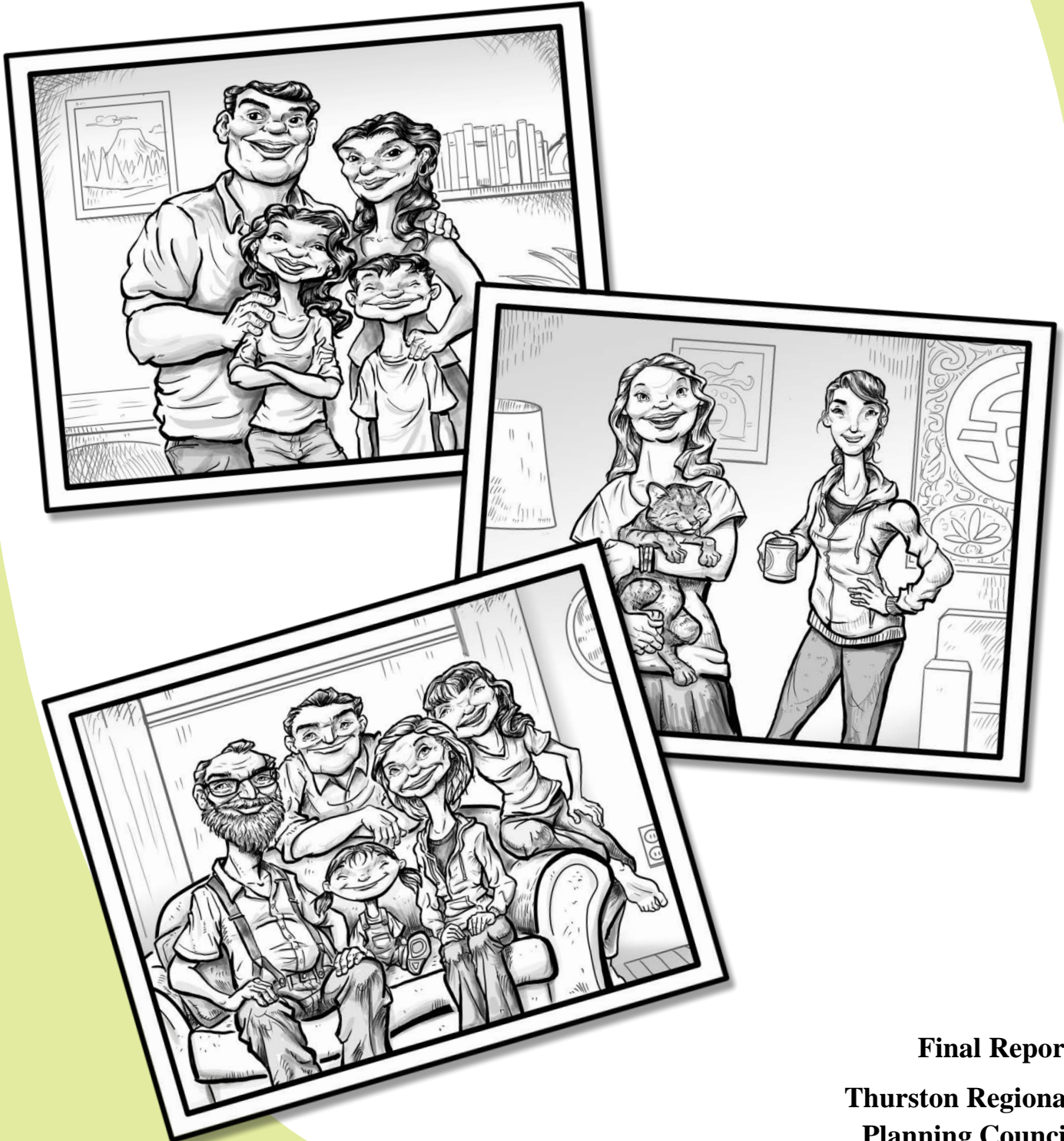


Population Forecast Allocations

For Thurston County



Final Report
Thurston Regional
Planning Council
June 2019

THURSTON REGIONAL PLANNING COUNCIL (TRPC) is a 22-member intergovernmental board made up of local governmental jurisdictions within Thurston County, plus the Confederated Tribes of the Chehalis Reservation and the Nisqually Indian Tribe. The Council was established in 1967 under RCW 36.70.060, which authorized creation of regional planning councils.

TRPC's mission is to **“Provide Visionary Leadership on Regional Plans, Policies, and Issues.”**

To Support this Mission:

- A. Support **regional transportation** planning consistent with state and federal funding requirements.
- B. Address **growth management, environmental quality, economic opportunity**, and other topics determined by the Council.
- C. **Assemble** and **analyze data** that support local and regional decision making
- D. Act as a **“convener”** to build regional **consensus** on issues through information and citizen involvement.
- E. Build **intergovernmental consensus** on regional plans, policies, and issues, and advocate local implementation.

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City of Olympia	Nathaniel Jones , Councilmember
City of Rainier	George Johnson , Councilmember
City of Tenino	David Watterson , Councilmember
City of Tumwater	Tom Oliva , Councilmember
City of Yelm	JW Foster , Mayor
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Nisqually Indian Tribe	Heidi Thomas , Tribal Councilmember
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Population and Employment Forecast

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2019

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Thurston Regional Planning Council has been providing population and employment forecasts for Thurston County since the late 1960s.

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Summary

The Thurston Regional Planning Council (TRPC) develops updated population and employment forecasts every three to five years. These forecasts are used for transportation, sewer, water, land use, school, and other local governmental planning purposes. They are also used by the private sector for market studies and business planning. They address both the county level and the neighborhood level. TRPC has been preparing these forecasts since the late 1960s. This report documents the development of the population forecast allocations for the 2018 Forecast to the city and planning area/neighborhood level.

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Introduction

Over the past four decades, Thurston County has experienced one of the highest growth rates in the nation. This growth has generated a need for new schools and hospitals, and prompted major investments in water, sewer, and transportation facilities. As these investments are expensive and must be planned many years in advance, forecasts of future population growth and its distribution are used to estimate where and when new facilities will be needed. For this reason, the Thurston Regional Planning Council (TRPC) has prepared population and employment forecasts periodically since 1969. Local jurisdictions, however, were not required to use the figures for the purposes of developing comprehensive planning documents and capital facilities plans prior to 1990.

This all changed with the passage of Senate Bill 2929 in 1990, known as the Growth Management Act, which required that certain fast-growing counties plan for the future in a very specific and prescribed manner.

A key provision in the GMA required that the State Office of Financial Management (OFM) prepare a twenty-year population forecast for each county in the state.

OFM's forecast is provided to the counties as a low to high range. Counties required to plan for growth under GMA are directed that:

“Based upon the population forecast made for the county by the Office of Financial Management, the urban growth areas in the county shall include areas and densities sufficient to permit the urban growth that is projected to occur in the county for the succeeding twenty year period.”

In 1992 Thurston County, in consultation with the Cities and Towns, adopted the Countywide Planning Policies. One provision in these policies was that:

“The state Office of Financial Management (OFM) growth management planning population projections for Thurston County will be used as the range of population to be accommodated for the coming 20 years.

Within the overall framework of the OFM population projections for the County, Thurston Regional Planning Council will develop countywide and smaller area population projections, pursuant to RCW 36.70A.110 and based on current adopted plans, zoning and environmental regulations and buildout trends.”

The Population Forecast is conducted in two phases: first at the county level, and then a further distribution to cities, towns, planning areas, neighborhoods, and traffic analysis zones. The forecast allocations – or “small area population projections” – along with employment allocations, provide information to assist local governments in their planning efforts.

This report documents the population allocations phase of the forecast.

Consistent with the Countywide Planning Policies, these forecasts are based on current adopted plans, zoning and environmental regulations, and buildout trends, along with other demographic trends.

Background

Once the countywide population and employment forecast is complete a forecast is generated to identify where the new growth is likely to locate, based on the adopted plans and policies of local cities, towns, and the county and market realities. Only then can planning for roads, utilities, school sites, park sites, and other public services and facilities take place.

Thurston Regional Planning Council (TRPC) has been developing population forecasts since 1969. Over time the techniques used to forecast growth have changed, but the basic premise remains the same. Where new population locates within Thurston County is related to several factors, including:

- Housing market demand, which is influenced by:
 - Proximity to jobs and employment opportunities
 - Quality of life within each community
- Buildable land supply
- Availability of infrastructure such as municipal water, sewers and roads

TRPC has developed a Population Forecast Allocation model to distribute housing and population growth to areas within the County.

The basic assumption of the Population Forecast Allocation model is that housing market behavior can be simulated by maintaining reasonable relationships between supply and demand.

This simply means that current conditions, market preference, and available land supply all have an influence on where population and housing locates within Thurston County. By gaining a reasonable understanding of that relationship, future housing patterns within Thurston County can be forecast.

A buildout factor related to land availability is used when determining where future residential growth is likely to locate, and to shift growth shares as planning areas become full. The buildout factor is a simple ratio of projected *demand* for dwellings versus available *capacity* for dwellings. The remaining capacity should not exceed the market factor. The market factor is the percent of capacity that is not available by the forecast horizon because market conditions are not favorable enough to entice property owners to develop their property.

The 2019 update contains several enhancements compared to previous forecast allocations:

- A comprehensive inventory of proposed development projects
- An analysis of developable land by type
- Incorporation of market factors based on a survey of property owners with developable parcels

Allocation Methodology

The residential capacity estimates (documented in *Land Capacity Assumptions for Thurston County*) serve as the foundation for the forecast allocations. To estimate how much and where new growth is likely to occur, TRPC divides parcels into general categories based on type of capacity. Details on the types of capacity and examples are in the land capacity documentation. How growth is allocated to these parcels in each time period is discussed below.



Recently Permitted Lots

Recently permitted parcels were vacant in 2017 but have since been issued a permit for a new residential unit. These are the first lots to be allocated growth and they are assumed to be fully developed in the short-term. Table 2 shows the percent of recently permitted parcels developed in each forecast time period. Parcels with multifamily permits are assumed to build out at a slightly slower pace.

Table 1: Percent of Recently Permitted Lots Developed by Time Period							
	2017-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045+
Single-Family	90	10	0	0	0	0	0
Multifamily	75	25	0	0	0	0	0
Manufactured Homes	90	10	0	0	0	0	0

Subdivision Lots

Subdivision lots are vacant lots that have been recently platted but no building permit has been issued. Like recently permitted lots, these are among the first lots to be allocated growth and are assumed to develop shortly after the recently permitted lots. Table 3 shows the percent of subdivision lots developed in each forecast time period. Subdivision lots with dedicated to multifamily development are assumed to build out at a slightly slower pace.

The Silver Hawk subdivision in northeast Thurston County was given special consideration. Lots with permits issued on them were allocated growth primarily in 2017-2020 while vacant subdivision lots were allocated growth primarily in 2020-2025.

Table 2: Percent of Subdivision Lots Developed by Time Period							
	2017-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045+
Single-Family	85	15	0	0	0	0	0
Multifamily	60	35	5	0	0	0	0
Manufactured Homes	85	15	0	0	0	0	0

Planned Projects and Master Planned Communities

Planned projects are multifamily developments or long plat subdivisions where:

- A development application has been approved by the city or county, but the plat has not been submitted with the auditor
- A development application is under review by the city or county
- In some situations, a project is in pre-submission conference with the city or county

Planned projects tend to be larger, more complicated projects. Since they are not as far along in the development process as permitted lots or subdivision lots, growth is allocated to them in the near- to mid-term. The percent of units built in each time period is show in Table 4.

Master planned communities are areas where developers will work with jurisdiction staff to come up with a plan for new development, including the number of units, type of development, and any allowances for commercial use. Since zoning is often insufficient to estimate residential capacity, TRPC works with jurisdiction staff to develop estimates. In the forecast allocation model, master planned communities include areas where jurisdiction staff currently working with developers and areas where no plans are being discussed but future growth is expected. It also includes other unique development projects, such as former Olympia Brewery in Tumwater. Because of the uncertainty around when many master planned communities will develop, the timing of growth is stated explicitly for projects (Table 4).

Table 3: Percent Buildout Assumption for Planned Projects and Master Planned Communities

Jurisdiction	Project Name	2017-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045+
Lacey (UGA)	Oak Tree Preserve	30	50	20	-	-	-	-
Lacey (UGA)	Village at Union Mills	35	50	15	-	-	-	-
Olympia	Briggs East	50	40	10	-	-	-	-
Tenino	West Tenino	-	5	35	40	20	-	-
Tumwater	Brewery Complex North	-	-	-	-	20	30	50
Tumwater	Brewery Complex South	-	-	-	-	20	30	50
Tumwater	Doelman Estimate	-	15	25	25	25	10	-
Tumwater	DOT Site	-	15	70	15	-	-	-
Yelm	Tahoma Terra	10	70	20	-	-	-	-
Yelm	Thurston Highlands 1	-	8	28	24	24	16	-
Yelm	Thurston Highlands 2	-	8	28	24	24	16	-
Other Single-family Project		90	10	-	-	-	-	-
Other Multifamily Project		35	55	10	-	-	-	-
Other Manufactured Home Project		90	10	-	-	-	-	-

Source: Master plan documents and planner estimates.

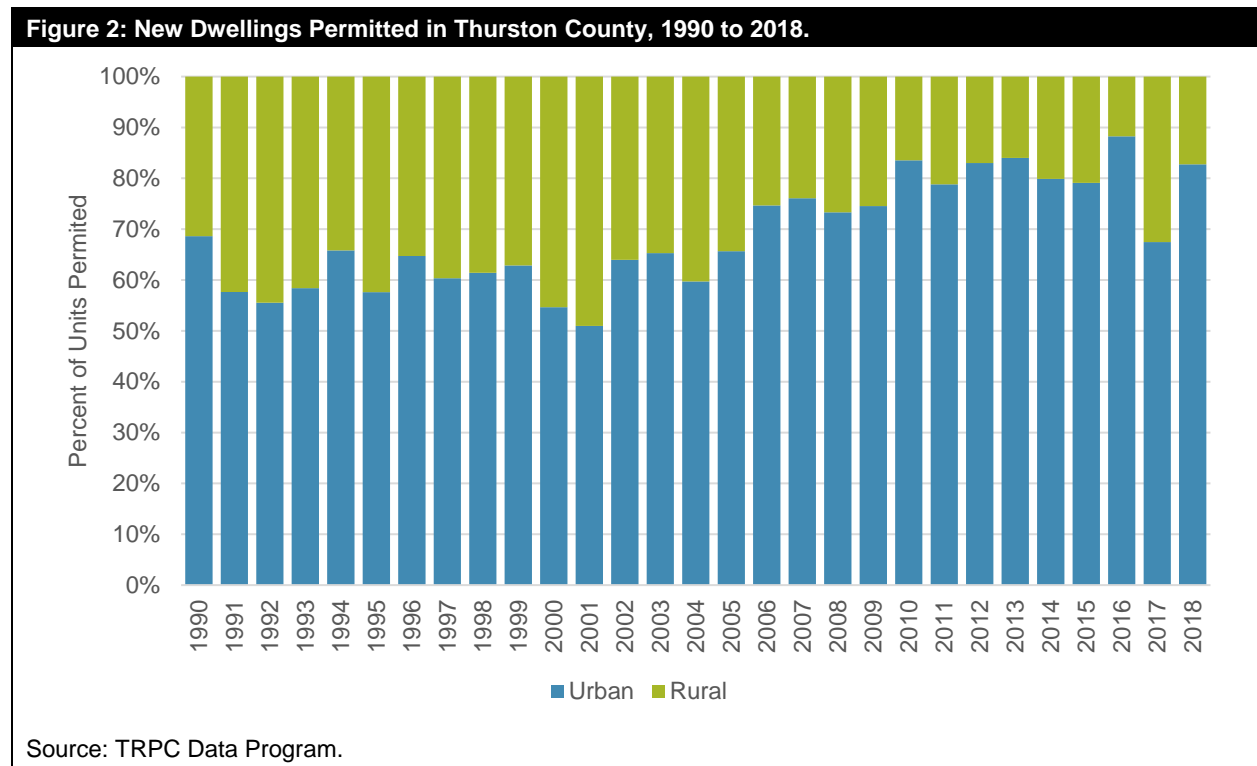
Vacant and Partially-Developed Lots

Vacant and partially developed lots – lots with at least one existing unit – are parcels that have capacity for additional dwellings but do not have a permit or project proposed for them. Most of the growth allocated in the mid- and long-term is to this group of parcels. Growth is allocated by planning area to vacant and partially developed lots through an iterative process that takes into account recent development trends the buildout factor. Thurston County is divided into 79 planning areas developed by jurisdiction staff, each representing a neighborhood or area with similar development patterns.

Development Trends

Development trends play an important role when allocating growth to vacant and partially developed parcels. Planning areas that have seen higher growth rates in the past are assumed to continue to have higher growth rates in the future and vice versa. Past development trends are particularly important when allocating growth to rural, unincorporated county. While rural areas generally have ample capacity for new growth their growth rates have been slow. This trend is expected to continue in the future.

At a regional scale, this means that the incorporated and unincorporated urban growth areas will continue to attract 85 to 90 percent of new development. This trend is consistent with past permit trends (Figure 2). The attractiveness of urban areas is driven by many factors, including proximity to jobs and schools as well as demographic factors. Two of the county’s fastest growing age brackets – the population age 25-35 and age 65 or more – are showing an increased preference for walkable, attractive urban setting with a mix of housing styles and amenities.



Buildout Factor

The buildout factor is a tool within the forecast model that is used to allocate growth to some of the mid- and long-term types of capacity. It is calculated as the ratio of *demand* for housing to *capacity* for each planning area. When buildout factors become too high in one planning area, growth is shifted to other areas in the county. This helps ensure that no planning area has all of its capacity developed in one time period, leaving no remaining capacity in the future.

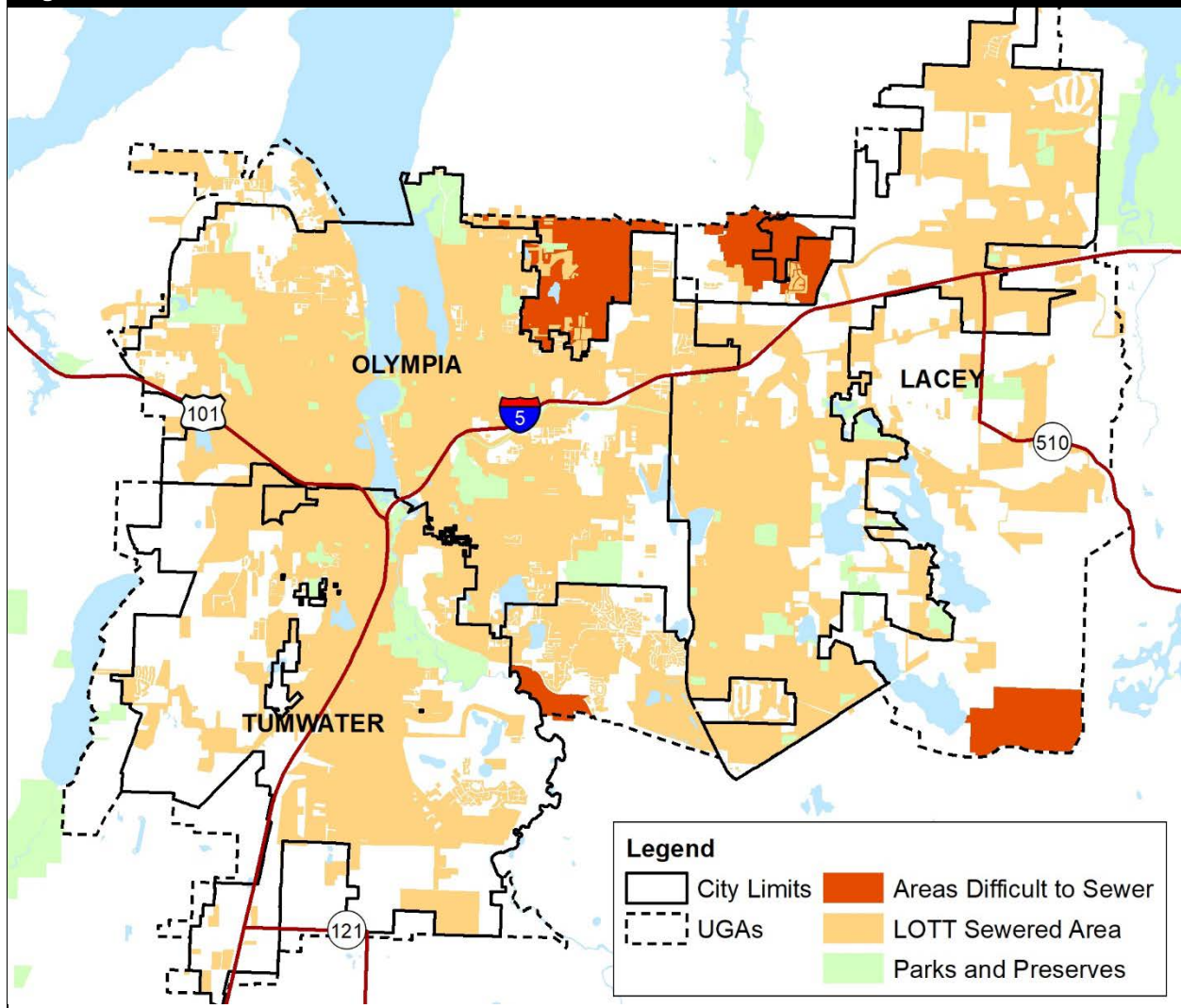
Market Factor

Not all capacity is available for new development. For many property owners, the financial benefits of developing may not outweigh the cost of developing or the lost privacy or open space that the property provides. The percent of capacity that is not available for development over the forecast period is called the “market factor.”

Table 5: Percent of Capacity in Difficult-to-Sewer Areas Available by Time Period

	2017-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045+
Single-Family	0	0	0	20	30	50	0
Multifamily	0	0	0	20	30	50	0
Manufactured Homes	0	0	0	20	30	50	0

Figure 3: Difficult-to-Sewer Areas



Redevelopment

TRPC's land capacity model estimates residential capacity on redevelopable parcels using a ratio of building to land value known as the "improvement ratio." Redevelopment is costlier than infill and greenfield development due to the need to demolish or retrofit existing structures. For this reason, growth is allocated to redevelopable areas slowly at first, but increasing in later time periods, as buildout factors increase, the housing market tightens, and demographic shifts favor multifamily housing. Redevelopment is only assumed to occur in mixed-use (commercial and residential) areas. The percent of redevelopment capacity available in each time period is shown in Table 7.

Table 6: Percent of Redevelopment Capacity Available by Time Period

	2017-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045+
Redevelopment	2	5	10	10	15	25	33

Other Allocation Types

Accessory Dwellings, Family Member Units, and Replacements

Accessory Dwelling Units (ADUs) and Family Member Units (FMUs) are additional units added to a previously developed parcel. For the most part, these units are added to parcels that contain a single-family home, and therefore the rate at which they are built is dependent on the existing number of single-family homes at the beginning of the evaluation period.

The forecast assumes a constant demand for family member units, and slight increase in accessory dwellings over what was achieved in the last decade or so. Table 8 shows the forecast assumptions for new family member units and accessory dwellings.

The model also assumes that some of the manufactured housing stock in the rural county will be replaced by single-family housing, as this has been the trend over the last decade. Assumptions for replacements are shown in Table 8.

Table 7: Assumptions for Accessory Dwellings, Family Member Units, and Replacements						
	2017-20	2020-25	2025-30	2030-35	2035-40	2040-45
Accessory Dwellings Units Permanent dwelling attached to a primary residence.	15	25	75	100	150	200
Family Member Units Temporary, detached dwelling for relative of primary resident.	30	50	50	50	50	50
Replacements Manufactured homes replaced with single-family residence	100	100	200	400	600	800

Group Quarters

Group Quarters were identified by Census 2010. Group quarters are assumed to increase based on the rates shown in Table 9.

Table 8: Model Assumptions for Group Quarters						
Group Quarter Type	2020	2025	2030	2035	2040	2045
Correctional Facility 0.5% increase per year, 1% after 2030	1,280	1,312	1,379	1,449	1,523	1,601
Maple Ln. Correctional Facility Explicit based on information from Thurston County staff	143	346	550	600	650	700
Nursing Home Increase correlates with growth of population age 65+	1,096	1,307	1,529	1,958	2,274	2,363
College Dormitories 0.5% increase per year, 1% after 2030	1,265	1,297	1,363	1,432	1,506	1,582
Other Non-institutional 0.5% increase per year, 1% after 2030	884	906	952	1,001	1,052	1,106
Total	4,667	5,168	5,774	6,441	7,005	7,352

Trends and Forecasts

Town of Bucoda

Bucoda experienced a decrease in population since 2000, in large part due to a decrease in household size. The average household in Bucoda in 2000 was 2.87 people per household and was down to 2.53 by 2010, approaching the County average. Even without the decrease in household size, Bucoda has experienced little population growth over the last 22 years – only 4 percent or 24 people based on estimates from the State Office of Financial Management. Growth in Bucoda is further constrained by the Skookumchuck River floodplain which encompasses much of the town.

Bucoda has also experienced little economic growth over the last 20 years, which may account for the low population growth. A 2011-2012 survey showed that approximately 5 percent of the town’s population works in Bucoda, with most people working in the Lacey-Olympia-Tumwater area (46 percent), Lewis County (17 percent) and Pierce County (12 percent) (Table 10).

TRPC projects modest population growth in Bucoda over the next 25 year, about 1.2 percent per year. Growth will be dependent on construction of a sewer system in the town.

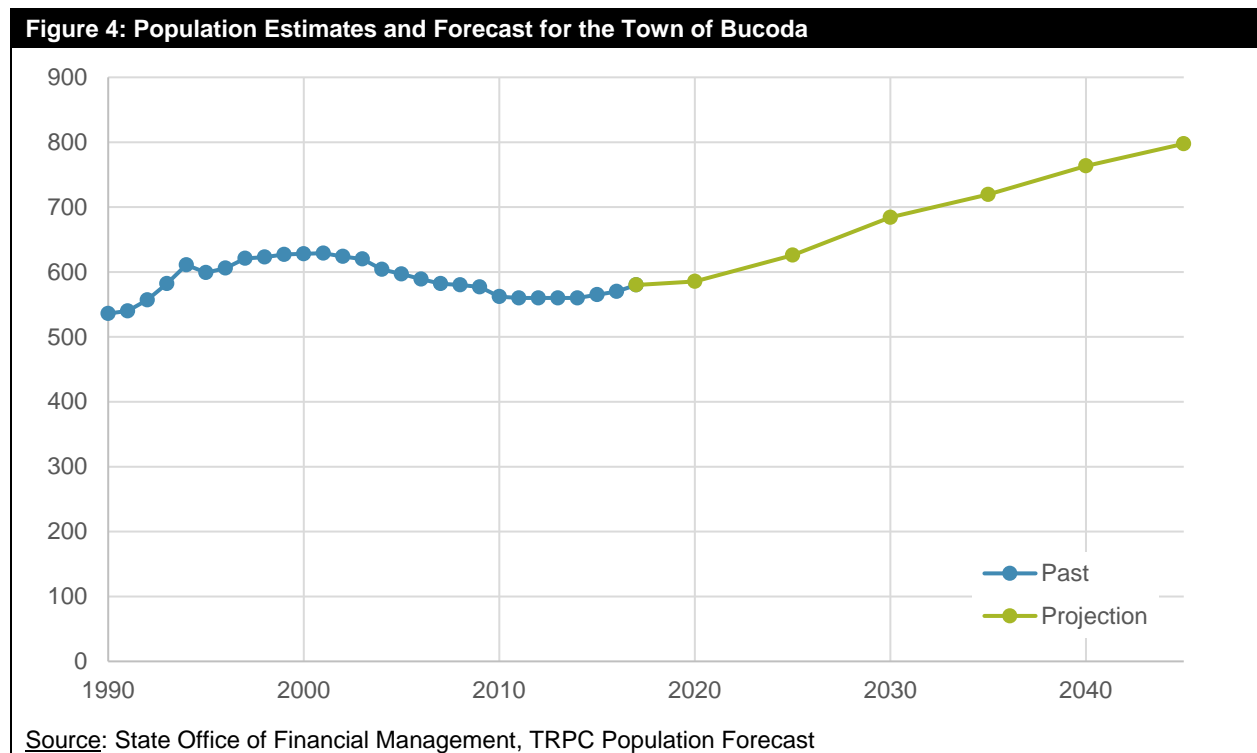


Table 9: Place of Work for South County Residents.

	Bucoda	Rainier	Tenino	Yelm
Work in Own Community	5%	10%	15%	22%
Elsewhere in South County	12%	12%	2%	2%
Lacey-Olympia-Tumwater	46%	46%	59%	27%
Pierce County	12%	17%	4%	37%
Lewis County	17%	1%	12%	1%
Grays Harbor or Mason County	0%	3%	2%	1%
Other	7%	13%	6%	11%

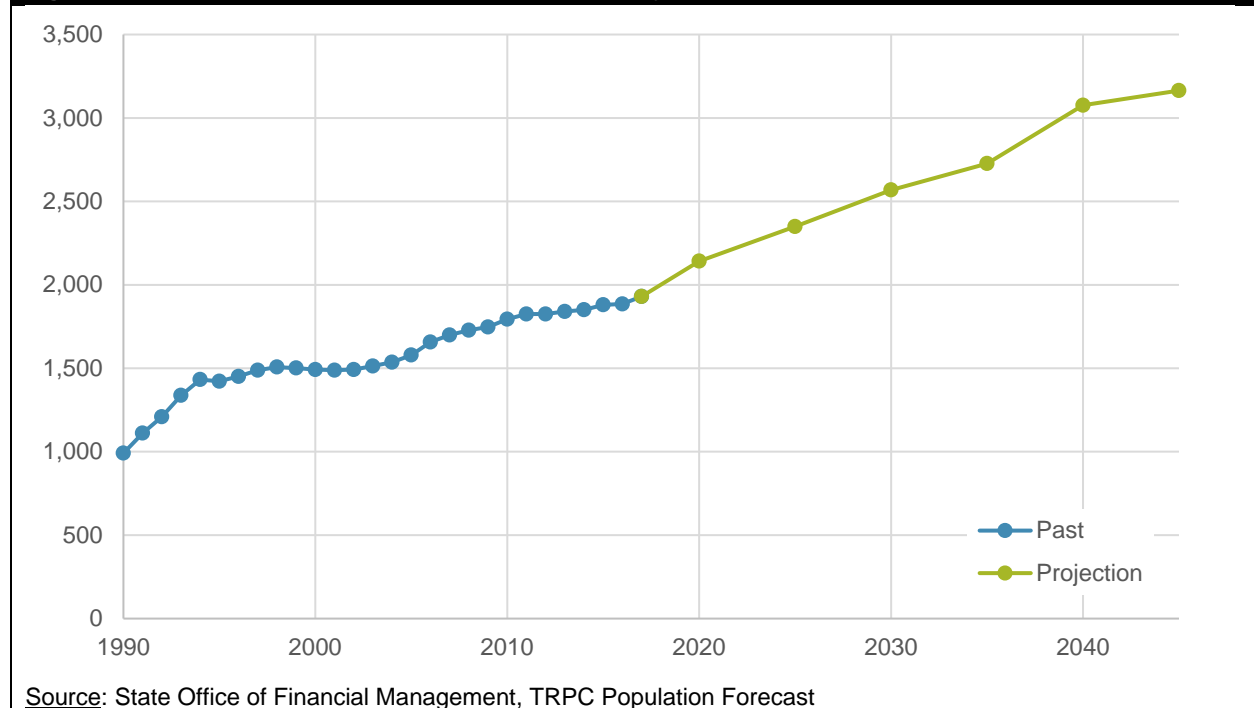
Source: Thurston Regional Planning Council Surveys; 2011 & 2012.

City of Rainier

Rainier has seen slow and steady growth over the last 22 years, increasing in population by 84 percent – adding more than 830 people. Ten percent of Rainier’s workforce is estimated to work in Rainier, with a fairly significant share working in the Olympia-Lacey-Tumwater area (46 percent), and Pierce County (17 percent) (Table 10). The high percentage of people working in Pierce County is likely related to Joint-Base Lewis McChord.

The land supply in Rainier is conducive to small subdivisions. The City does not have a wastewater treatment facility, and residential lots must accommodate a septic system. The timing of a sewer will influence growth patterns. If land develops at lower densities, the growth rate will be modest – at rates similar to that experienced over the last 15 years. When a wastewater treatment facility is built, it is likely that the growth rate will increase.

Figure 5: Population Estimates and Forecast for the City of Rainier



City of Tenino

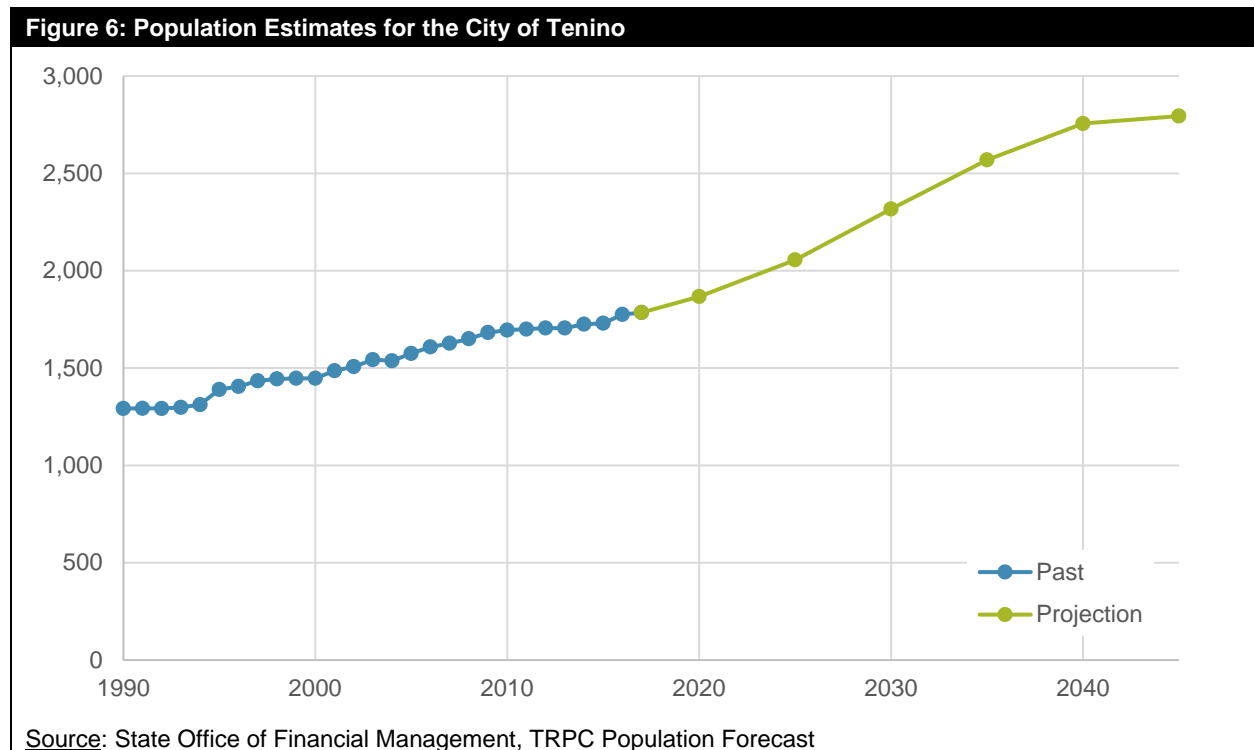
The City of Tenino has experienced slightly less growth than Rainier over the last 22 years – a growth rate of 32 percent or addition of just over 400 people. There are several reasons for this, including:

- Rainier is closer to Joint Base Lewis-McChord, and likely receives a greater percentage of military personnel moving there compared to Tenino
- Rainier’s land supply is easier to develop than Tenino’s with subdividable parcels of vacant land and few critical areas.

Tenino built a wastewater treatment plant in 2006-2007 that could lead to increased growth, especially increased commercial and industrial growth. The City also annexed a large portion of land on the west side of the city center in 2008. This land comprises much of the city’s buildable land supply, and can support a mixture of commercial, industrial, and residential growth. However, endangered species listings have limited the developable land in West Tenino resulting in lower population projections for the City compared to the 2012 Forecast.

Tenino has approximately the same population that Yelm did around the time Yelm’s wastewater treatment plant was built in the early 1990s. It is unlikely that Tenino will see the same rate of growth Yelm experienced as much of Yelm’s growth is related to the expansion of Joint Base Lewis-McChord. Water is also an issue for Tenino. Though Tenino currently does not have a 20-year supply of water, the forecast assumes that water will be acquired for future growth.

In addition, much of Tenino’s buildable land supply is under one ownership in the large annexation area to the west of the City. Such a large property will take several years to undergo the necessary planning and environmental review steps. However, master planned communities tend to build out at a higher rate than conventional development if they contain amenities such as walkable neighborhoods and goods and services within close proximity.



City of Yelm

Yelm had the highest rate of growth of all the communities within Thurston County, adding over 6,000 people in the last 20 years (Figure 7). In part this was due to an increase in household size from 2.67 to 2.95 people per household between 2000 and 2010, likely due to an influx of young families, including many military families. Overall Yelm’s population has the youngest median age of all of the cities and towns in Thurston County at 29 years old (Census 2010). Almost five percent of off-base Joint Base Lewis-McChord households live in Yelm (Table 11).

The City of Yelm can be thought of as having two distinct markets for population growth: the Master Planned Communities to the west, and the remainder of the City. The Master Planned Communities – Tahoma Terra and Thurston Highlands – together will comprise over 7,200 dwelling units. Tahoma Terra has an estimated build-out of 1,200 units and is currently under construction. Thurston Highlands has an estimated build-out of 5,000 units. To understand the magnitude of these projects, Yelm has around 3,000 dwelling units currently (outside of those in Tahoma Terra). When completed, these two projects will double the City’s population, even without considering smaller subdivisions planned for other areas of the City.

The question remains as to the timing of these large projects. Smaller residential projects can take 3 to 5 years to work their way through the development process and environmental reviews, and then another 3 to 5 years to build out. The timeframe for large projects can be much longer. The master planned communities in Yelm are assumed to have the buildout show in Table 4.

As an example, Northwest Landing in DuPont – a 4,000 unit multi- and single-family home master planned community – was completed in nearly 20 years. Like Yelm, DuPont is home to many military families (Table 11). If Joint Base Lewis-McChord continues to expand, Yelm will continue to be a fast-growing community, although not likely at the same rate of DuPont.

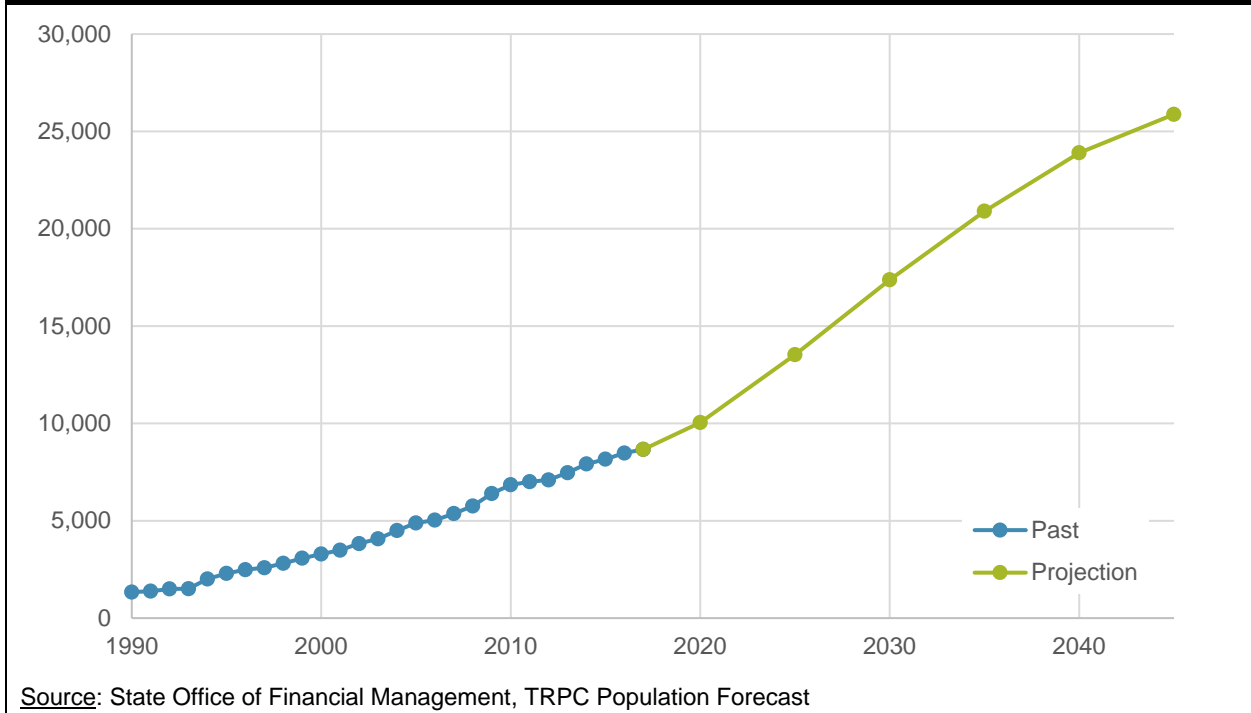
Table 10: Joint Base Lewis-McChord Off-Base Households.

City	Percent	City	Percent
Lacey	16.3%	Steilacoom	2.7%
Tacoma	13.3%	University Place	1.4%
DuPont	10.2%	Graham	1.0%
Lakewood	10.0%	Roy	1.0%
Puyallup	8.8%	Tumwater	0.7%
Spanaway	5.9%	Gig Harbor	0.7%
Olympia	4.9%	Other / Community	18.6%
Yelm	4.5%	Not Provided	

Source: Community Needs Survey of Joint Base Lewis-McChord Personnel and Families Summary Report. AECOM, 2012.

Water availability has historically been a concern for Yelm. The City is currently partnering with the Dept. of Ecology on a pilot program to increase supply by doing off-site mitigation.

Figure 7: Population Estimates for the City of Yelm



Yelm, Tenino, and Rainier Unincorporated Urban Growth Areas

The unincorporated urban growth area (UGA) of Tenino, Rainier, and Yelm (Bucoda does not currently have an unincorporated growth area) serve as holding areas for urban growth for the adjacent cities. They fall under the planning jurisdiction of Thurston County, and for the most part are zoned for Rural Residential Resource or Rural Residential development at densities of one home per five acres.

At some time in the future, between now and 20 years from now, these rural UGAs are likely to be annexed into their adjacent city. At that time sewer will be available and zoning densities will be increased to urban levels (a minimum of 4 units per acre).

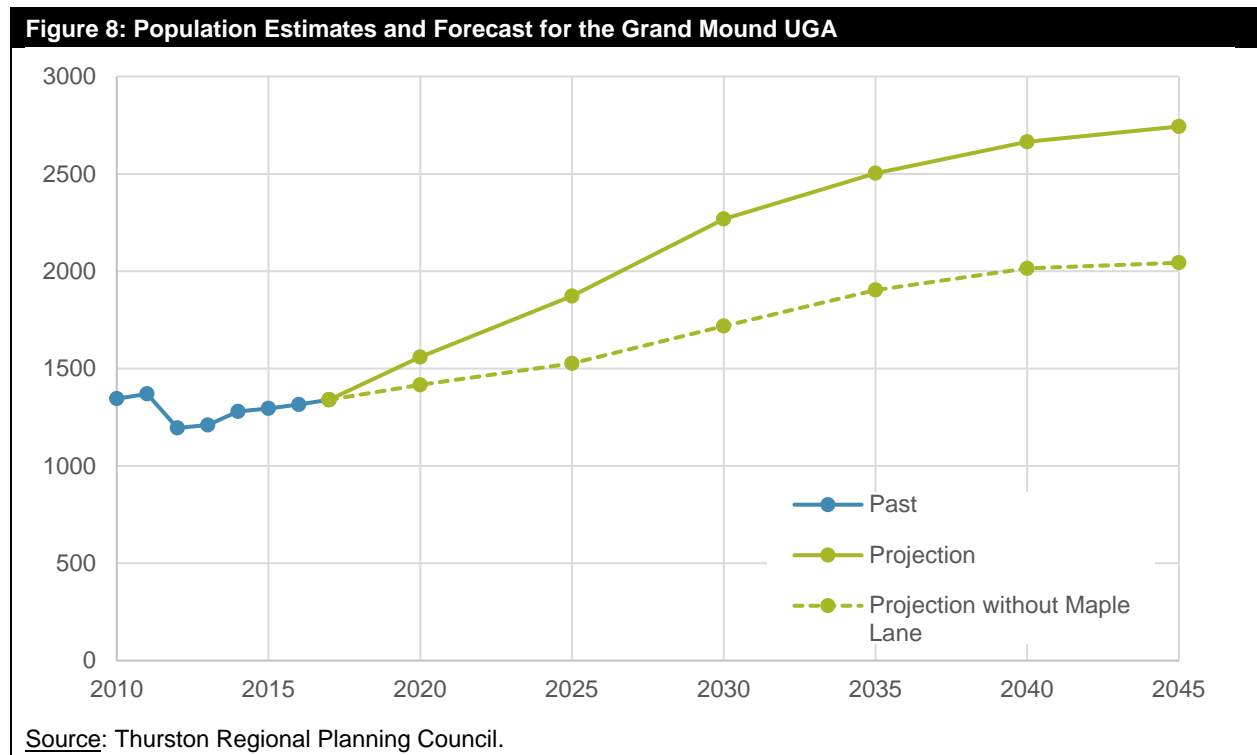
Grand Mound Urban Growth Area

Grand Mound was designated an urban growth area when the County’s comprehensive plan was adopted. It has urban utilities – water and wastewater treatment – and underwent an economic boom in the late 2000s with the opening of the Great Wolf Lodge.

The other major employment center in Grand Mound, the Maple Lane Correctional Facility, was closed by the State in June of 2011, accounting for a decrease in population (203 juvenile inmates were housed at Maple Lane during Census 2010) and jobs. The State has proposed two uses for the site: The first is would be a new facility housing up to 700 mildly-acute mentally ill offenders. The second is a 128-bed minimum security prison using existing buildings. Population growth at this facility is expected to drive growth in the UGA. Groups quarter population assumptions for this facility are show in Table 9.

Residential activity was slow in Grand Mound until the Great Wolf Lodge was built. At that time, it was thought that there would be a surge of building activity. Notably, several apartment complexes were proposed. After a pause during the great recession, activity in the area has increased.

In response to recent commercial and residential activity in the area, Thurston County is updating its subarea plans for Grand Mound and the greater Rochester area. These plans will ensure that future growth is in alignment with the community’s vision.



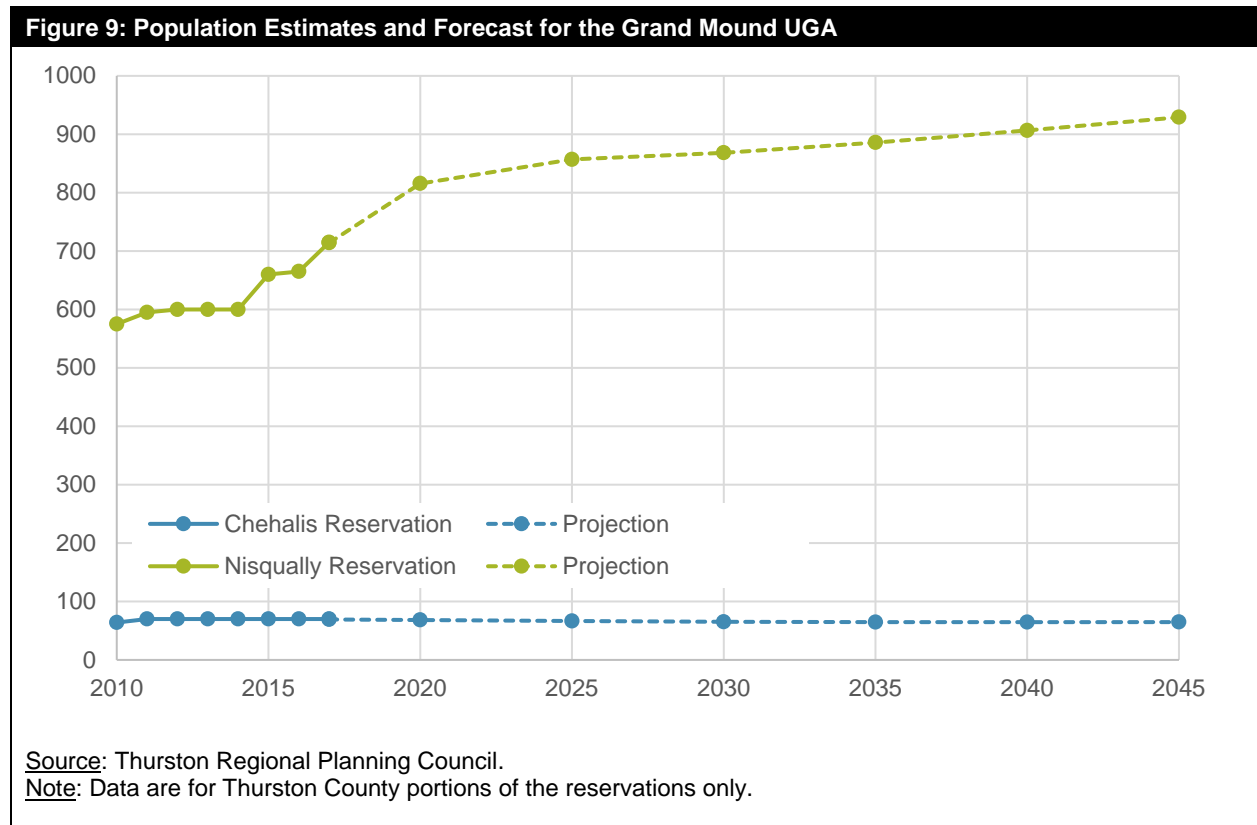
Confederated Tribes of the Chehalis Reservation

The Confederated Tribes of the Chehalis Reservation is located along the Chehalis River. Only the eastern portion of the Reservation is within the Thurston County forecast area. The remainder – where most of the population resides – is in Grays Harbor County.

The Chehalis River flood plain presents an environmental constraint to the amount of buildable land in the Thurston County region of the Reservation. Very little residential building activity has been reported in the last decade and no new development is projected. A small decrease in population is projected due to declining household sizes.

Nisqually Indian Reservation

The Nisqually Indian Reservation builds housing for tribal members. Plans are to continue this trend over the coming decades – with land identified for future housing in specified areas of the Reservation. 80 single-family and multifamily units are currently under construction. An additional unit per year is assumed for later forecast periods.



Lacey, Olympia, and Tumwater Urban Areas

Past Trends

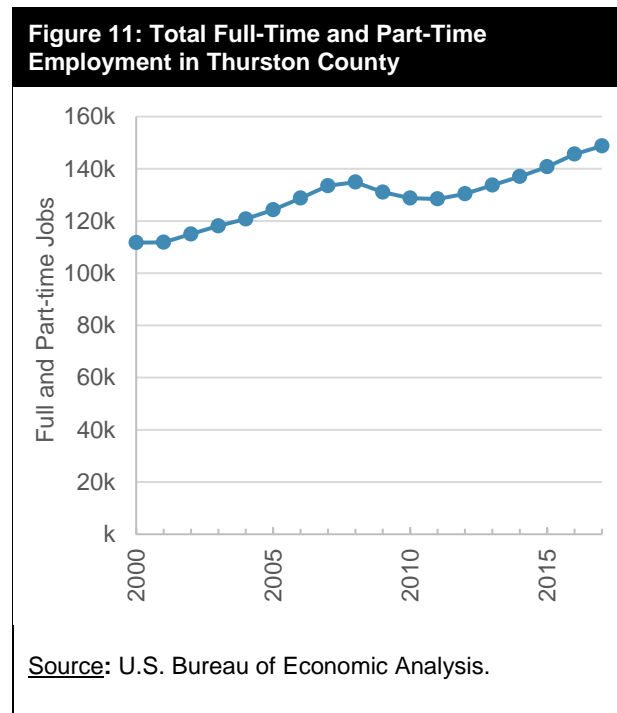
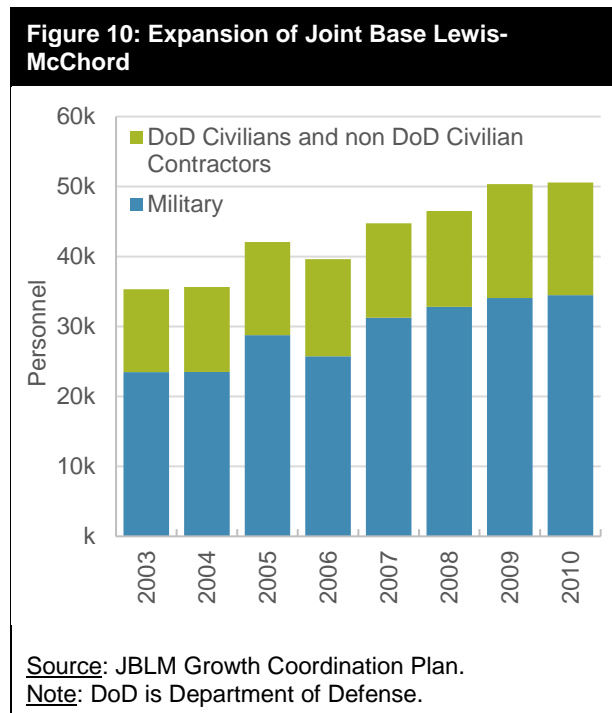
The cities of Lacey, Olympia, and Tumwater share common boundaries and in many ways function as one large housing market along with the north County rural areas.

The three-city region is the seat of state government for Washington State and has a strong economic base serving as the regional medical and shopping hub for the counties to the south and west.

The market is also strongly influenced by economic growth in Pierce County, both within cities in Pierce County such as Tacoma, and by the expansion of Joint Base Lewis-McChord (JBLM). JBLM's expansion resulted in an increase of over 15,000 jobs on-base (Figure 10) and around 40,000 people, including civilian employees and family members, over seven years.

Compare this to overall employment growth in Thurston County, which was around 12,000 jobs in the same period of time (Figure 11).

Lacey is closer to JBLM than the remainder of the urban areas in Thurston County, and has the highest share of off-base JBLM households in the State according to a recent survey (Table 11). In the last twelve years, growth in Lacey's urban area has out-paced the remainder of the County. Much of this is attributed to the expansion of JBLM and associated economic spin-off effects such as supporting retail and services.



Recent Activity

In the last two years a different trend has emerged, as Olympia has experienced a boom in building activity. Over the urban areas of the County as a whole there has been an increase in multifamily building

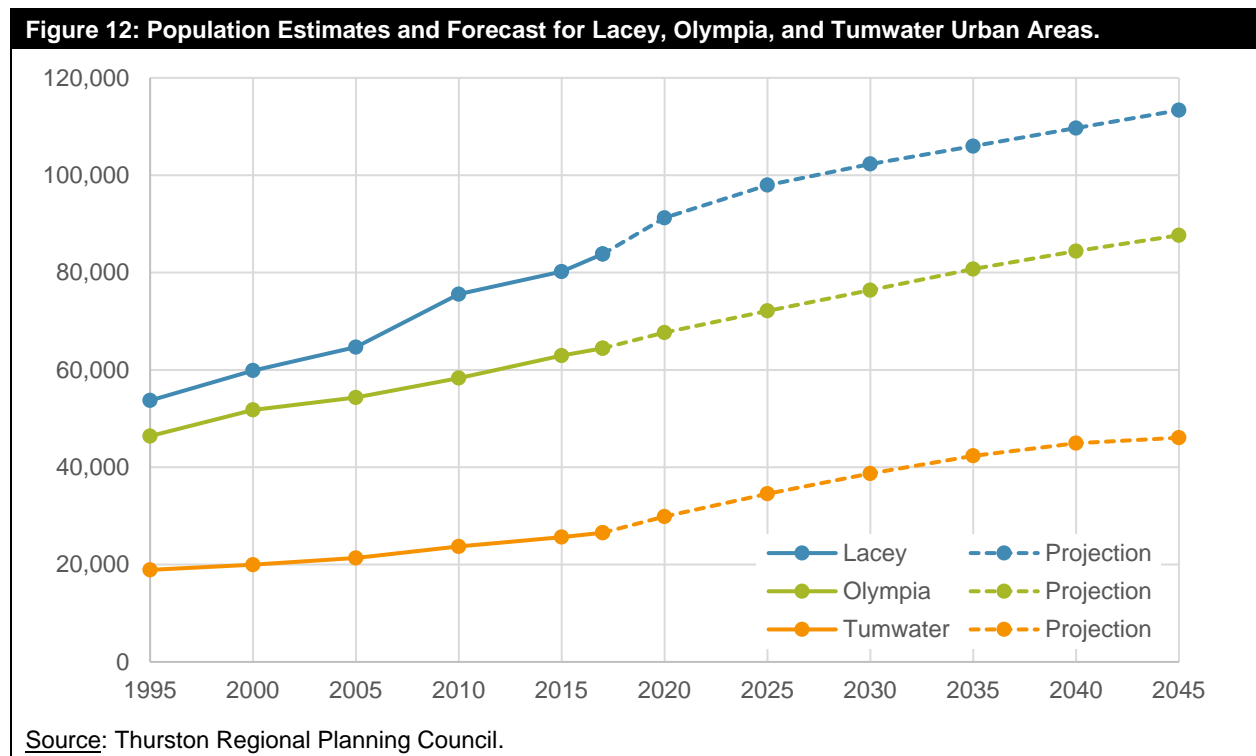
permits – mainly apartments – to meet a growing demand for rental housing. This does not necessarily signify a long-term trend as the multifamily market is always cyclical: large numbers of units are brought onto the market in a short time when apartment complexes are constructed follow by periods with less activity. There is capacity and demand for multifamily construction in all the large urban cities (Lacey, Olympia, Tumwater, and Yelm).

Infill and redevelopment have increased due to both changing demographics and a decrease in land supply. Since 2010, over 1,100 new units have been permitted or are planned in downtown Olympia. This new development will nearly double the number of units in the city’s core.

Projections

The North County urban areas will continue to function as a single, large housing market. Over the past 20 years, the percent of new development in urban areas – most of which is in the North County – has increased from about 50 percent to about 85 percent. It is expected that most growth will continue to occur in the north urban areas with all of the available capacity – minus the market factor – used up by 2045.

The attractiveness of urban areas is driven by many factors, including proximity to jobs and schools as well as demographic factors. Two of the county’s fastest growing age brackets – the population age 25-35 and age 65 or more – are showing in increased preference for walkable, attractive urban setting with a mix of housing styles and amenities.



Rural Unincorporated County

The rural unincorporated county is the portions of Thurston County outside of cities and towns, the unincorporated urban growth area, and tribal reservations. Most of the rural county is zoned at low densities for resource protection – one unit per five acres or less. Selected areas known as LAMIRDs (“limited areas of more intensive rural development”) are zoned at higher densities – one unit per two acres to two units per acre. LAMIRDs are generally groups of smaller parcels platted before most of the rural county was downzoned in 1990.

Despite downzones in 1990 and in 2007, population growth in the rural county remained steady until 2010 due to the inventory of smaller lots that did not conform to the new zoning. Growth began to slow to a more modest pace as these remaining lots were developed. Since 2010, about 15 percent of total population growth has occurred in the rural county. This slower trend is expected to continue throughout the forecast period.

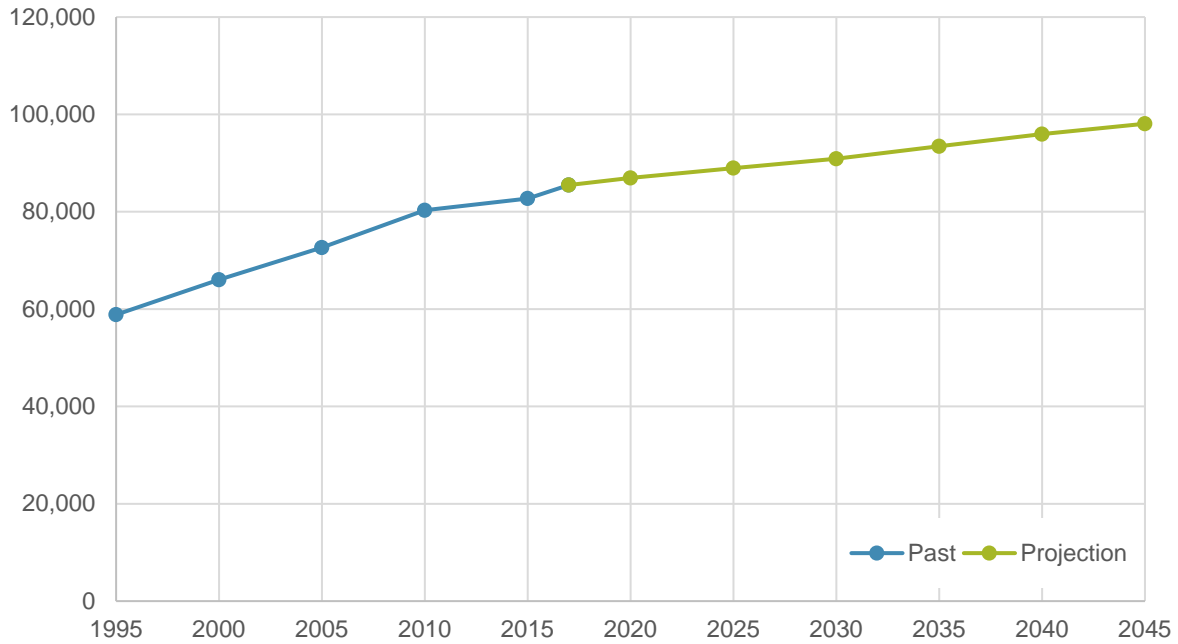
Two other factors have affected development in the rural county in recent years. Four species have been listed as endangered or threatened under the federal Endangered Species Act:

- Mazama pocket gopher (Listed in 2014 as Threatened)
- Oregon spotted frog (Listed in 2014 as Threatened)
- Taylor’s checkerspot butterfly (Listed in 2013 as Endangered)
- Streaked horned lark (Listed in 2013 as Threatened)

These listings have increased the regulatory burden on property owners developing land where species presence is suspected. Thurston County is developing a Habitat Conservation Plan (HCP) intended to mitigate the impacts of development on these species. While the HCP is expected to increase the cost of developing property by requiring owners to pay into a mitigation bank, it is also expected to streamline the development process for owners. In the land capacity model, TRPC reduced capacity on parcels with soils “more preferred” by gophers to account for land likely to be purchased as part of mitigation.

Water is a second factor that has impacted development in the rural county. The *Hirst* decision by the Washington State Supreme Court placed the burden of determining legal availability of water for new development on Counties, leading to concerns about new permit-exempt wells. Legislation following the decision allows new permit-exempt wells to be drilled, however watershed-level planning is required by counties to mitigate their impacts. The *Hirst* decision and subsequent legislation were not assumed to have an impact of growth.

Figure 13: Population Estimates and Forecast for Rural Unincorporated Thurston County.



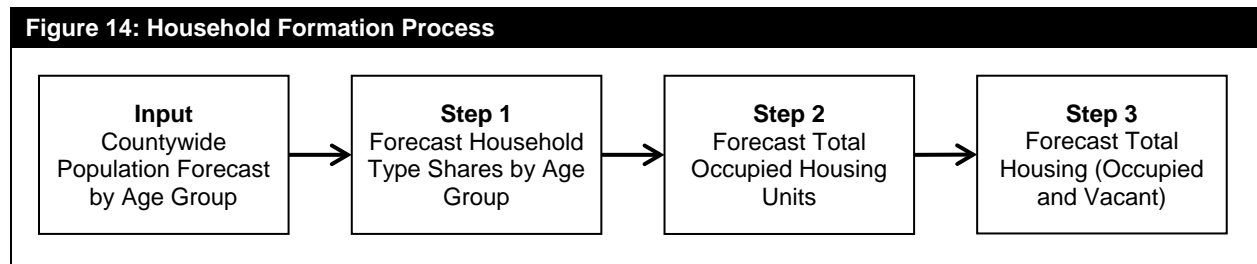
Source: Thurston Regional Planning Council.

Household Formation

Estimating Regional Housing Demand

Estimates of future dwelling unit demand for Thurston County are developed from the countywide population forecast through the household formation process. Household formation is the process by which the population forms households. The types of households people live in depends on their age, income, and marital status among other factors. The number of households inevitably drives the demand for housing units.

TRPC uses a three-step process to forecast dwelling unit demand based on how households form during different ages. The estimates are based on typical Thurston County household preferences, derived from thirty years of U.S. Census Bureau information.



Step 1: Household Shares by Age

Step 1 of the household formation process forecasts the percent of each age group in four housing types (Table 12). These changing household types will be driven by demographic trends. Increasing life expectancy will lead to fewer widows and a greater percentage of population age 65 or older living in two-person households. The population age 25-35 is less likely to live on their own and more likely to live in shared housing. A shift towards single-person households is projected in the population age 35-55, possibly due to rising divorce rates.

Table 11: Change in Percent of Age Group in Household Type, 2010 and 2045.

	0-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
<u>2010</u>									
Group Quarters	0.4	4.1	1.0	1.1	0.8	0.4	0.9	2.5	12.7
1 Person Household	0.0	2.2	9.6	9.6	11.7	17.5	20.5	31.6	39.6
2+ Person Household									
... Head of Household	0.0	11.9	37.5	46.1	46.2	40.8	38.7	32.9	26.1
... Other Member	99.6	81.8	51.8	43.2	41.4	41.3	39.9	33.1	21.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<u>2045</u>									
Group Quarters	0.4	4.6	1.5	1.4	0.9	0.5	0.8	1.5	12.1
1 Person Household	0.0	0.7	9.1	11.1	15.9	19.6	18.3	28.1	34.4
2+ Person Household									
... Head of Household	0.0	11.6	34.3	42.8	43.1	40.0	40.4	35.8	29.8
... Other Member	99.6	83.2	55.1	44.6	40.1	39.9	40.5	34.6	23.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Step 2: Total Population by Household Type

Household type shares for each population group, multiplied by the forecasted population in each group, gives the total population in each household type. By 2045, the percent of the population in single-person households is projected to increase slightly while the number of people living in two-person households will decrease. The population in group quarters will also increase slightly (Table 13). Total households (occupied dwelling units) is equal to the number of people in single-person households plus the number of heads of household of 2 plus-person households.

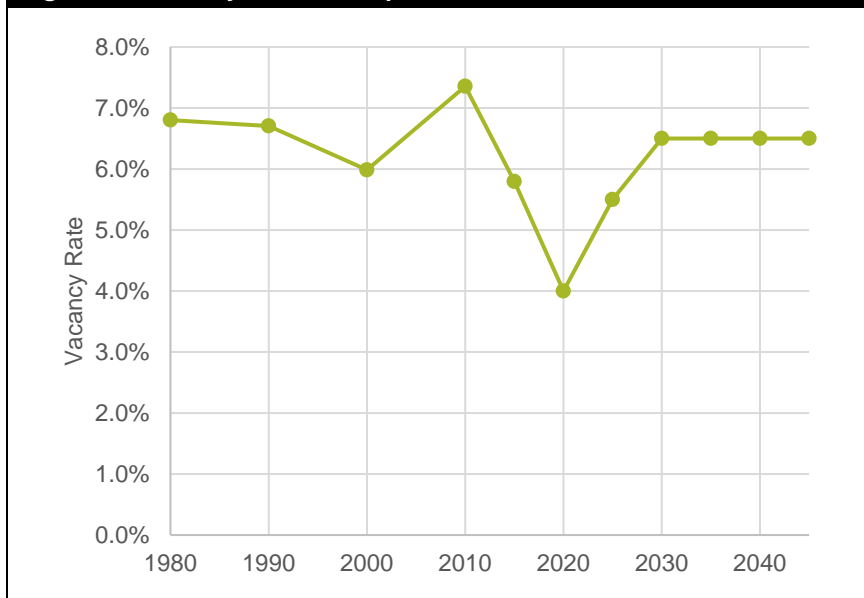
Table 12: Percent of Population by Household Type, 2010-2045.

	2010	2015	2020	2025	2030	2035	2040	2045
Group Quarters	1.5	1.6	1.6	1.6	1.7	1.8	1.9	1.9
1 Person Household	10.4	11.0	11.3	11.7	12.1	12.5	12.8	13.0
2+ Person Household								
... Head of Household	29.6	29.7	29.8	29.9	29.9	29.9	29.9	29.9
... Other Member	58.6	57.6	57.4	56.9	56.3	55.8	55.5	55.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Step 3: Total Occupied and Vacant Dwellings

Vacancy rate projections are used to estimate the total number of dwellings units – occupied and vacant – from the number of households in Step 2. While the number of households is driven by demographic changes, vacancy rates are largely driven by cyclical economic factors and are harder to predict. Vacancy rates are projected to increase from a current low to an average rate of 6.5 percent ().

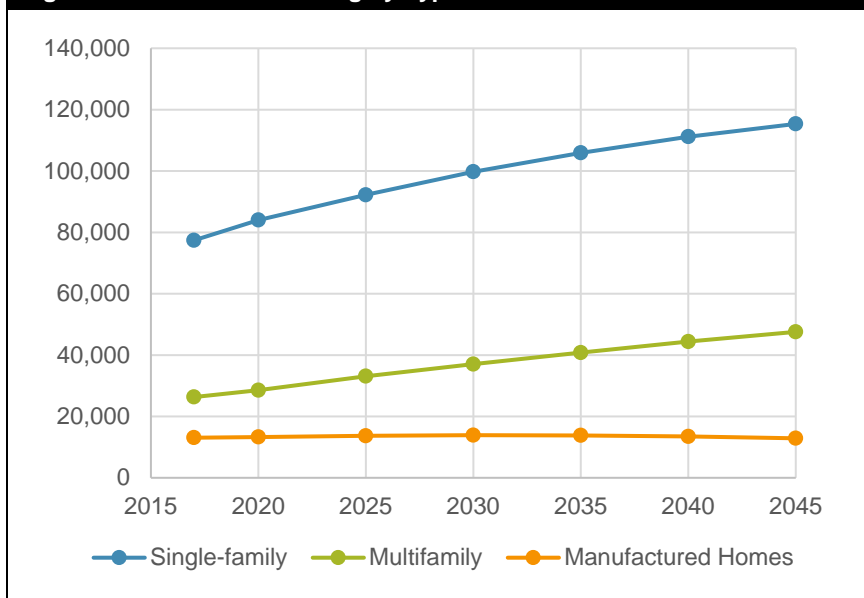
Figure 15: Vacancy Rate Assumptions



Housing Type

Population and Employment Land Supply Assumptions for Thurston County documents the percent of housing by three types – single-family, multifamily, and manufactured homes – for each zoning designation. These splits were used to estimate forecast for new housing by type. In zones where both single-family and manufactured homes are allowed, the percent of manufactured housing was decreased by one percent in each time period to account for long-term trends away from manufactured housing. Figure 15 shows housing forecasts by type.

Figure 16: Percent of Housing by Type

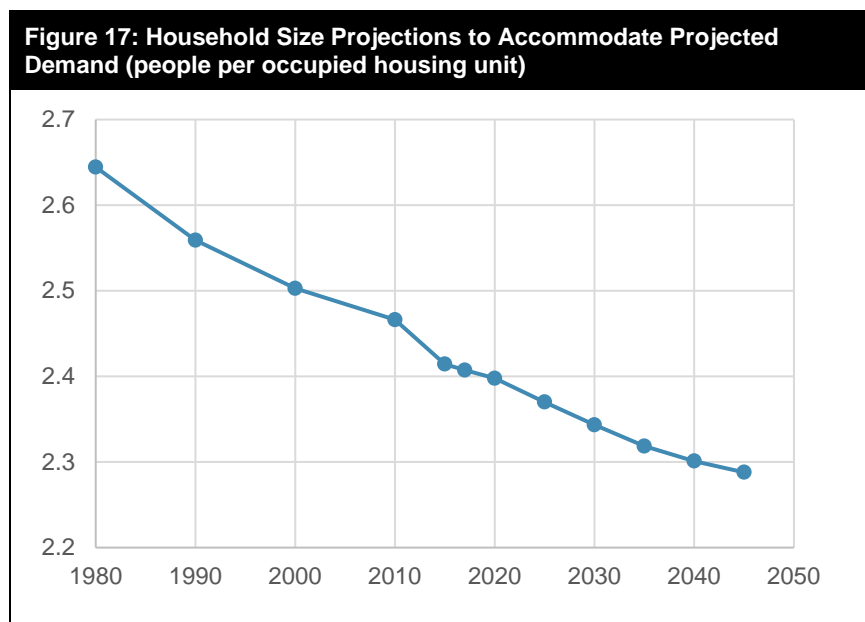


By 2045, 35 percent of housing is expected to be multifamily, up from 31 percent in 2017. For comparison, 37 percent of Tacoma's housing stock is multifamily.

Household Size

Based on housing and demographic projections, the model also assumes a decrease in household size.

Household size data by housing type is available from the U.S. Census Bureau's American Community Survey (ACS). Ten-years' worth of tract-level ACS data (2008-2012 and 2013-2017) were used to estimate population from housing projections. If the population estimates derived using ACS data did not match the adopted countywide forecast, a constant adjustment factor was applied to all parcels.



Comparison with 2012 Forecast

The 2018 Forecast extends the forecast horizon from 2035 (in the 2012 Forecast) to 2045. A partial forecast update was completed in 2015 that extended the horizon to 2040 for the Regional Transportation Plan update.

The 2045 countywide population forecast is about 10,000 people lower than the previous 2040 forecast. With the exception of Grand Mound, the forecasts for all urban areas are also lower than the previous 2040 forecasts. Growth shares – the percent of growth in each jurisdiction – are within 1.5 percent for each time interval. Some key factors driving changes in population are discussed below.

Increased Population – Urban Areas	Decreased Population – Urban Areas
<p>Given the greater number of infill and redevelopment projects since 2012, the amount of redevelopment capacity available by 2045 was increased from 50% to 67%.</p> <p>Maple Lane Correctional Facility is projected to reopen and house 700 inmates by 2045.</p>	<p>Acquisition of the LBA Woods, Kaiser Woods, and Greg J. Cuoio Community Parks removed significant capacity from the Olympia and Lacey urban areas.</p> <p>City of Tenino staff expect less residential growth in West Tenino and more agricultural-supportive industry.</p>
Increased Population – Rural Areas	Decreased Population – Rural Areas
<p>The Silver Hawk subdivision, vested under a higher 1 unit per acre zoning, was platted and is currently under construction.</p>	<p>Multiple jurisdictions developing Habitat Conservation Plans for species listed under the Endangered Species Act are expected to purchase property in rural Thurston County as a mitigation bank. Ten percent of the soil area “more preferred” by Mazama Pocket gophers was added to the critical areas in the rural County.</p>

Appendix 1: Comparison to 2012 Forecast

DRAFT Population Forecast Comparison															
Jurisdiction		Total Population							Percent of Population						
		2017	2020	2025	2030	2035	2040	2045	2017	2020	2025	2030	2035	2040	2045
Bucoda & UGA	New	580	590	630	680	720	760	800	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
	Old		580	670	890	1,060	1,220			0.2%	0.2%	0.3%	0.3%	0.3%	
Lacey & UGA	New	83,810	91,480	98,040	102,320	105,970	109,680	113,370	30.3%	31.1%	31.0%	30.5%	29.9%	29.6%	29.6%
	Old		88,610	95,000	101,510	107,720	114,200			29.9%	29.5%	29.1%	29.1%	29.0%	
Olympia & UGA	New	64,450	67,580	72,110	76,390	80,720	84,400	87,680	23.3%	23.0%	22.8%	22.7%	22.8%	22.8%	22.9%
	Old		67,850	74,030	79,940	84,400	88,610			22.9%	23.0%	22.9%	22.8%	22.5%	
Rainier & UGA	New	2,040	2,250	2,470	2,690	2,850	3,210	3,330	0.7%	0.8%	0.8%	0.8%	0.8%	0.9%	0.9%
	Old		2,150	2,310	2,840	3,150	3,450			0.7%	0.7%	0.8%	0.8%	0.9%	
Tenino & UGA	New	1,800	1,880	2,070	2,330	2,580	2,770	2,840	0.7%	0.6%	0.7%	0.7%	0.7%	0.7%	0.7%
	Old		1,760	2,030	2,750	3,190	3,780			0.6%	0.6%	0.8%	0.9%	1.0%	
Tumwater & UGA	New	26,550	29,770	34,520	38,710	42,340	44,950	46,080	9.6%	10.1%	10.9%	11.5%	11.9%	12.1%	12.0%
	Old		30,840	35,620	40,160	42,880	46,300			10.4%	11.1%	11.5%	11.6%	11.8%	
Yelm & UGA	New	10,060	11,420	14,920	18,770	22,310	25,330	27,560	3.6%	3.9%	4.7%	5.6%	6.3%	6.8%	7.2%
	Old		14,050	18,600	22,460	26,280	30,770			4.7%	5.8%	6.4%	7.1%	7.8%	
Grand Mound UGA	New	1,340	1,550	1,870	2,270	2,500	2,670	2,740	0.5%	0.5%	0.6%	0.7%	0.7%	0.7%	0.7%
	Old		1,470	1,630	1,770	1,880	1,990			0.5%	0.5%	0.5%	0.5%	0.5%	
Chehalis Reservation	New	70	70	70	70	60	60	60	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Old		90	110	130	160	190			0.0%	0.0%	0.0%	0.0%	0.0%	
Nisqually Reservation	New	710	820	860	870	890	910	930	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%
	Old		980	1,040	1,070	1,120	1,230			0.3%	0.3%	0.3%	0.3%	0.3%	
County	New	85,480	86,880	88,950	90,890	93,440	95,960	98,110	30.9%	29.5%	28.1%	27.1%	26.4%	25.9%	25.6%
	Old		87,500	91,130	95,030	98,740	101,930			29.6%	28.3%	27.3%	26.6%	25.9%	
Total	New	276,900	294,300	316,500	336,000	354,400	370,700	383,500	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Old		295,870	322,170	348,550	370,590	393,670			100.0%	100.0%	100.0%	100.0%	100.0%	

Note: "Old" is the 2012 Forecast. The 2012 Forecast horizon was later extended to 2040 in 2015 for the TRPC Travel Demand Model Update. Includes Thurston County portion of reservations only.

Appendix 2: Population Forecast

DRAFT Total Population Forecast by Jurisdiction								
Jurisdiction		2017	2020	2025	2030	2035	2040	2045
Bucoda	Total	580	590	630	680	720	760	800
Lacey	City	48,700	51,150	52,670	53,540	54,580	55,470	56,250
	UGA	35,110	40,340	45,380	48,790	51,390	54,210	57,130
	Total	83,810	91,490	98,050	102,330	105,970	109,680	113,380
Olympia	City	52,160	54,850	58,840	63,000	66,990	69,790	72,070
	UGA	12,290	12,740	13,270	13,390	13,730	14,610	15,610
	Total	64,450	67,590	72,110	76,390	80,720	84,400	87,680
Rainier	City	1,930	2,140	2,350	2,570	2,730	3,080	3,160
	UGA	110	110	120	120	130	130	160
	Total	2,040	2,250	2,470	2,690	2,860	3,210	3,320
Tenino	City	1,780	1,870	2,060	2,320	2,570	2,760	2,800
	UGA	20	20	20	20	20	20	40
	Total	1,800	1,890	2,080	2,340	2,590	2,780	2,840
Tumwater	City	23,210	25,910	28,960	31,460	33,860	35,670	36,640
	UGA	3,340	3,860	5,560	7,250	8,480	9,270	9,440
	Total	26,550	29,770	34,520	38,710	42,340	44,940	46,080
Yelm	City	8,660	10,030	13,520	17,380	20,900	23,900	25,880
	UGA	1,400	1,400	1,390	1,390	1,410	1,430	1,680
	Total	10,060	11,430	14,910	18,770	22,310	25,330	27,560
Grand Mound	UGA	1,340	1,550	1,870	2,270	2,500	2,670	2,740
Chehalis Reservation		70	70	70	70	60	60	60
Nisqually Reservation		710	820	860	870	890	910	930
Total Cities		137,020	146,540	159,030	170,950	182,350	191,430	197,600
Total UGAs (1)		53,610	60,020	67,610	73,230	77,660	82,340	86,800
Total Reservations (2)		780	890	930	940	950	970	990
Rural Unincorporated (3)		85,480	86,880	88,950	90,890	93,440	95,960	98,110
Thurston County Total		276,900	294,300	316,500	336,000	354,400	370,700	383,500

Notes

1. Urban Growth Area (UGA): Unincorporated area designated to be annexed into city limits over 20 years' time to accommodate urban growth.
2. Reservations: Estimate is for Thurston County portion of reservation only.
3. Rural Unincorporated County is the portion of the unincorporated county that lies outside UGA and Reservation boundaries.

DRAFT Percent Population Increase Forecast by Jurisdiction

Jurisdiction		2017-20	2020-25	2025-30	2030-35	2035-40	2040-45	2017-45
Bucoda	Total	0.3%	1.3%	1.8%	1.0%	1.2%	0.9%	1.1%
Lacey	City	1.6%	0.6%	0.3%	0.4%	0.3%	0.3%	0.5%
	UGA	4.7%	2.4%	1.5%	1.0%	1.1%	1.1%	1.8%
	Total	3.0%	1.4%	0.9%	0.7%	0.7%	0.7%	1.1%
Olympia	City	1.7%	1.4%	1.4%	1.2%	0.8%	0.6%	1.2%
	UGA	1.2%	0.8%	0.2%	0.5%	1.2%	1.3%	0.9%
	Total	1.6%	1.3%	1.2%	1.1%	0.9%	0.8%	1.1%
Rainier	City	3.5%	1.9%	1.8%	1.2%	2.4%	0.6%	1.8%
	UGA	0.3%	0.7%	0.9%	0.9%	1.0%	3.6%	1.3%
	Total	3.4%	1.8%	1.8%	1.2%	2.4%	0.7%	1.8%
Tenino	City	1.5%	1.9%	2.4%	2.1%	1.4%	0.3%	1.6%
	UGA	-0.4%	-0.5%	-0.5%	-0.2%	2.4%	20.1%	3.5%
	Total	1.5%	1.9%	2.4%	2.1%	1.4%	0.5%	1.6%
Tumwater	City	3.7%	2.2%	1.7%	1.5%	1.1%	0.5%	1.6%
	UGA	5.0%	7.6%	5.4%	3.2%	1.8%	0.3%	3.8%
	Total	3.9%	3.0%	2.3%	1.8%	1.2%	0.5%	2.0%
Yelm	City	5.0%	6.2%	5.1%	3.8%	2.7%	1.6%	4.0%
	UGA	0.1%	0.0%	0.0%	0.2%	0.3%	3.3%	0.7%
	Total	4.3%	5.5%	4.7%	3.5%	2.6%	1.7%	3.7%
Grand Mound UGA		5.1%	3.8%	3.9%	2.0%	1.3%	0.6%	2.6%
Chehalis Reservation		-0.4%	-0.5%	-0.4%	-0.1%	0.0%	0.1%	-0.2%
Nisqually Reservation		4.5%	1.0%	0.3%	0.4%	0.5%	0.5%	0.9%
Total Cities		2.3%	1.6%	1.5%	1.3%	1.0%	0.6%	1.3%
Total UGAs (1)		3.8%	2.4%	1.6%	1.2%	1.2%	1.1%	1.7%
Total Reservations (2)		4.1%	0.9%	0.2%	0.4%	0.4%	0.5%	0.9%
Rural Unincorporated (3)		0.5%	0.5%	0.4%	0.6%	0.5%	0.4%	0.5%
Thurston County Total		2.1%	1.5%	1.2%	1.1%	0.9%	0.7%	1.2%

Notes

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3. Rural Unincorporated County is the portion of the unincorporated county that lies outside UGA and Reservation boundaries.

Appendix 3: Housing Forecast

DRAFT Total Dwelling Unit Forecast by Jurisdiction								
Jurisdiction		2017	2020	2025	2030	2035	2040	2045
Bucoda	Total	250	250	280	310	330	360	380
Lacey	City	20,930	22,340	23,660	24,470	25,190	25,800	26,340
	UGA	13,940	16,270	18,760	20,490	21,760	23,070	24,390
	Total	34,870	38,610	42,420	44,960	46,950	48,870	50,730
Olympia	City	24,650	26,340	29,210	32,120	34,630	36,580	38,280
	UGA	4,890	5,140	5,510	5,690	5,890	6,290	6,740
	Total	29,540	31,480	34,720	37,810	40,520	42,870	45,020
Rainier	City	800	900	1,010	1,130	1,210	1,380	1,420
	UGA	50	50	50	60	60	60	80
	Total	850	950	1,060	1,190	1,270	1,440	1,500
Tenino	City	770	820	920	1,060	1,180	1,270	1,300
	UGA	10	10	10	10	10	10	10
	Total	780	830	930	1,070	1,190	1,280	1,310
Tumwater	City	10,200	11,510	13,200	14,620	15,870	16,820	17,390
	UGA	1,400	1,620	2,360	3,110	3,650	4,000	4,070
	Total	11,600	13,130	15,560	17,730	19,520	20,820	21,460
Yelm	City	3,170	3,730	5,300	7,090	8,690	10,070	10,950
	UGA	530	540	550	560	570	570	670
	Total	3,700	4,270	5,850	7,650	9,260	10,640	11,620
Grand Mound	UGA	420	460	510	600	670	720	730
Chehalis Reservation		20	20	20	20	20	20	20
Nisqually Reservation		230	290	310	320	320	330	330
Total Cities		60,770	65,890	73,580	80,800	87,100	92,280	96,060
Total UGAs (1)		21,240	24,090	27,750	30,520	32,610	34,720	36,690
Total Reservations (2)		250	310	330	340	340	350	350
Rural Unincorporated (3)		34,550	35,560	37,360	39,050	40,480	41,710	42,680
Thurston County Total		116,800	125,800	139,000	150,700	160,500	169,000	175,800

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DRAFT Percent Population Increase Forecast by Jurisdiction

Jurisdiction		2017-20	2020-25	2025-30	2030-35	2035-40	2040-45	2017-45
Bucoda	Total	0.8%	1.9%	2.3%	1.3%	1.4%	1.0%	1.5%
Lacey	City	2.2%	1.2%	0.7%	0.6%	0.5%	0.4%	0.8%
	UGA	5.3%	2.9%	1.8%	1.2%	1.2%	1.1%	2.0%
	Total	3.5%	1.9%	1.2%	0.9%	0.8%	0.8%	1.3%
Olympia	City	2.2%	2.1%	1.9%	1.5%	1.1%	0.9%	1.6%
	UGA	1.7%	1.4%	0.6%	0.7%	1.3%	1.4%	1.2%
	Total	2.1%	2.0%	1.7%	1.4%	1.1%	1.0%	1.5%
Rainier	City	3.8%	2.4%	2.3%	1.4%	2.6%	0.6%	2.1%
	UGA	0.7%	1.2%	1.3%	1.1%	1.1%	3.6%	1.6%
	Total	3.7%	2.3%	2.2%	1.4%	2.6%	0.8%	2.0%
Tenino	City	1.9%	2.4%	2.8%	2.2%	1.5%	0.4%	1.9%
	UGA	0.0%	0.0%	0.0%	0.0%	2.6%	20.4%	3.8%
	Total	1.9%	2.4%	2.8%	2.2%	1.5%	0.5%	1.9%
Tumwater	City	4.1%	2.8%	2.1%	1.6%	1.2%	0.7%	1.9%
	UGA	5.1%	7.7%	5.7%	3.3%	1.8%	0.4%	3.9%
	Total	4.2%	3.4%	2.7%	1.9%	1.3%	0.6%	2.2%
Yelm	City	5.6%	7.3%	6.0%	4.2%	3.0%	1.7%	4.5%
	UGA	0.4%	0.4%	0.4%	0.3%	0.3%	3.1%	0.8%
	Total	4.9%	6.5%	5.5%	3.9%	2.8%	1.8%	4.2%
Grand Mound UGA		2.8%	2.3%	3.2%	2.4%	1.3%	0.4%	2.0%
Chehalis Reservation		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nisqually Reservation		8.1%	1.6%	0.3%	0.3%	0.2%	0.2%	1.3%
Total Cities		2.7%	2.2%	1.9%	1.5%	1.2%	0.8%	1.6%
Total UGAs (1)		4.3%	2.9%	1.9%	1.3%	1.3%	1.1%	2.0%
Total Reservations (2)		7.4%	1.5%	0.2%	0.2%	0.2%	0.2%	1.2%
Rural Unincorporated (3)		1.0%	1.0%	0.9%	0.7%	0.6%	0.5%	0.8%
Thurston County Total		2.5%	2.0%	1.6%	1.3%	1.0%	0.8%	1.5%

Notes

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