along Territorial Road, as shown in Figure A-11 and Figure A-12.

Figure A-11. Northeast Canby Master Plan Area

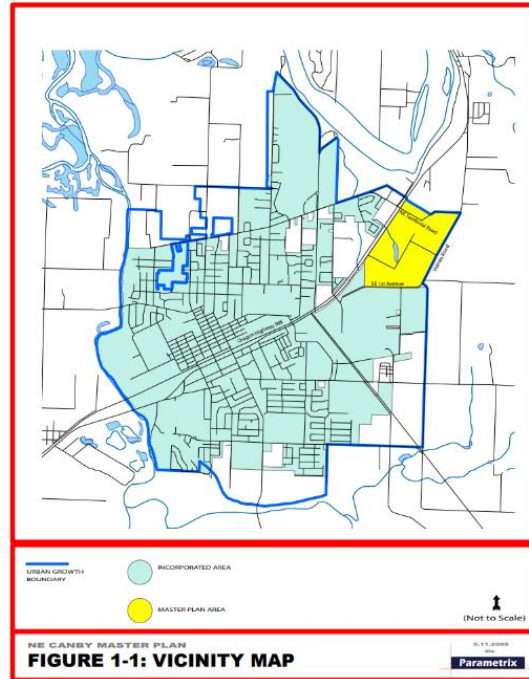
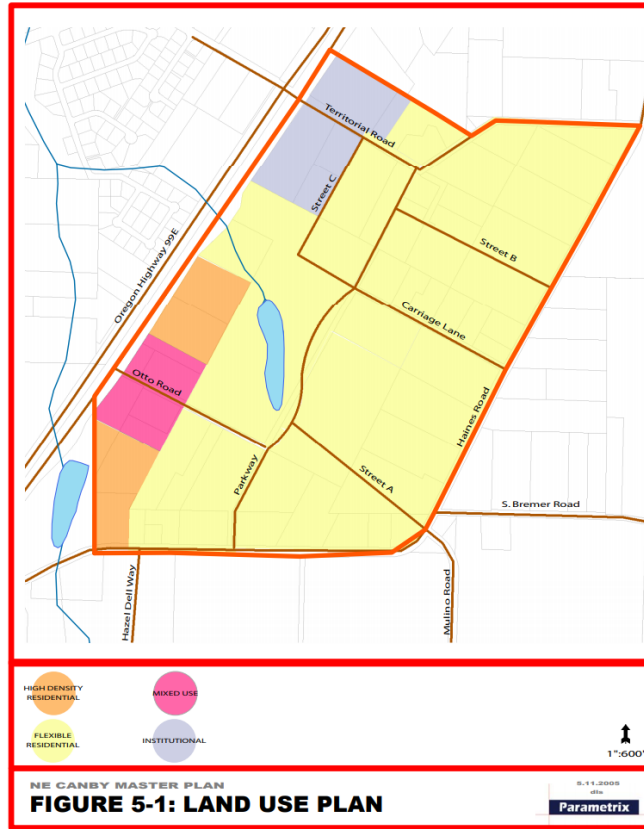


Figure A-12. NE Canby Master Plan Land Uses



North Redwood Concept Plan

The 2015 North Redwood Concept Plan was prepared for a 66-acre area along Willow Creek, in the north part of the city. It proposes a mix of high-, medium-, and low-density residential development areas totaling roughly 280 housing units.

Figure A-13. North Redwood Redevelopment Concept Plan

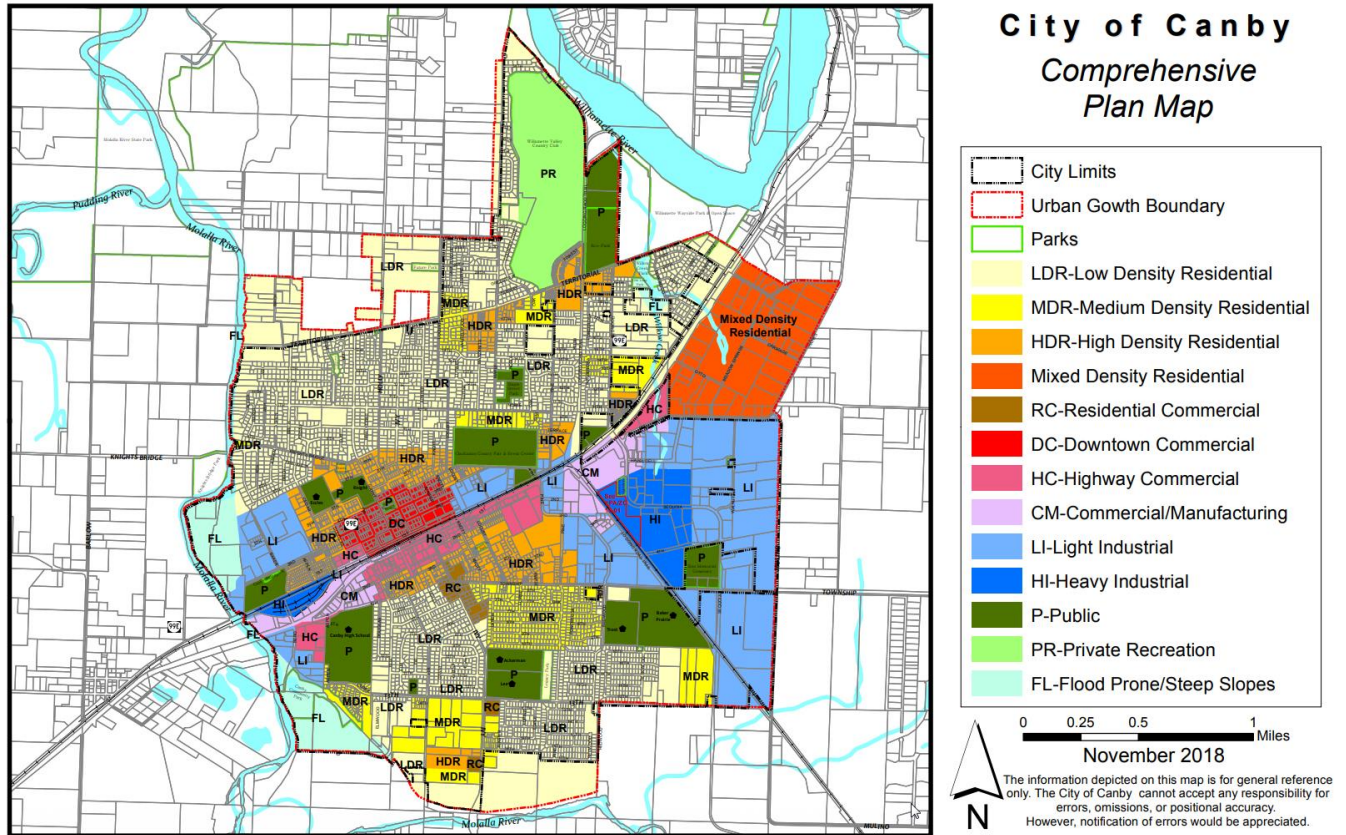


Figure 4: Development Concept Plan

City of Canby Comprehensive Plan

As adopted in the Canby Comprehensive Plan (Figure A-14), other unincorporated areas within the Canby UGB are Low Density Residential (LDR), with the exception of a portion of park and light industrial land near Sequoia Parkway and S Township Road.

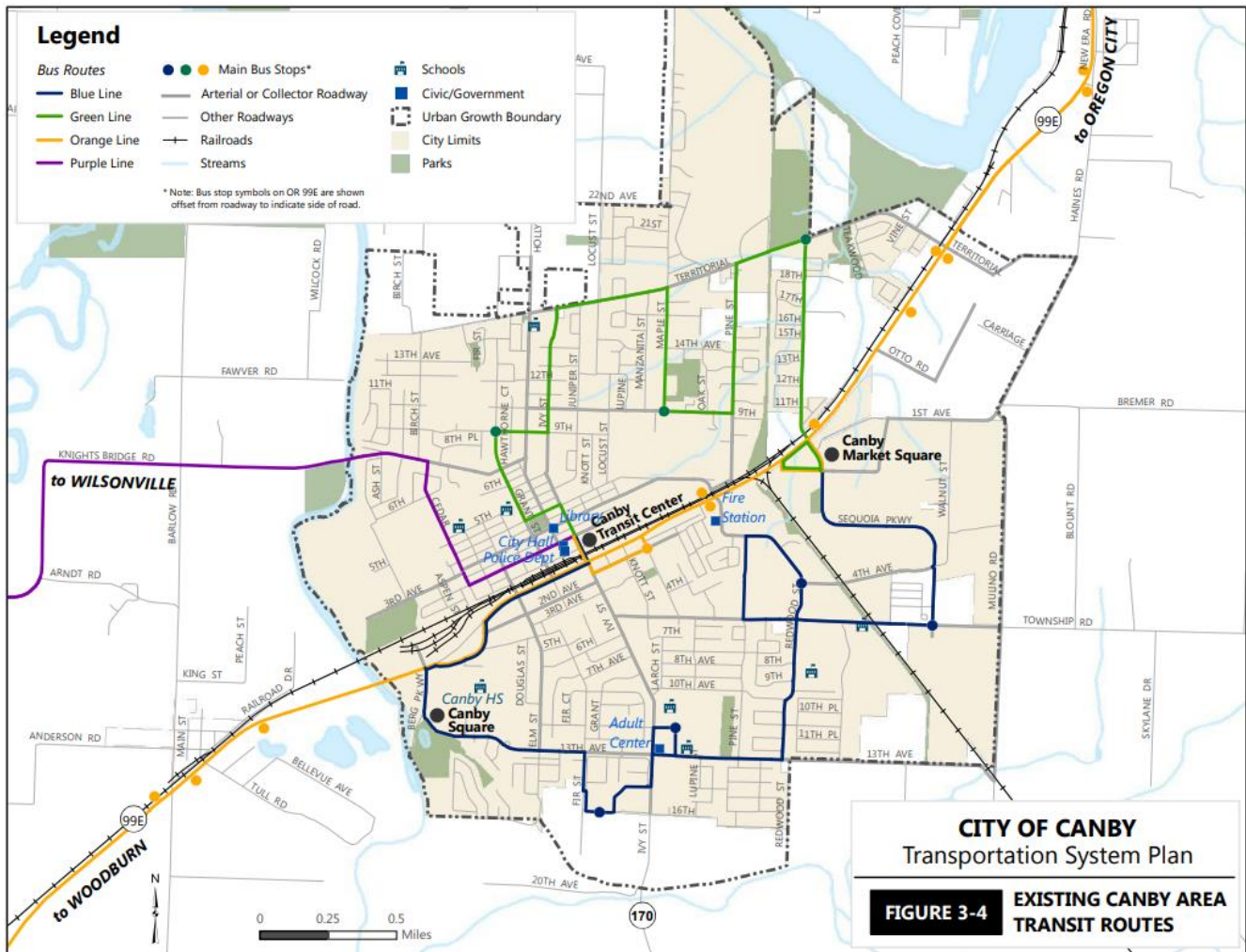
Figure A-14. City of Canby Comprehensive Plan Designations



Canby Transportation System Plan

The 2010 Canby TSP included a projection of households and employees within the Canby UGB, and utilized the assumptions from the Northeast Canby Concept Plan. An increase in total households by 72% and an increase in total employees by 117% was projected for the 2009–2030 planning period. The TSP recommended an increased frequency of the SCTD route to Canby from 1–2 hours to 1 hour. Figure A-15 shows transit routes in service in 2010.

Figure A-15. City of Canby Transportation System Plan - Transit Routes

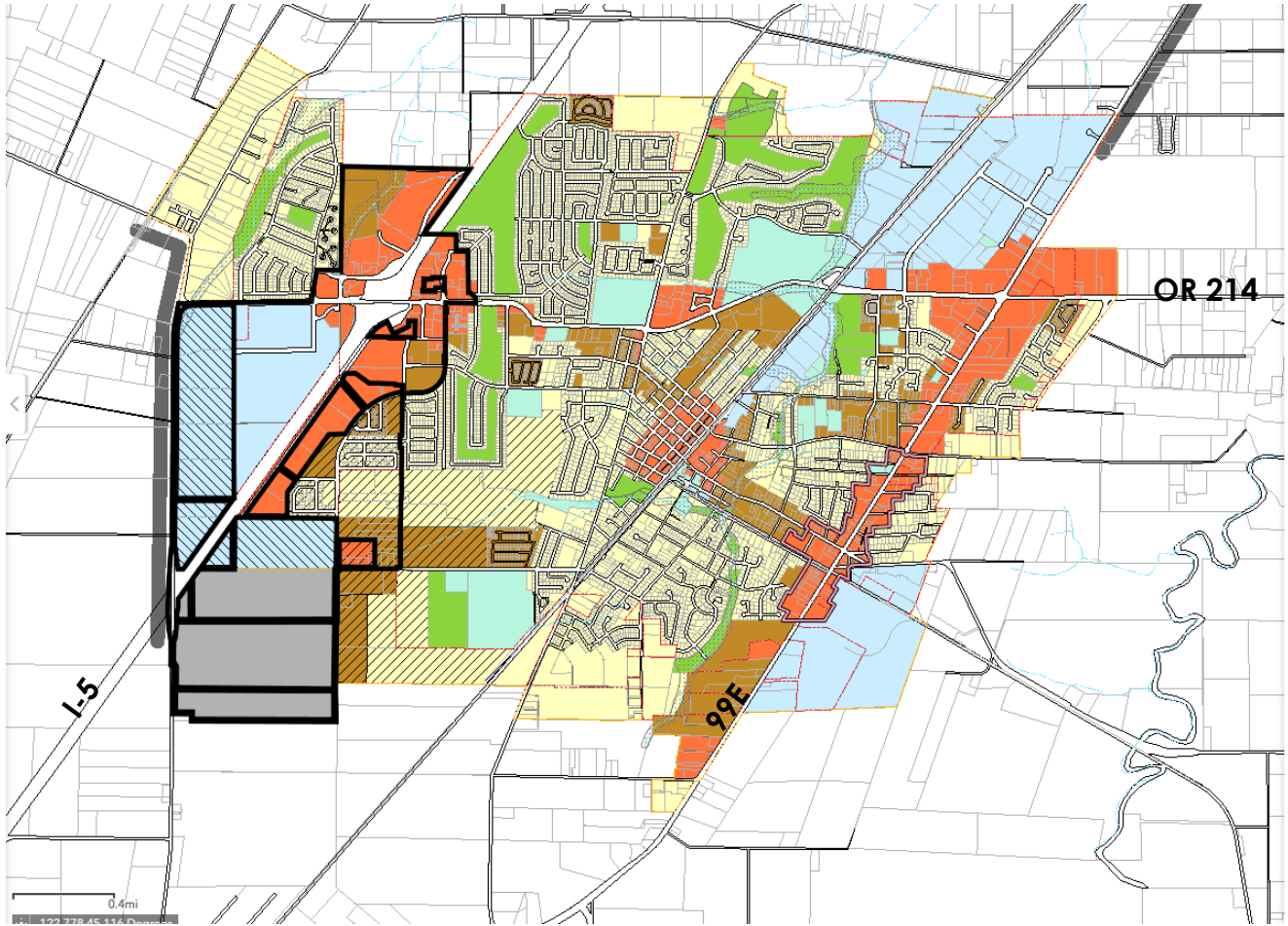


Woodburn

Comprehensive Plan

The City of Woodburn's comprehensive plan is shown in the figure on the following page. Areas outside the current City Limits but within the Urban Growth Boundary are likely to experience incremental development similar to adjacent uses. A "Nodal Development Overlay" in the southwestern portion of the City requires pedestrian-oriented development centered around neighborhood-serving commercial uses and a mix of residential densities, which may be more easily served by transit than traditional residential subdivisions.

Figure A-16. Woodburn Comprehensive Plan Map



Legend

IMA

- Interchange Management Area Overlay

Riparian Corridor & Wetlands Overlay District (RCWOD)



Mixed Use Boundary

- Mixed Use Village Overlay

Comprehensive Plan

SWIR

- Nodal Development Overlay
- S.W. Industrial Reserve

WB_Comp

- Low Density Residential
- Medium Density Residential
- Commercial
- Industrial
- Open Space and Parks
- Public Use
- Urban Growth Boundary Reserve

20yr UGB Expansion Limitation

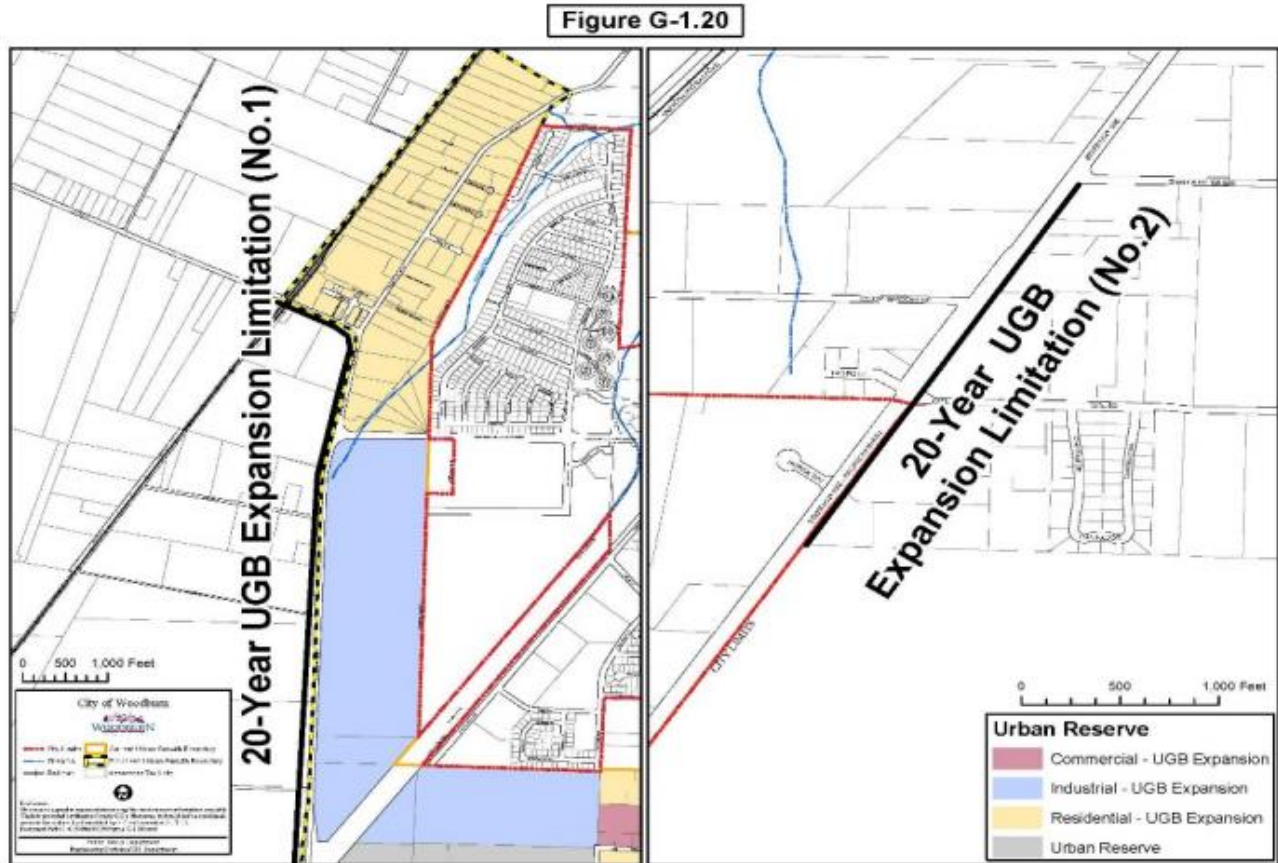


UGB Expansion

The City of Woodburn recently expanded its UGB as shown in Figure A-17. It also created an Urban Reserve area in the southwest part of the city at I-5 and Butteville Road. The expansion includes a commercial area in the southern part of the city and a large industrial reserve in the southwest.

The Woodburn Comprehensive Plan identifies two 20-year UGB Expansion Limitation Areas where the City will not seek an expanded UGB prior to the year 2035. These areas are west of Butteville Road NE and northeast of Highway 99E at the northeast edge of the existing UGB.

Figure A-17. City of Woodburn UGB Expansion Limitation

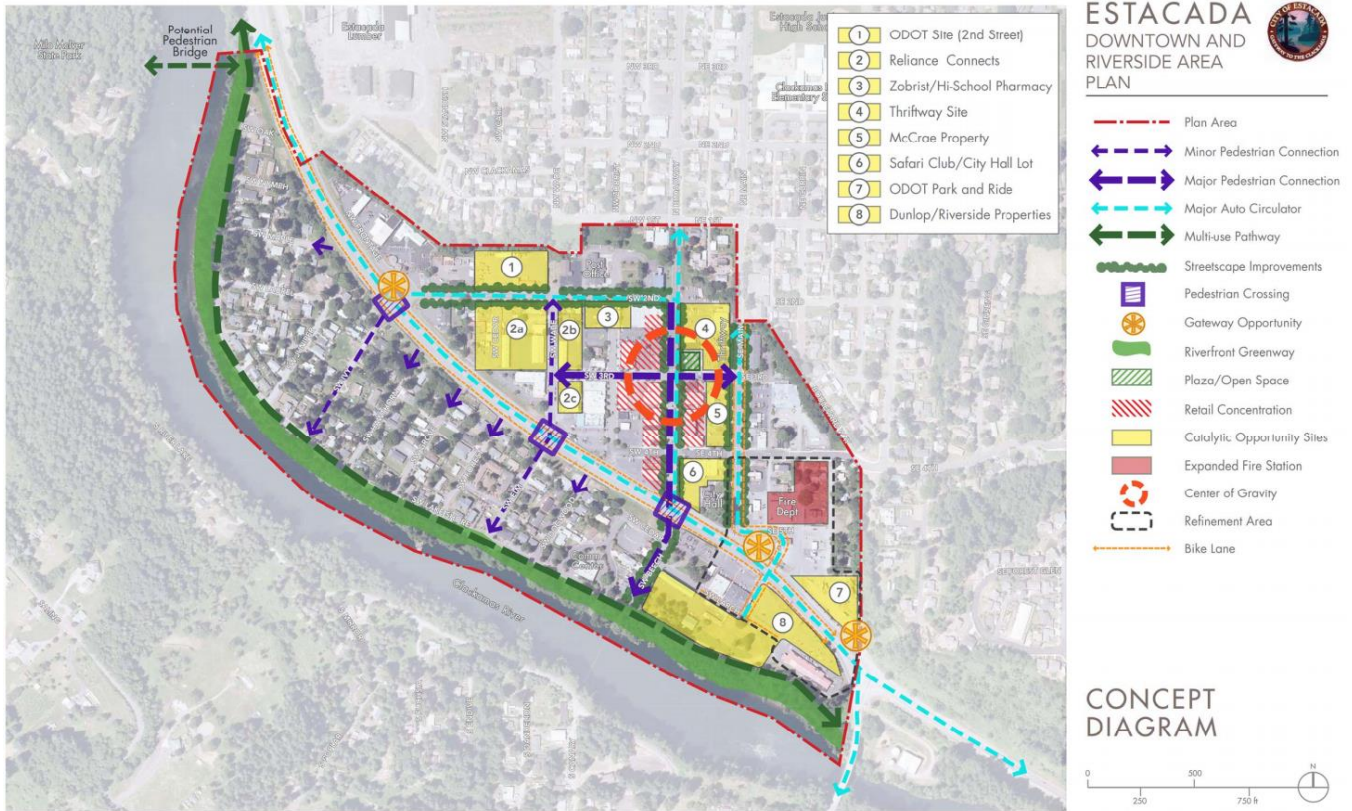


ESTACADA

Downtown and Riverside Plan

The 2011 Estacada Downtown and Riverside Plan envisions significant redevelopment of the downtown area north of Highway 224 (Figure A-18). The plan created a new Downtown (D) zoning district, which allows a mix of office, service, retail, light manufacturing, governmental, and multi-story residential uses.

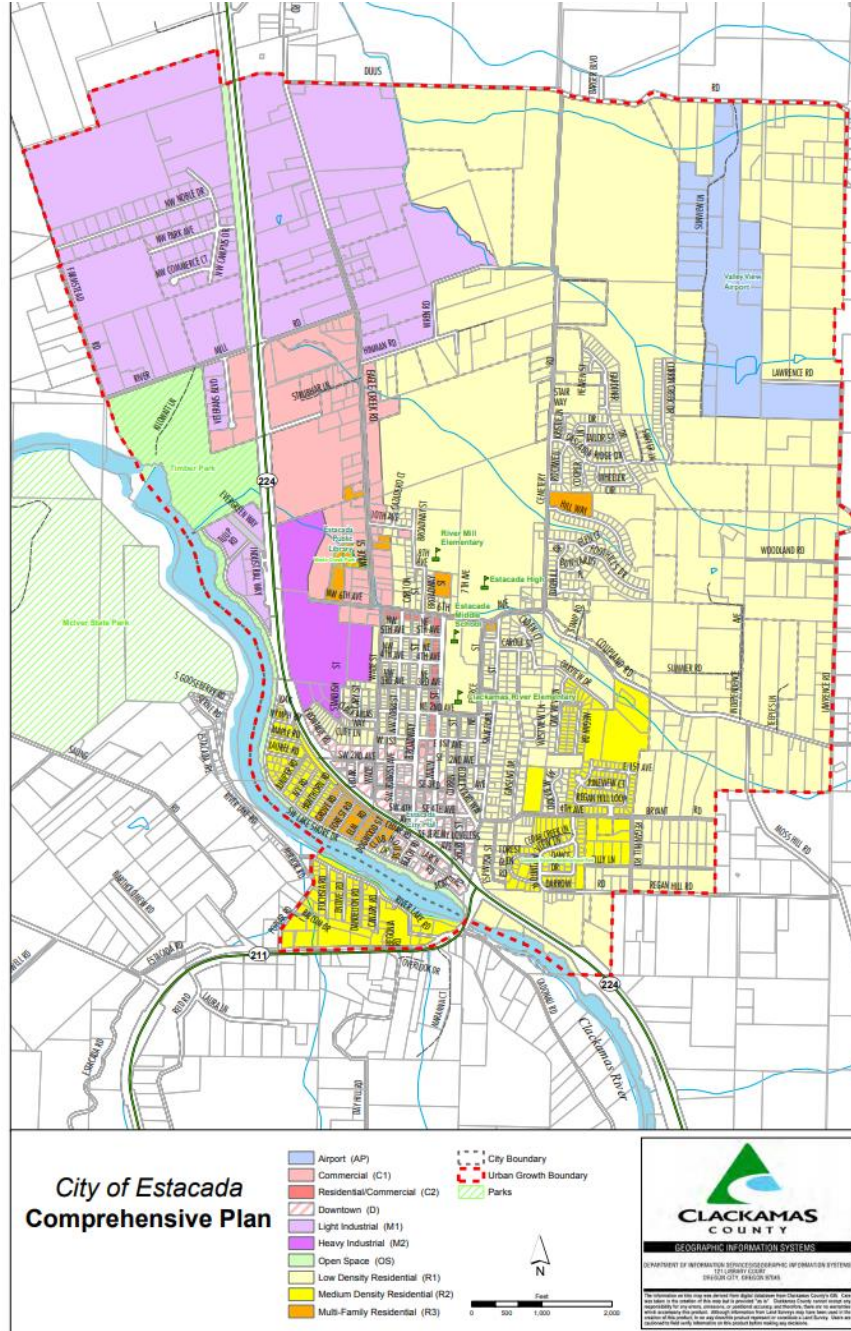
Figure A-18. City of Estacada Downtown and Riverside Area Plan



Comprehensive Plan

Outside the Estacada city limits, the City's Comprehensive Plan shows low-density residential uses in the northeast near the Valley View airport and light industrial uses in the northwest along Highway 224 (Figure A-19).

Figure A-19. City of Estacada Comprehensive Plan



EMPLOYMENT

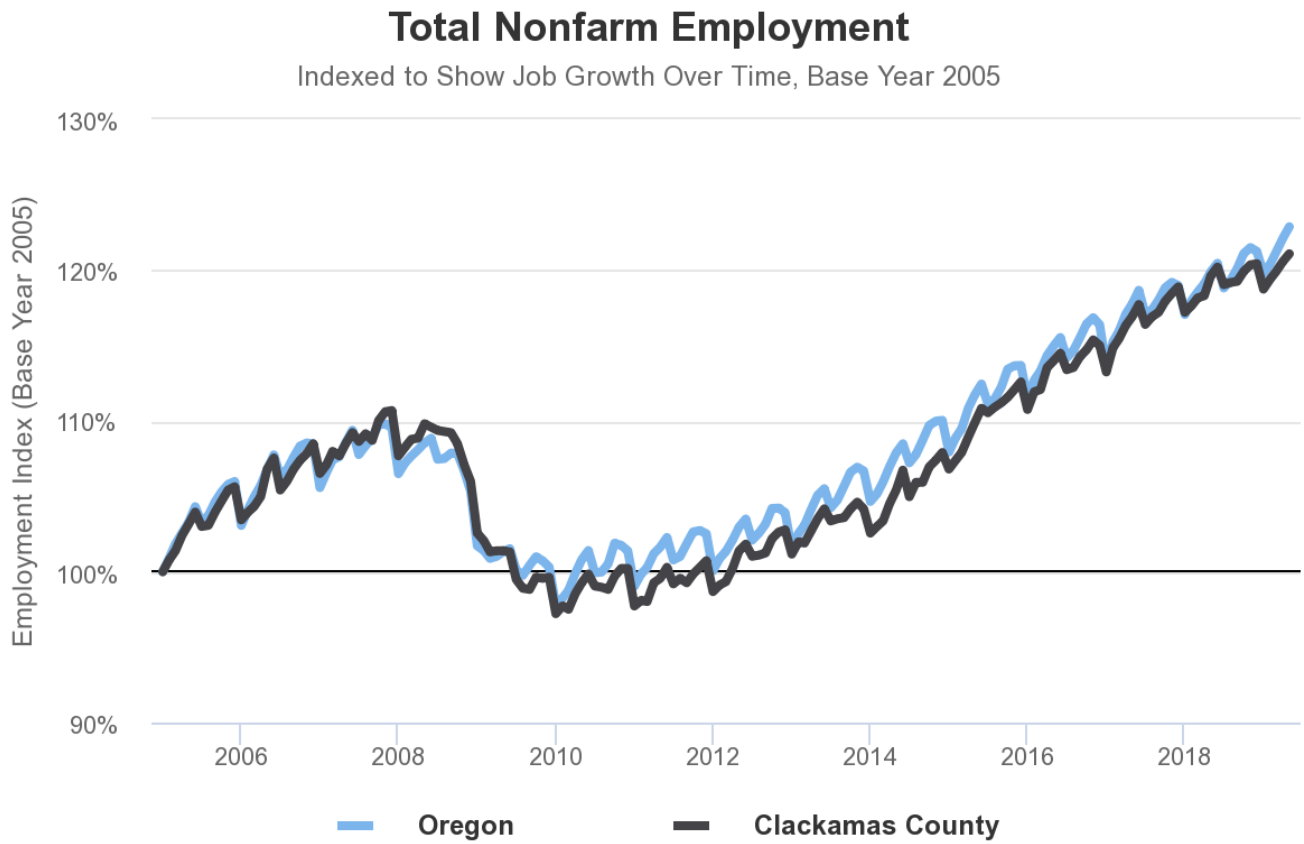
Detailed employment projections are provided in Table A-3.

Table A-3. 2017–2027 Industry Employment Forecast: Clackamas, Multnomah, and Washington Counties

Industry	2017	2027	Change	Percent Change	Annual Growth Rate
Total Payroll Employment	970,900	1,093,800	122,900	13%	1%
Natural resources and mining	9,800	10,600	800	8%	1%
Mining and logging	700	700	0	0%	0%
Construction	50,500	59,100	8,600	17%	2%
Buildings	14,000	16,900	2,900	21%	2%
Heavy and civil engineering	3,500	3,700	200	6%	1%
Specialty trade contracts	33,100	38,500	5,400	16%	2%
Manufacturing	101,100	106,000	4,900	5%	<1%
Durable goods	76,300	79,200	2,900	4%	<1%
Nondurable goods	24,800	26,700	1,900	8%	1%
Trade, transportation, and utilities	176,900	198,300	21,400	12%	1%
Wholesale trade	48,000	51,800	3,800	8%	1%
Retail trade	95,000	104,900	9,900	10%	1%
Transportation, warehousing, and utilities	33,900	41,600	7,700	23%	2%
Information	21,700	24,300	2,600	12%	1%
Financial activities	60,000	63,400	3,400	6%	1%
Professional and business services	155,500	183,600	28,100	18%	2%
Professional and technical services	63,700	76,900	13,200	21%	2%
Private educational and health services	140,800	168,100	27,300	19%	2%
Hospitals	25,400	29,600	4,200	17%	2%
Leisure and hospitality	101,100	114,900	13,800	14%	1%
Accommodation	8,600	9,300	700	8%	1%
Food services and drinking places	77,700	88,500	10,800	14%	1%
Other services	39,400	43,500	4,100	10%	1%
Government	114,100	122,000	7,900	7%	1%
Federal government	14,200	14,900	700	5%	<1%
State government	7,600	8,200	600	8%	1%
Local government	92,300	98,900	6,600	7%	1%
Local education	47,200	51,500	4,300	9%	1%
Self-employment	65,400	73,700	8,300	13%	1%

The Oregon Employment Department publishes current employment trends specific to Clackamas County. Jobs have returned to the county after the recession of 2008–2009 and have steadily increased. The 2008 employment levels were surpassed in 2015. As employment continues to increase, transit service will need to accommodate commute ridership demands. Employment totals are shown in Figure A-20. Figure A-20 shows historic growth averaging approximately 1% annually since 2005 and roughly 2% annually since 2010.

Figure A-20. Clackamas County Non-farm Employment 2005–2018



Source: Oregon Employment Department Qualityinfo.org

**APPENDIX B TCRP REPORT 161
WORKSHEETS**

APPENDIX C FUNDING ANALYSIS

FUNDING ANALYSIS

SCTD provides transit service with a relatively small operating budget compared to larger transit systems. Table C-1 shows SCTD's projected income and expenses for FY19. As shown, over half of SCTD's funding comes from grant revenue, followed closely by payroll and self-employment tax. Contracted services, material, and supplies comprise over half of SCTD's expenses.

Table C-1. FY19 Projected Income and Expenses

Income	Amount
Grant Revenue	\$1,065,000
Payroll & Self-Employment Tax	\$723,000
Fare Revenue	\$50,000
Interest Income	\$20,000
Cash Carryover	\$100,000
Total	\$1,958,000
Expense	Amount
Contracted Services, Materials & Supplies	\$983,000
Capital Expenses	\$500,000
Personal Services	\$200,000
Contingency	\$275,000
Total	\$1,958,000

FORECAST BUDGET

To determine the future revenue base, each revenue source was extrapolated for a 20-year horizon, with the following assumptions:

- » **Grant Revenue:** State and federal grants are allocated by ODOT. These have varied, but have generally increased since 2012. Figure C-1 shows SCTD's historical grant revenue, as reported to the NTD between 2012 and 2017 and as reported by SCTD in 2018 and 2019. A logarithmic extrapolation of revenue is also shown, smoothing out the historical variation in grant revenue. Because STIF formula funds are not represented in the historic grant revenue, STIF formula funds are projected separately.
- » **STIF Formula Fund:** New funding through the Statewide Transportation Improvement Fund (STIF) employment tax will be distributed through TriMet to out-of-district entities, including SCTD. Funding for out-of-district Clackamas County is estimated to be \$723,000 in FY19, \$1,670,000 in FY20, and \$1,914,000 in FY21⁵. About 19% of out-of-district funds are anticipated to be distributed to SCTD. The future funding analysis assumes SCTD continues to receive this percentage of Clackamas County funds and that employment and wages grow by approximately 3% annually.
- » **Payroll & Self-Employment Tax:** SCTD collects a payroll and self-employment tax of 0.5% of wages paid and of net earnings from self-employment in excess of \$400. The forecast payroll and self-employment tax is

⁵<https://www.oregon.gov/ODOT/RPTD/RPTD%20Committee%20Meeting%20Documents/STIF-Formula-Fund-Estimates1218.pdf>

based on the Molalla TSP employment projection of a 3.3% annual growth rate through 2040 and a 2% annual wage growth rate.

- » **Fare Revenue:** Farebox revenue growth is assumed to be proportional to estimated population growth in Molalla and does not assume any change in the existing fare structure.
- » **Interest Income:** Interest Income is assumed to remain constant throughout the forecast years.
- » **Cash Carryover:** Available cash-on-hand varies between fiscal years and is dependent on the previous fiscal year. As such, the future revenue forecast will assume that the available cash-on-hand will remain consistent throughout the forecast years and is not shown in Figure C-2.

As shown in Figure C-1, grant revenue is projected to increase in coming years for SCTD. This finding is consistent with the grant allocation methodology for State Special Transportation Fund (STF) grants. STF grants are allocated based on total population, senior population, and persons with disabilities, with total population representing a larger share of the total grant allocation. SCTD has been growing at a higher rate than Oregon as a whole, which is reflected in the increasing grant allocation. As with all funding forecasts, estimates can change quickly given the uncertainty of federal and state funding levels and the overall economic climate, and SCTD should continually monitor the funding environment and update its future revenue forecasts regularly. Figure C-1 does not include Statewide Transportation Improvement Fund (STIF) formula funds because these were not included in historic grant funding and thus were not used to create and project the trendline. Table C-2 shows projected revenue in 5-year intervals by funding source.

Figure C-1. Historical and Forecast State/Federal Grant Revenue (Not Including STIF)

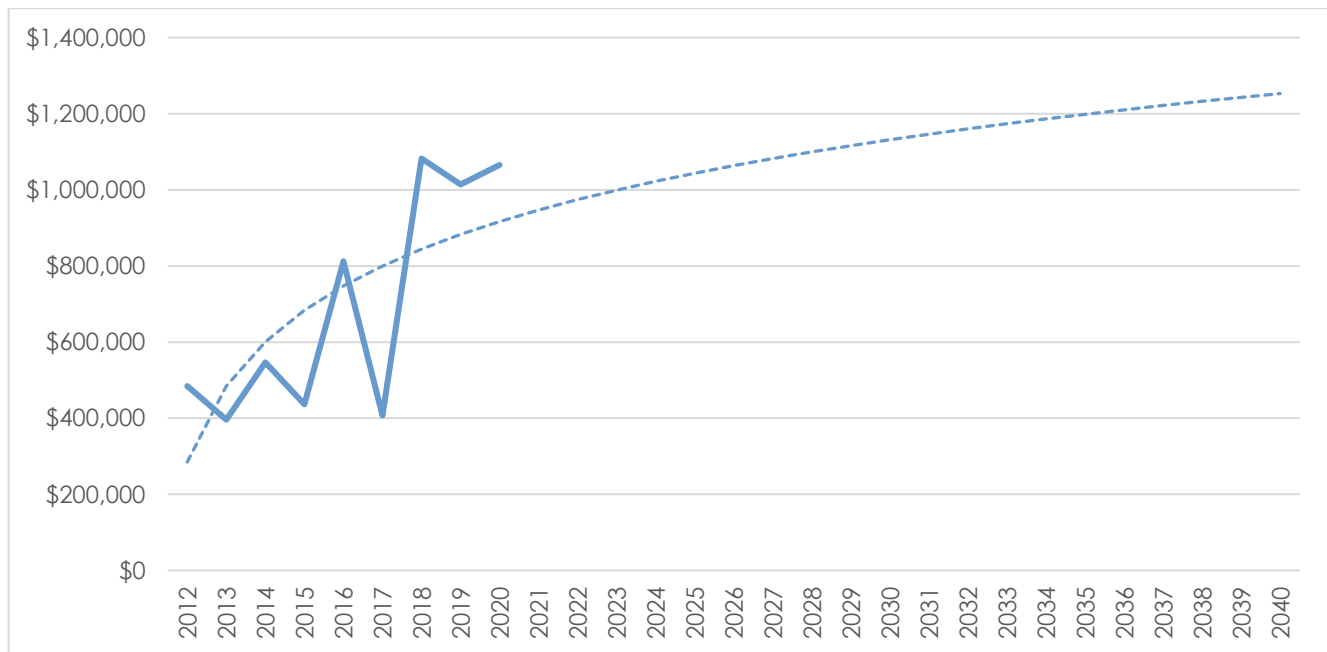


Table C-2. Forecast Operating Budget by Revenue Source

Revenue Sources	Projected Fiscal Year				
	2020	2025	2030	2035	2040
Grant Revenue	\$1,065,000	\$1,043,527	\$1,131,290	\$1,198,429	\$1,252,815
STIF Formula	\$136,000	\$403,237	\$457,242	\$511,247	\$565,252
Payroll & Self-Employment Tax	\$723,000	\$922,600	\$1,108,100	\$1,293,600	\$1,479,100
Fare Revenue	\$50,000	\$67,920	\$74,520	\$81,120	\$87,499
Interest Income	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Total SCTD Operating Budget¹	\$1,994,000	\$2,457,284	\$2,791,153	\$3,104,396	\$3,404,666

¹Total SCTD operating budget estimates were calculated based on today's dollars (i.e., no projected inflation applied to projections)

As shown in Table C-2 and Figure C-2 SCTD's operating budget is expected to grow over the 20-year planning horizon. The estimated growth between FY2019 and FY2040 is approximately 71 percent (a net annual increase of approximately \$1,410,000), corresponding to an approximate annual revenue growth rate of 3.4 percent.

Figure C-2. Forecast Operating Budget

